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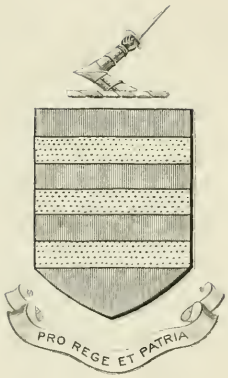


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# THE JOURNAL

OF THE

## American Medical Association

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# The Journal of the American Medical Association

VOL. XXXVI. CHICAGO, ILLINOIS, APRIL 6, 1901. No. 14.

## Original Articles.

### CHLORALOSE.*

JAMES TYSON, M.D.

Professor of Medicine in the University of Pennsylvania.
PHILADELPHIA.

In 1896 I published[1] a "Clinical Note on the Action of Chloralose," referring to the sources of my information about it and detailing some clinical experiences. I referred to Dr. George William Balfour's favorable allusion to it in his book on the "Senile Heart," and to an unknown author who said of it: "Chloralose has all the advantages of chloral without its disadvantages." Another writer especially commended it in the treatment of insomnia of the insane. I also mentioned that it was so named by Richet and Hanriot, of Paris, and is said to be a combination of chloral and glucose—technically anhydro-gluco-chloral, chemically $C_8H_{11}Cl_3O_6$. It is described technically as a "hypnotic yet excitant of the spinal cord." Virgil Coblentz, in his "Newer Remedies," says it forms fine colorless needles, which melt at 180 to 186 C.—363.2 to 366.8 F.—soluble in 170 parts of cold water, readily so in alcohol. I have felt that the communication scarcely received the attention which the importance of the subject demanded, and I take advantage of the opportunity to bring it before the Section on Materia Medica, Pharmacy and Therapeutics, in the following short paper, in which I repeat much that I published before, but also add some additional observations, hoping thus to secure wider publication.

REPORT OF CASES.

CASE 1.—This was one of most obstinate insomnia, for which I had ineffectually used sulphonal, chloralamid, trional, and paraldehyde. I ordered for him 10 grains of chloralose at bedtime. The effect seemed magical. He went promptly to sleep and slept soundly until morning, awakening much refreshed, and without any of the unpleasant feeling so often consequent on remedies of this class. The dose was repeated the next night and the next with like effect. On the morning of the fourth day the patient informed me that he had gone through some strange performance during the night; that he had unconsciously removed all his clothing and found himself stark naked in the morning. This experience did not impress us seriously, and the drug was repeated the following night. During the night, his wife, who occupied an adjacent room, happened to enter his apartment and found him sitting on the edge of the bed, again entirely unclothed. She succeeded in getting him into bed, apparently without arousing him, and he awoke in the morning thoroughly ignorant of what had happened during the night.

CASE 2.—A hale and hearty medical gentleman of 80 years, but a confirmed insomniac, had tried every known remedy for sleeplessness, except morphin, and whenever a new one arose, his friends were apt to call his attention to it. Thus he learned of chloralose. It was recommended to him in 5-grain doses to be taken in a cachet. He had taken it two nights in succession with the most charming effect, and was delighted with it. The day preceding the next night was stormy, and he was not able to take his usual exercise out of doors. In the evening he ate rather too much of some favorite food, and hence had a little indigestion. At bedtime he took his 5-grain cachet of chloralose, but it produced no effect. Twelve o'clock came, but no sleep. He then took half of another cachet, which was also without effect. In a couple of hours he took the remaining half of the cachet. In the morning his wife found him asleep, breathing stertorously, and could not arouse him. She became alarmed and wired for her son. A little later he awoke, feeling very well and thoroughly unconscious of anything unnatural. His wife thought it best, however, to keep him in bed until we arrived, when we found him in his usual health and entirely unaware that anything unusual had occurred.

CASE 3.—This was that of another physician suffering with stubborn insomnia. Nothing but morphin could make him sleep. It was just after I had the first happy experience with the drug that this occurred, and I advised chloralose in 10-grain doses, recommending it confidently. It was some days before I heard from him, when early one morning in June, the physician's son called me up and begged me to come at once, saying that the medicine I had given his father had not agreed with him. On the way I learned that a dose of 10 grains of chloralose had been taken, and as there was no effect, the doctor, on his own responsibility, repeated the dose at the end of an hour. I had not advised a second dose. In a short time he fell asleep, and a little later began to be restless, and, still later, unmanageably violent. The family physician was called and it required all his strength to keep his friend and patient in bed. The struggle lasted from soon after midnight until I was sent for at daylight. During this time the patient had evacuated his bowels and bladder involuntarily. By the time I arrived he had fallen into a quiet sleep from which he was easily aroused. He recognized me at once, spoke intelligently and wondered why I had been sent for.

These cases were published in my first paper. To them I now add the following:

CASE 4.—I was asked by my friend, Dr. Githens, to see with him Master K., aged 9, who, succeeding an attack of influenza, had fallen into a state of great nervousness, which, perhaps, may be truly called actively choreic, that is, almost every voluntary muscle of the body appeared to be in motion—his hands, his legs, his head and neck were in constant motion. He would turn

* Read by title in the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. University Med. Mag., Dec., 1896.

from one side to another, rest there a few seconds, then turn on his face, and then around to his back, then on his face again, then would draw up his legs, extend them again, and so on without cessation. It had commenced twenty-four hours earlier, and though interrupted during a couple of hours of sleep, as soon as he awoke the motion again set in. All the simpler anodynes, except morphin, had been employed without effect. I advised 2 grains of choralose every hour. The very first dose quieted him, or at least diminished decidedly the activity of the movements. Three more doses were given, by which time he became perfectly quiet, went off to sleep and awoke completely recovered.

CASE 5.—R. W. was completely unnerved by the death of his wife, after a long and trying illness. Sleep was an impossibility, and the ordinary remedies were ineffectual. Five-grain doses of choralose were ordered, and one at night at bedtime produced a quieting effect.

CASE 6.—F. G., aged 40, was suffering from phthisis attended by a peculiar clonic and tonic spasm. He slept very little on account of the spasms, which were excited by the slightest touch. No hypnotic had any effect. Five-grain doses of chloralose were used, the effect lasting from fifteen to sixteen hours, and making him drowsy for several days.

CASE 7.—D. S., aged 49, was neurasthenic, with cardiac and gastric symptoms. Sleeplessness was very marked. Trional and sulphonal were of little use. Bromids and chloralose were good. He slept soundly after taking the latter, but often dreamed and started up suddenly in his sleep after taking the former.

CASE 8.—F. H. was a surgical patient, and a poor sleeper. Five grains of chloralose were given, and followed by delirium, violent spasms, pallor, cold clammy sweat, and an intermittent, weak pulse, while the temperature fell 1 degree. He had several attacks during the night, but slept soundly afterward. He remembered bad dreams, but nothing else. This was the only case in which the symptoms assumed at all an alarming character, and, as the report was made only by nurses and anxious relatives, it must be taken *cum grano salis*. The ultimate effect was sound sleep, and there were no unpleasant after-effects.

CASE 9.—This case was that of a patient admitted to the hospital of the University of Pennsylvania, for the morphin habit. The morphin had been gradually reduced and finally withdrawn. Insomnia remained, however, a prominent symptom. Five grains were administered the first night, without effect. On the second night, 5 grains were given and, being without effect, 5 grains additional at the end of two hours. The patient then fell asleep, and had a comfortable night. The next night the same course was pursued, with less satisfactory results, though the patient slept some. For some reason no further trial was made in this case.

### CONCLUSIONS.

The conclusions which I think are justified from the above cases are the following: 1. Chloralose is a prompt and safe hypnotic, more prompt in its action than any drug except morphin. 2. From a large experience with chloralose, I am satisfied that it is more prompt in its action than chloral and efficient in much smaller doses than the latter drug. 3. Its effects occasionally include involuntary actions, which, while surprising and even fantastic in some of their exhibitions, are, nevertheless, harmless. 4. The drug needs to be further studied. 5. The maximum dose is 5 grains in a capsule, which may have to be repeated in not less than an hour; it should be tried also in smaller doses, because it is reasonable to believe that the unfavorable effects may be thus averted while the hypnotic action may be continued.

## POST-OPERATIVE NERVOUS PHENOMENA OR ARTIFICIAL MENOPAUSE.*

JOSEPH PRICE, M.D.
PHILADELPHIA.

The general practitioner has a world of patience with the nervous phenomena incident to the normal menopause, but little or none with the nervous phenomena of a precipitated menopause or that following the removal of the uterus or appendages at an early age. They have all patience with the hot and cold sensations, spinal and cerebral disturbances, local and general troubles so common at both normal and precipitated menopause. If the patients are active and pay but little attention to the uncomfortable sensations associated with the normal change, but little is done or advised.

If the change is stormy, patients are commonly freely medicated, often favoring the drug habit—acute and chronic inebriety—and more patients are lodged temporarily or permanently in asylums or rest-cures for the management of the normal menopause phenomena, than that from an artificial menopause.

Physicians commonly encourage their patients to persevere with treatment, saying that they have a long period of comfort and fine health before them when the change is well established.

Healthy environs, a strictly physiological life, favored by a non-stimulating and nutritious diet—avoidance of condiments—and an active out-of-door life, free from emotional disturbances, favor the best results.

The complaint is made by the general practitioners, that patients are returned to them after operation for the removal of bilateral tubal and ovarian disease or the extirpation of a diseased uterus, with peculiar nervous disturbances, are difficult to manage, and quite commonly carry on a correspondence with the operator about certain phenomena that do not disturb him in a normal menopause.

Unfortunately, but few of these patients are kept under treatment sufficiently long for permanent results after the operation. The operations are urged by all interested because the patients are acutely or chronically ill—suffering, anemic, and emaciated—many of them have lost thirty or forty pounds, locomotion is distressing or impossible, and relief from the operation is commonly rapid and pleasing. If every care is exercised in choice of diet, systematic rest and massage, they commonly recover the loss in a few months. The digestion improves, renal and vesical disturbances vanish, and alarming mental disturbances subside.

Unfortunately, these sufferers are systematically treated only for a period of three or four weeks, then they are hurriedly returned, sometimes to their uncomfortable homes, where everything is unfavorable to a favorable convalescence. Many operators favor an early rising and an early discharge, and boast of sending their patients home in two or three weeks. The practice favors post-operative sequelæ and a tedious convalescence. By so doing they lose the opportunity of demonstrating what the rest-cure or treatment will do for a class of patients that need it most. Married

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

women are expected, by their husbands and friends, to return to their homes and resume domestic duties; rarely are they sent to health resorts.

Nothing has been more pleasing in my own work than the general improvement of feeble and emaciated patients after complicated sections: they eat and sleep well, are bright and cheerful, all their uncomfortable symptoms vanish, they recover flesh and color rapidly, and are always grateful for the systematic rest and rubbing they receive.

Every nurse is taught massage by a professional teacher, and practices it throughout her stay in the hospital. Every charity patient receives precisely the same care. Systematic rubbing and massage, and the diet-kitchens and training of hospitals have done much to rapidly advance the professional nurse—as yet the diet-kitchen in hospitals is not the special department it should be. Sick people commonly need something better in the shape of a cook than they have in their own kitchens. It is natural that we should look for it in our nurses. If the same care were taken in the preparation of the diet in hospitals, that is required in the preparation for the operations and all dressings, results would all improve. Many of the trays you see passed about the hospitals should go directly to a swinery. Many of the supervising nurses and matrons know little about diet, and some do not know the simple ingredients of a loaf of bread.

In my specialty for speedy, good results, I would urge prolonged rest-treatment after serious operations. I am satisfied that thrice better results can be obtained by turning the patient over, three or four days after the operation, to a good clinician—one who is interested in diet and systematic rest-treatment.

The time and opportunity is commonly lost for the correction of many disturbances amenable to early therapeutics. This Section should correct greatly the common, careless practices of specialists and the medical and surgical departments of hospitals and nurses' schools.

At the normal menopause sufferers commonly feel that the phenomenon is naturally a part of their experience, and accept all sorts of counsel, neglecting serious troubles until it is too late for good results, or they are overtreated or overmedicated into distressing drug habits. In the premature menopause the clinician is annoyed that the phenomenon should occur—he demands freedom from everything, and cures.

## SYPHILIS AS A NON-VENEREAL DISEASE.

### WITH A PLEA FOR THE LEGAL CONTROL OF SYPHILIS.*

L. DUNCAN BULKLEY, A.M., M.D.

Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital, etc.

NEW YORK CITY.

Syphilis is a great disease, which has ravished the world for centuries, and has counted its victims by tens and hundreds of thousands. It is a contagious disease, always communicated from one individual to another by direct or indirect means—or transmitted through inheritance—and yet, to-day, there is scarcely any restraint placed upon its continued spread by individual propagation, over the whole world.

Advancing civilization has recognized one after another of the contagious or infectious maladies which afflict mankind, and the arm of the law has come in to protect the defenseless, and we no longer have the wholesale sweep of epidemics which occurred before health boards were organized and given control of these matters. This is often accomplished at the sacrifice of the comfort and, it would often seem, the rights of individuals; but the principle of the "greatest good for the greatest number" prevails, and those who unhappily may become afflicted with any of the maladies coming under the jurisdiction of the health boards are often obliged to sacrifice all personal interest for the benefit of those around them.

Why is it that syphilis, which has always been recognized as an intensely contagious disease, in certain of its stages and manifestations, has, to such a great extent, been allowed to pursue its unbridled course, attacking alike the innocent, as well as those guilty of sexual transgression? Why is it that thousands, yes hundreds of thousands of innocent and trusting wives, and helpless and blameless children have had to suffer for the sins of others? Why is it that syphilis has thus been allowed to spread its ravages unchecked by the hand of advancing science and broad philanthropy?

I need not answer these questions, for I am convinced that all of my hearers know full well the reason. But, thanks to the light of accumulated knowledge and experience, the shame which has too often checked discussions of the subject, and hampered the efforts of many who, from time to time, in various countries, have tried to stem the tide of this disease, need no longer have an influence. I hope to give you facts and show you reasons which will make every one present feel and know that the disease (syphilis) should and must now have a check put upon its ravages—and my plea will rest, as the title of my paper indicates, upon the vast "army of innocents" who plead for protection from a disease which may attack them when least expected, and may often extend its malign effects through years, and even to succeeding generations.

It is not a little interesting to note that when the disease burst out with such frightful severity in the years 1494 and 1495, at a date closely following the discovery of America, and about the time of the invasion of Italy by Charles VIII of France, it was not by any means considered as a venereal affection, but spread so greatly among families and in neighborhoods that it was regarded as a form of plague; many laws were therefore enacted for the protection of the community against what was considered as a new disease which had appeared among them. Also later, even in the sixteenth and seventeenth centuries, we find laws regarding those afflicted with syphilis, prohibiting them from the use of public baths, and even preventing them from coming into general assemblies, etc., and some of the measures taken to hinder the spread of the disease were harsh in the extreme.

I will not attempt, in any way, to go into the legal aspect of the case, either historically or practically, for time and space would fail me on an occasion like this; legal action will follow when once the public is convinced that there is a danger which can be thus avoided.

Mention was made of legal restrictions of the disease exercised long ago, in order to call attention to the fact that when syphilis was regarded as a general malady, not necessarily connected with the sexual act, there was great attention paid to its control; but now, in later years, since it has been regarded more and more as a venereal disease, it has been ignored and left to pursue its destructive way unchecked by sanitary control. The

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

height of the folly culminated in the silly agitation in England which terminated in 1881, with the repeal of the "Contagious Diseases Acts," which had wrought such beneficent results from 1864 till 1881, as English doctors at that time testified, and as every medical man knows.

As already intimated, the pendulum of knowledge has swung the other way, and during the last twenty-five years or so, a mass of facts has been steadily accumulating, which again calls attention to the aspect of the innocent infection by syphilis, and which demands that the thoughts of those who make laws for the protection of the public shall be again turned to the disease. The data referring to this "Syphilis in the Innocent," the present writer has been collecting for the past ten years, and has recently embodied in a volume,[1] to which further reference will be made in our discussion of the subject.

The basis of our present argument is as follows: as long as syphilis is regarded exclusively as a venereal disease, it is and will be extremely difficult to obtain adequate legislation for its control; whereas, if it can be shown to be one from which the general and innocent public should be protected, there will be little difficulty in meeting and solving the question; it is the hope of the writer that the present paper, with the discussion which may follow, will be the means of such agitation as will result in the ultimate adoption of laws which will in a measure control syphilis in this country.

In order, therefore, to properly understand and appreciate the task before us, it will be necessary to enter into some details in regard to the present extent of syphilis, its modes of propagation in times past, including many episodes which were called epidemics, on account of the large numbers innocently affected in a brief period, and finally to the modes of propagation of the disease in late years, by other than unlawful venereal acts. These matters I will endeavor to present as concisely as possible.

### WORLD-WIDE DISTRIBUTION OF SYPHILIS.

A word first in regard to the general distribution of syphilis in the world.

Many have written from time to time as to the antiquity of syphilis as a disease, even from the most ancient times, and bones exhumed here and there have seemed to show that it has prevailed for ages, as also records in Chinese literature point back to its existence at least 2000 years B. C. But for practical purposes most studies of syphilis go back only four hundred years to the period mentioned, 1494 and 1495, and as all know, it was charged that the followers of Columbus brought the disease to Europe from the western lands. Since 1494, the disease has spread, apparently *de novo*, until now, according to the best writers, there is hardly a portion of the inhabited globe where it does not exist with more or less virulence. It is stated that in Russia at least one-quarter of the inhabitants in some villages are infected, and all writers agree that there it is mostly spread in an innocent manner, mainly in family life, as will be mentioned later, for prostitution is almost unknown in the villages.

In Great Britain and Ireland it prevails widely in the great cities and ports, favored by the neglect of all restrictions on prostitution. Dr. Holland in 1854 estimated that in the United Kingdom there were at least a million and a half persons infected with syphilis each year.

Japan and China are so full of it that Dr. Eldridge states that it is very exceptional to meet a male Japanese who will not acknowledge that at some time he has had syphilis, and in the French Hospital at Tien-Tsin, China, almost 30 per cent. of all cases were of this disease.

Time fails even to touch on its prevalence in various other countries, but as stated before, syphilis exists almost universally, and, according to the best authorities it is steadily on the increase.

There are no data to determine the extent of its prevalence in the United States, but any one familiar with dispensary and hospital work here will vouch for the very great amount of it seen in daily life. The statistics collected by the American Dermatological Association, relating to some 300,000 cases of skin disease, give a percentage of 11.5 due to syphilis. Some years ago Dr. Sturgis collected the returns from the public institutions in New York City, and estimated that the numbers newly infected there with syphilis could not be far from 50,000 each year.

In the earlier history of medicine, in the sixteenth century, and later, there occurred, as already alluded to, such sudden spreadings of syphilis on certain occasions that the name epidemic has been rightly given to them. The earliest of these epidemics of which we have a good account occurred in the town of Brunn, in Moravia, where there were 180 directly infected in the town and others in outlying districts. The infection took place by means of cupping and blood letting as practiced by the public town barber, and no mention is made of its conveyance by venereal acts. These epidemics of syphilis I tabulated, from literature, collecting 110 of them, with a total number of considerably over three thousand victims. This is quite exclusive of those episodes where it is stated that there were "a large number infected." Included among the causes as a means of conveyance of the poison in these sad occurrences may be mentioned nursing, hand raising of infants, domestic transmission by household utensils, kissing, breast-drawing, accouchement, also by cupping, blood-letting, circumcision, vaccination, tatooing, glass-blowing, the application of the tongue to the eye to remove foreign bodies, catheterizing the Eustachian tube, etc.; and even as late as 1892 no less than twenty-seven cases of infection of this nature were reported by one physician, and, in Paris, in 1870, there were over seventy reported where the poison was conveyed to the Eustachian tube accidentally by one practitioner, in the treatment of diseases of the ear—this resulted from gross carelessness on the part of the physician.

Time would fail me even to hint at the mass of material which has been brought to light in regard to the modes and methods by which syphilis has been innocently given to individuals, even up to the present time, and often in spite of great care being exercised.

The three great classes or divisions of the subject to which I wish briefly to call your attention are: 1, marital syphilis; 2, hereditary syphilis; 3, extragenital, innocent syphilis.

### MARITAL SYPHILIS.

The subject of marital syphilis has been very fully discussed by a number of writers, and all acquainted with the subject know well that this mode of infection stands prominent in connection with the innocent acquiring of the disease. While men occasionally contract

1. Bulkley: Syphilis in the Innocent (syphilis insontium) Clinically and Historically Considered, with a Plan for the Legal Control of the Disease. New York: Bailey & Fairchild. 1891.

syphilis innocently in lawful wedlock, even indeed from wives who have acquired it in nursing a syphilitic child, or in some other innocent manner, it is principally the wives who suffer, from the sins of their husbands, before or after marriage, and on them falls a large share of the burden of "innocent syphilis."

Fournier, of Paris, recently made some studies from the cases of syphilis coming to him in private practice. He found that fully 25 per cent. of all females whom he had seen in private practice had contracted the disease innocently and undeservedly, and in the discussion of his paper, Ricord thought that that proportion was too low. Of the married females in Fournier's practice, he found that in 75 per cent. of the cases the disease was unmistakably traced to the husband.

In my own private practice I found that in fully 50 per cent. of the females, the disease was acquired in a perfectly innocent manner, while among the married females the percentage of innocent infections would be 85 per cent., or more.

Surely, then, there is reason in the plea that something should be done to prevent the wholesale infection of these innocent victims of marital syphilis. But if this aspect of the subject is dark, that of hereditary syphilis is yet darker, and calls even more strongly for relief.

### HEREDITARY SYPHILIS.

The literature of hereditary syphilis is very large and the facts related to it are well known to the profession. Time and space will allow of but the briefest mention. We may for a moment first refer to the effect of the poison upon the viability of children born of syphilitic parents. I can not do better than to refer to some very striking tables given by Sturgis in an appendix to Diday's work on infantile syphilis. They are from the records of births of syphilitic children at the Moscow Hospital, Russia, from 1860 till 1870. During these years there were 2002 such births, and 1425 deaths; that is, 71 per cent. of the children born there of syphilitic parents died. Other writers are in accord as to the very great death-rate among those born of syphilitic parents.

It is to be remembered also that syphilis is the cause of innumerable abortions, and also produces sterility, both in the male and female. If, therefore, the effects of syphilis were limited solely to destruction of life in the new-born, or in the products of conception, there would be a strong reason for the introduction of measures to check the spread of the disease, from its loss of life to the state. But this is only a portion of the ills wrought by syphilis in connection with generation, and it would be better that children of syphilitic parents should thus fail of life, rather than be born with an inheritance which often proves such a curse.

Tarnowsky has recently given us some interesting facts which could easily be more or less paralleled from others. In three families, born of syphilitic parents, there was a total of 22 births; of these there came only *one* healthy adult person. Of 13 who survived some years, 8 were incapable of self-support, from mental or physical defects, and the other 5 were weak, nervous and totally unfit for further procreation. He states that the families in which this occurred belonged to the intelligent class of society, with no other cause than syphilis for these disastrous results. He quotes further, from Tschistiakow, the case of a man who had severe syphilis in early life, destroying the palate, of whose 9 children, 2 were idiots, 1 was deaf and dumb, and 1 died in infancy. The works of Hutchinson and many others give abundant testimony as to the direful effects of syphilis on the progeny of those thus affected.

Thus the army of innocents swells in size, and pleads for the restriction of a disease, which it is now believed, may sometimes be inherited even to the third generation. What the later effects of syphilis may be in producing some of the conditions commonly known as scrofula, and in inducing race-degeneration, can not now be answered positively. We know, however, that it has at times decimated our American Indian tribes, and has wrought unspeakable havoc in Russia, in the Hawaiian Islands, and elsewhere.

### EXTRAGENITAL SYPHILIS.

The third division of our subject, namely, extragenital infection, or syphilis acquired quite apart from any sexual relations, is one of the most interesting lines of investigation possible, and has been illustrated by thousands of recorded cases, reported by many hundreds of observers. I may remark that nearly 200 cases of this kind have fallen under my own personal observation and care.

Time and space again forbid our more than lightly touching upon a few of the outside facts relating to this branch of our subject, but a slight classification of the facts may help us to a better understanding of the vastness of the subject, and its very, or most, important bearings upon the health of the community, and the dangers from syphilis.

### ACQUIREMENT OF SYPHILIS.

The cases referring to the different methods of acquiring syphilis accidentally, apart from sexual life, as actually observed at the present time by every one who has opportunities and experience in this line, may be grouped under three main catalogues: 1. Those relating to domestic and industrial life. 2. Those relating to the nourishment and care of children. 3. Those relating to professional pursuits in the care of the sick.

Under the first class we find the instances of transmission finally classified into almost fifty groups, relating to the most different phases and aspects of domestic and social life. Not only has syphilis actually been given by spoons, knives, forks, cups, glasses and jugs, but it also has been communicated by tobacco pipes, cigars, cigarettes and even by troches or candy passed from mouth to mouth; also by shirts, drawers, masks, plasters, bandages, lint, towels, sponges, combs, tooth-brushes, syringes, sick-chairs, etc. Among those who have acquired it in industrial life, that is, innocently in connection with their occupation, we may mention glass-blowers, assayers, weavers, musicians, conductors (by whistles), servants, cooks, furriers, upholsterers, shoemakers, and others.

The second class, representing syphilis acquired through the nutrition or care of children, includes literally thousands of cases where the disease has been innocently acquired by suckling syphilitic children at the breast, and innumerable cases where the nurses and attendants have acquired it by contact with the syphilitic secretions of infants and where diseased children have communicated the disease to each other.

In the third class, relating to professional body service, in connection with the care of the sick, we find three divisions: 1, where the operator is the victim; 2, where the operator is the syphilifer, or gives it from himself to a patient; and 3, where the operator is the medium of conveying the disease from one patient to another.

Under the first class we find hundreds of cases where physicians, surgeons, and midwives have become infected in the practice of their calling. Large numbers of cases are on record where breast-drawers and wound-suckers have acquired the disease.

In the second class we find many records of those who have had syphilis giving the disease to others by body service, as in breast-drawing, tatooing, circumcision, vaccination, etc.

In the third class the operator acts as a medium, conveying the poison from one patient to another. Here we find a sad array of cases of infection by skin-grafting, vaccination, through dental instruments, by wet-cupping, tatooing, the use of the Eustachian catheter, etc.

### LEGAL CONTROL OF SYPHILIS.

I have thus hurriedly, and necessarily very briefly, run over a few of the points relating to our subject, illustrating the propriety of my "plea for the legal control of syphilis based on its frequency in the innocent"—the details necessary to a full understanding of it would take many, many pages and occupy as many hours. I beg now to present a brief argument for and a statement of the method and mode of the legal control of syphilis which I think is feasible at the present time.

From what has preceded it is readily understood that syphilis is a disease which inflicts great injury upon the public health; for it imperils not only those who have been guilty of sexual transgressions, but also those who are quite innocent, and it is upon the basis of protection for the latter that I believe legal action should be taken.

While syphilis occurs most frequently as a "venereal disease," its prophylaxis or legal restraint by no means relates to the restriction of venereal diseases; the limitation of the spread of syphilis should be considered from a much broader and higher standpoint, namely, from that of defending the public health and that of individuals against a malady which affects the innocent and guilty alike, and which comes to the innocent not only when its dangers are anticipated, but also when they are least suspected.

In the matter of legal protection against syphilis, therefore, the subject of prostitution becomes a secondary consideration. The question is not one of "regulating prostitution," or of inspecting, licensing, or legalizing the "social evil," or of protecting those engaged in it. We approach it from a higher ground, and seek to have some restriction put on a disease which is dangerous and communicable, and which might at any time attack any one in a wholly innocent and unexpected manner. That the spread of syphilis can be checked is self-evident, as has been conclusively proved by the fact that all the epidemics to which reference has been made were averted when the cause was recognized and sufficient measures introduced to prevent the further transference of the poison from one person to another. It is also abundantly shown in certain instances where foreign governments have in some places enforced stringent measures looking in this direction.

We know positively that the poison does not and can not develop *de novo*, but that it is always communicated from one individual to another. We know also that within a certain period syphilis ceases to be contagious in each individual; so that if no new infection is introduced into a community, and the members of that community are guarded against acquiring the disease from one already infected until that safe period is reached, the malady will cease to exist.

Such precautions are exercised both by the public and by individuals against other contagious diseases, such as smallpox, scarlatina, measles, diphtheria, yellow fever, etc.; is it not eminently proper that syphilis should be placed in the same category, and protection should be afforded to the innocent against it? Syphilis counts its victims, guilty and innocent, by thousands where other diseases count hundreds. More deaths are ultimately caused by syphilis than by smallpox, while the injury to health, and interference with life work is infinitely greater in the former than in the latter. The conclusion is absolute: syphilis should be placed, like other contagious diseases, under the control of the health authorities.

In this country, as far as known, there have never been any sanitary safeguards against the spread of syphilis, and there are very few hospital advantages for those thus affected. In most cities in Europe, there are large accommodations for this class of patients, amounting in Paris to between one and two thousand beds. New York has but a relatively small service at the City Hospital, while the vast majority of syphilitic patients are treated at the dispensaries, and are allowed to go about, often in an extremely contagious condition. It would be difficult to convey an idea of the carelessness and indifference of some of these patients when informed of the dangers to others from their disease. Many, indeed, by far the larger share of them, disappear from treatment long before their syphilis is cured; and generally, even while they are in the contagious stage of their disease.

The republican ideas of this country would probably not endorse or submit to such sanitary police inspection and restraint as is exercised in many places in Europe; but the question naturally arises: Is there not some way in which the end can be reached of arresting the spread of this dangerous disease? Can there be no safeguards thrown out which shall prevent its extension here as it has spread in certain countries in Europe, such as Russia, where whole communities have been syphilized, and Portugal and Japan, where the disease is well-nigh universal?

The first step toward accomplishing the legal control of syphilis would undoubtedly be found in placing it among other contagious diseases which come under the jurisdiction of the health officers; indeed, the wonder is that it has not been so placed long ago.

If syphilis were first recognized as one of the great contagious diseases, against which it is the duty of the government to protect the community, the details of that protection would follow with time, as they have in regard to other contagious diseases; as the public became aware of the dangers arising from syphilis, and the benefits accruing from its restriction, there would be no difficulty in securing proper laws relating to the subject.

The suggestion, therefore, is most earnestly put forward that the time has certainly come when the dangers of syphilis, and especially the dangers to innocent persons should be fully and fairly recognized and met. It is too late in the history of science and of humanity to stigmatize the disease as "venereal," and on that account to withhold scientific protection from thousands of innocent sufferers. Among babies, nursing women, persons infected in dental and surgical operations, and in dozens of other innocent manners, syphilis can no more be described as venereal than can any other contagious disease. The time has come to place it under the control of the proper health officers, and to make it quite as *criminal to transmit syphilis wittingly*, as it is to com-

municate smallpox, scarlatina or diphtheria. It is believed that if only syphilis can be included on the list of contagious diseases which the health boards can control, proper legislation will follow slowly as the profession and public become more enlightened as to the real nature of syphilis and the real danger of the public from it.

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DISCUSSION.

Dr. C. W. Allen, New York City—The subject is of deep interest and I have been very much gratified in listening to the presentation of this paper with its interesting statistics. Dr. Bulkley and I took part in a discussion almost ten years ago, before the Academy (New York). At that time I made certain suggestions, one of which was that we should begin by treating syphilis as a nonvenereal disease—not treating it medically in that sense, I mean, but in our discussions, in our writings; dropping the sexual view of it and treating it more so the public could come to learn what an important condition it presents as a family disease. I also advocated at that time, as one of the measures which might be carried out until others could be introduced, a certain authority to be exercized over those who sought admission to the public hospitals, having the disease in its contagious stage. Some authority should be vested in the institutions so that they could retain such cases until they are no longer sources of danger to the community at large. In a very large dispensary practice, where there are many foreigners recently arrived in this country and a great many Russians, I see so much of the family aspect of syphilis, the non-sexual kind, that I think I am safe in saying that two-thirds, and possibly more, of the cases I see have no immediate relation to the sexual act. I am continually seeing children, not only one, but two and as many as three in a family, all suffering from early syphilis, and I am unable to trace it to any source. The mother who comes with the children is healthy as far as examination goes; the father, I am usually unable to see, but as far as his history goes he is healthy and has been so. One of the last cases I saw before I came here was an instance of most aggravated chancre of the lower eyelid, producing a tumor the size of a walnut. It was a hideous looking affair, almost closing the eye, and I could get no history of how it was acquired. I see young men with chancres in various locations, not only upon the lips but in several instances upon other portions of the face—not bites from women but acquired in fights with men. Many of the suggestions I have previously made relating to the dissemination of a proper knowledge of the subject can be carried out if we go about it in the right way. Since this discussion in the New York Academy, ten years ago, I have endeavored, in a modest way, to carry out this view, and have recently written an article which was published in the *Medical Record*, in which is cited a large number of extragenital chancres, and nothing of a sexual nature is touched upon, so that article could be read by any one. We should all write this kind of papers to give the public and the profession at large, and the family physicians, the non-sexual aspect of lues so as to lead them to think of it as something more than a venereal disease. The speaker then referred to a case of chancre of the finger in a midwife, acquired in pinning a diaper upon a woman after delivery. She had washed her hands in carbolic acid at once, but in spite of this the chancre appeared. He also spoke of a large number of infecting sores in medical men, acquired in the pursuit of their calling.

Dr. W. T. Corlett, Cleveland, Ohio—I am in thorough accord with the ideas of the speaker, and think it an extremely important subject. The main difficulty which we have to encounter in doing anything to regulate the disease is the association with venereal disease. In common with Dr. Allen and others, I can testify that it is not uncommon to see children and innocent women presenting themselves with various forms of syphilis. Among those whose duties call them in contact with the disease it is not infrequently met with. In the last twenty years I have seen numerous cases acquired innocently. I have now, in Cleveland, a case of a nurse who acquired it in the performance of her duties. In Lakeside Hospital two orderlies were discharged with well-marked cases. It was only accidentally discovered by a nurse who called attention to it. The cases were at once recognized and the orderlies discharged. They had been giving baths, etc. The disease should be regarded as contagious as others now on the list, and should be subject to report as is smallpox, diphtheria, etc. It seems the only way to make a beginning in regulating and preventing the spread of this very prevalent and dangerous disease.

Dr. E. Wende, Buffalo, N. Y.—In regard to the board of health preventing the spread of this scourge, it is a matter which will present many difficulties in supervising. Yet I have frequently noticed a practice which is much in vogue in the hospitals of this country and Europe, that is, syphilitic patients are allowed to roll bandages for and dress the wounds of other inmates. It would seem proper that the profession should, as educators, first eliminate this custom from their own domain, before requesting special legislation governing such a delicate proposition.

Dr. G. T. Swartz, Providence, R. I.—It would be very difficult in the face of the feeling against this disease, to introduce any regulations regarding it, so long as there exists so much difficulty in enforcing regulations against those diseases which have no such odium attached to them. I think the members of our profession should be brought to consider the desirability of speaking of this topic to one another and to patients, to treat it as a communicable disease, and a nonvenereal one. The time will come when it will be classed with the diseases which should be regulated. And though we can not expect to obtain all cases, nor have all cases reported, it will act something like the law regarding consumption in New York City. One-half of the physicians do not report consumption, yet the law is beneficial to that extent. In many cases which come into our practice, we do not know what to do with them; many patients would be amenable to restraint if we had authority to keep them. They are not received in our hospitals and must go back to their homes, to their families, with such ordinary precautions as we can give them, and you know how poor these can be. I think if this Section would put the matter in proper form, so that those outside of this Sections could see something was on foot in this direction, progress would be made and in a few years health officers would be willing to have ordinances and regulations covering the subject, and would be willing to attempt their enforcement.

Dr. W. S. Gottheil, New York City—I agree with the reader of the paper and yet there is an aspect of the matter which has not been touched upon, and which I think is of importance. We have had a good deal of trouble with the reporting of cases of tuberculosis in New York City, and if it becomes obligatory to report our syphilitics, I foresee practical difficulties of no mean order. We are dealing with a disease the duration of whose contagion is entirely indefinite, for we do not know when the mucous patch, for instance, ceases to be a source of danger; and to make all cases of syphilis reportable, so to say, would greatly increase the unpaid work with which the profession is already overburdened, and further interfere with the confidential relationship between physician and patient which is perhaps more essential here than with other affections. And while I approve of all preventive measures that are reasonable, we must beware of the inevitable tendency of the health authorities to go too far in such matters. That this has occurred already in New York in the case of tuberculosis is the opinion of many competent judges and to add syphilis to their field of action would hardly be wise. The disease is a stigma, no practitioner would report a private case, and I doubt whether it would be possible to do so with those of the clinics and hospitals. I would make a plea for great caution in increasing the power of boards of health to interfere with the private work of practitioners of medicine. Some of us think they do so far too much already.

Dr. W. L. Baum, Chicago—I believe very thoroughly in what Dr. Gottheil has just stated, and Dr. Bulkley's paper should be distributed, and given as wide distribution as possible into the hands of the general practitioner. While admitting the general theoretically correct methods which Dr.

Bulkley would pursue. I still think the province is in the education of the general practitioner in the regulation of syphilis, and also in inducing him to carry to his private practice these regulations, and some admonition in regard to the promiscuous intercourse which is constantly practiced. One of the best methods of securing benefits is by inducing health officers and hospital boards to admit larger number of syphilitic patients to the hospitals for treatment; but they have no right to detain such patients under the English common law, and it is a question in my mind whether they have the right to stigmatize these patients with the diagnosis of syphilis which can reach any degree of publicity. With the ordinary contagious diseases publicity carries no stigma as syphilis does, even if we call it by another name. A tuberculous patient in a family is not felt to be a disgrace, but a syphilitic patient in one reaches future generations, and in that way such regulation would be decidedly objectionable throughout the community and it would be impossible to enforce such regulation features. A majority of patients who might be detained in clinics would abandon those clinics and remain outside and distribute their disease more thoroughly than if they knew their disease was kept for private record rather than a public measure of protection.

Dr. L. D. Bulkley—Syphilis has been ignored from ignorance, and has been neglected from negligence, on the part of the profession and health authorities. The objections which have been raised in regard to the regulation of syphilis, as a contagious disease, I fully appreciate, and I did not say in my paper, nor do I now, one word in regard to reporting of cases. If the first step could be made, and the health laws were so framed that it would be as much of a crime or a misdemeanor to wittingly give syphilis to others, as it is to give smallpox or scarlet fever, the first wedge would be inserted whereby the door could be opened wider at a later date. What I mean is this: If the proprietor of a hotel puts a visitor in a room where there has been a patient with smallpox or scarlet fever, without properly disinfecting, he is liable to damages, because he wittingly allows one to get disease there. Now apply the same to syphilis. This simply opens a door whereby people could be made responsible for giving syphilis wittingly, and would thereby make the careless ones careful. If the keeper of a bad house should expose one to smallpox or scarlet fever, he would be as punishable as the keeper of a hotel. Let him be held responsible for syphilis acquired in his house, then he will be careful to have everything in his house free from disease. To do this he will see that none of his male visitors bring it in, and for this purpose he will have to examine the men. This would result favorably in checking licentiousness by keeping a certain number away who have venereal disease, and also some others from shame at having to submit to such an examination. This would further tend, in a measure, to check promiscuous street prostitution, as it would be recognized that women thus engaged were probably infected, while men already infected would fear prosecution in case they communicated the disease to others.

I quite agree with what has been said in regard to the difficulty of thus including syphilis among the diseases subject to health regulations. Cases would not be reported—tuberculosis is not—but the beginning has been made in regard to the latter, and the sooner that syphilis is put on the same footing the better. The word "stigmatized" has been used in this discussion. The sooner you can get the idea abroad that syphilis is frequently acquired otherwise than by sexual intercourse, the sooner will it be recognized that there need be no stigma connected with the discussion of it or its restriction by law.

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**Transposed Rectum.**—A case of transposition of the rectum is reported in the *British Medical Journal* of March 23, in a boy of 5. The cecum was in a normal position, with a very long appendix passing through a hole in the mesocecum. The ascending, transverse and descending colons were normal, and the sigmoid flexure had a long mesentery which passed across the front of the cecum, but at the sigmoid flexure the bowel crossed behind the bladder to the right iliac fossa and down to the anus. The left iliac fossa was free from the large bowel.

# RECENT CLINICAL OBSERVATIONS ON TINEA VERSICOLOR.*

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The statement has recently been made that nothing further is to be learned from the clinical side of study in dermatology, and that all progress in this direction must come from effort to exhaust the possibilities of bacteriology and histology.

Granting that the preponderance of recent advances have been due to the finer scientific explorations with the aid of instruments of precision, and that this must continue to be the case, still, I can not believe that the clinical field has been exhausted. If it were not as true

Figure 1.

as it would seem to be that there is nothing new beneath the sun, the proposition that clinical discoveries are at an end might be successfully defended. Fortunately or unfortunately, we are prone to forget and are misled as to facts, once perhaps known and their importance appreciated. Rediscoveries must be made before we either learn of or come to realize the significance of certain clinical conditions.

If we take, for example, so common and readily to be diagnosticated an affection as pityriasis versicolor, one would suppose that the last word had been said in regard to its clinical features and that text-books would be in accord concerning all points connected with it.

To discover points of dissimilarity of view it is not necessary to go back to 1864, when Erastus Wilson, calling the affection chloasma—pruriginosum pigmentosum and furfuraceum—looked upon it as due to granular

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

degeneration of cell tissue, "the granules being seen in great numbers under the microscope." Much more recent writers make statements which do not bear a critical clinical test.

Among such statements are to be mentioned "the disease is never seen in children;" "there is an absence of eruption on parts exposed to light;" "it is never seen on the palms and soles;" "it does not affect the face;" "it occurs only in those who have seborrhea and dyspepsia;" "it occurs chiefly in phthisical subjects." One of the latest writers to state that the disease never occurs on the face is Bosenquest.[1]

It is not my intention to attempt a refutation of all of these statements. The occurrence of tinea versicolor in those below the age of 10 years has several times been verified by competent observers. Dr. Gottheil,[2] of this city, recently reported a unique instance of the affection located upon the palm, as shown in Fig. 1. Patches which were almost black in color had existed on the palm of a physician for fifteen years. When examined no other spots were found on the body.

The writer has in a number of instances during the

Figure 2.

past three years observed the affection on the face, as shown in Fig. 2 and Fig. 3. In both instances it extended from the neck over the jaw and upon the cheek. In the case of the boy (Fig. 3*a*), who is a favus subject, the lesions are seen well up in front of the ear. Upon the opposite side they extended only to the cheek on a level with the ear-lobe. The region involved has been painted with a strong iodin solution as a test, of which I shall presently say a word. The outline of the patches on the face and neck are somewhat better brought out by this procedure. I have also seen an isolated patch on the forehead in a young woman. It has been my observation that patches on exposed regions are darker than those hidden from the light.

Clinicians who have a large experience know that those in perfect health are affected as well as the debilitated. In the practice of a specialist for the lungs and heart, the vast majority of subjects of tinea versicolor will be also subjects of phthisis.

In my personal experience it is quite the exception to find phthisis, or indeed any other severe disease coexisting, and I have not been able as yet to verify the statement as to dyspepsia and seborrhea being frequently present.

A year or more ago I pointed out the clinical fact that there is frequently to be found in the pubic region of both men and women one or more patches of tinea versicolor which escape adequate treatment because hidden by hair. These patches often escape the observation of the physician as well as of the patient, and I believe they are to be looked upon as the source of renewed infection in the recurrences which so often follow a course of treatment. In a large number of patients who have presented themselves in the recurrent attack, with a history of having previously removed all the spots from the trunk by treatment, I have examined this region for hidden lesions, and my search has often been abundantly rewarded.

Figure 3.

There is one other source of latent or lurking disease to which sufficient attention has not been directed. The affection is almost invariably referred to as one of the superficial epidermis. If the outlying little islands surrounding the larger plaques are closely examined in their earliest stages of formation, it will be seen that they spring from a fine lanugo hair or follicular opening as a central starting point, from which the round spot slowly extends equally in all directions. Very little treatment often suffices to remove all that is to be seen upon the surface, but unless treatment is persisted in, the fungus which has dipped down into the follicle will, under favorable conditions, start up a renewed growth. In some rare instances a tinea versicolor of long standing will be limited to such small round lesions upon the upper portion of the chest.

The iodin test, to which I have referred, consists in painting suspected areas with Lugol's solution or tincture of iodin, the former especially giving a deep mahogany or dark brown color to lesions in which the fungus still exists. This is also a valuable test in distinguishing pigmented areas of this disease from chloasmas, macular syphilides, erythemas, exanthemata, etc. It does not distinguish between this affection and

1. British Journal of Dermatology, October, 1899.
2. Med Record, July 1, 1899

pityriasis rosea or disseminated ringworm of the body, both of which stain in much the same manner. It has the advantage of being at the same time curative, though perhaps in a lesser degree than some other commonly used remedies.

The diagnosis without microscopic aid is not always as simple as we know it to be in the majority of instances. This may be because of unusual situation, unusual form, color distribution, or because of some modification by treatment which has been applied.

A remarkable black-ringed, deeply-pigmented eruption was presented a year or so ago at the New York Dermatological Society as some rare or undescribed affection. It turned ont to be a pityriasis versicolor which had been treated by chrysarobin.

The diseases which are apt to be confounded with pityriasis versicolor are the pigmentary syphilide of the neck, unusual freckle-like pigmentations over the trunk,

Figure 3a.

chloasma due to various causes, the pigmentation remaining after syphilitic roseola, vitiligo with surrounding pigmentation, leprosy, seborrheal eczema, pityriasis rosea, and in a case recently seen the lesions were so masked by an acute dermatitis that the picture was very confusing.

*Pityriasis nigra*, as recorded by Willan, Cazenave and Tilbury Fox, is so infrequent a form, at least in this country, that I will, in closing, refer to an instance recently presented by me at the New York Dermatological Society. The neck of a young man who had been about two months in the country was almost entirely surrounded with coal-black plaques running into one another and extending slightly upon the hairy scalp. So similar were the appearances to a dirty neck, such as a worker in coal might present, that at first glance almost all the gentlemen present were disinclined to attribute to the disease any great share in its production. No amount of washing, however, with soap and water, was adequate to remove the stains, and it was only after vigorous treatment that the patient was freed from his disfiguring affection.

Another unusual form of the affection is that occurring as ringed lesions over the chest. I show a photograph of such a case in a young syphilitic discovered on stripping him in the stage of roseola. At first the outline of the rings were so like the acute mild attacks of seborrheal eczema in this same situation that such a diagnosis was suggested. Scrapings examined by the microscope at once dispelled this erroneous view.

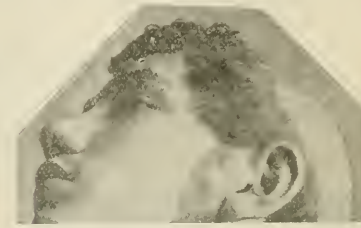

Fig. 4.—Iodin has been applied to cause the patches to show better.

Now a word as to treatment. Among the great number of recent suggestions added to the already large list of "cures," I have found one which promises well: a butter-like ointment made with calcium bisulphid in saturated solution, 50; lanolin, 20; lard, 30: To be applied twice daily. Lugol's solution is efficacious.

Soap of itself alone I have found capable of ridding the surface of the growth. A sand soap or one made with pumice-stone, etc., have rendered good service. Arthur Powell, writing of the disease as it affects the face of natives of Bengal, states that they not only seldom use soap, but that some anoint the body with oil, and we know from the sites of predilection of the eruption that those parts richest in sebaceous structures are mostly implicated.

## EXPERIENCE WITH AN EPIDEMIC OF RABIES IN BUFFALO.*

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An important fact to be gathered from history is the liability of human beings to be attacked by diseases of a contagious nature, transmitted through the agency of inferior animals. These diseases often present such unusual features of interest and severity as to engage the serious attention of the local health authorities, and alarm the public generally; and none more so than rabies, on account of its cruel character, distressing anxiety, mortality, its ever-present source—the dog—and the unfortunate dispute as to its actual existence. It is a much easier and more popular task to dilate concerning the habits and good traits of this inseparable companion, than to describe the peculiar morbid manifestations which can not be considered apart from or independent of the other mammalia that have been infected through his bite. It must be viewed in conjunction with man, if we would hope to form a just, enlarged and correct idea of its true significance and pathologic affinities. It is one associated with misconception and ignorance, which entails a large amount of needless and woful suffering, and even death.

It is not my intention to make a thorough analysis

* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

of this interesting subject now, nor to discuss its antiquity, extent or origin, but merely to record a few facts and experiences that are especially connected with the epidemic of rabies, circumscribed within certain bounds in and about the city of Buffalo, N. Y., and now practically under control.

I wish to accentuate that the malady was first observed in November, 1898, in a pug-dog owned by a resident in the Kenmore section of the city, followed by a cow being attacked, and, later, by a horse from a livery stable on Jersey Street, the latter dying and the former being killed.

These were followed by a number of isolated cases, scattered throughout the city, at varying intervals, until June, 1899, when a stray dog, acting strangely, appeared in Alden, N. Y., and bit a dog, which subsequently went mad, biting several dogs, and among them, it was surmised, a large Newfoundland, of a playful and tractable disposition, that had never strayed from his master's threshold, was everybody's crony, the pet of the neighborhood, the willing comrade and frolicsome playmate of the village school children. It would almost seem that he was too gracious an animal, in the process of time, after catching the infection, to have become frenzied, and furious, and to have wandered miles from home, snapping at everything alike, whether animate or inanimate, and biting three men, two horses, four cows, and no one knows how many dogs.

Of the men, J. G. was attacked and severely bitten in the arm, near Wende Station, a distance of four miles from the home of this once affectionate animal. O. S. was bitten in the hand, at Looneyville, a mile or more further on, and S. J. W. likewise was bitten in the hand, in the Township of Lancaster, at a distance of at least ten miles.

The Department of Health, to arrest this terrible infection of these men intrusted to its care, did not hesitate to advise them to take immediate advantage of the treatment to be obtained at the Pasteur Institute, New York City. These, then, were our first cases to leave Buffalo for the special treatment of this unique and mischief-making complaint.

Of the horses bitten, one died; of the cows, three; while the dogs were mostly killed, leaving but a few to be securely housed for demonstration and observation of facts, however, only to see them grow uneasy, develop the disease and die. Somewhat later, at Derby, N.Y., a singular tramp dog also turned up, behaving in an uncustomary manner and, before being shot, bit seventeen dogs and two cats, all of which were promptly killed. These two cases mentioned must suffice to illustrate the deadly work that can be perpetrated by a single mad dog, for similar instances have been so frequent with us that it would be tiresome to try to enumerate them all.

Verification of the true nature of the malady was made in numerous cases by Drs. Bissell and Carpenter, bacteriologists of the Department of Health of Buffalo, with the result of uniformly finding the diagnoses to be correct. Further verification was had in portions of the brain of dogs sent to Professor Moore of Cornell University, and the Bender Laboratory at Albany, notably in one case where the dog presented but vague evidence of the malady. Direct inoculations upon fox-terrier dogs were made jointly by Dr. John Wende, veterinarian, and Dr. Carpenter of the Health Department, from rabid-dog brains, with the result of developing the malady on an average on the twenty-third day.

In a communication to me, from Deputy Commissioner W. C. Patrick, of the State Department of Agriculture, I am able to give the following illustrative cases of the epidemic in the rural districts. One vagrant dog bit one calf, one cow and possibly others. The calf and cow both died with pronounced symptoms of rabies. A second vagrant dog bit one calf and three cows, of which the calf and two of the cows died—undoubted signs of rabies. A third vagrant dog bit one horse and one cow; both died of typical rabies. A fourth vagrant dog bit one horse, two hogs and one cow; all died with rabies.

These animals belonged respectively to: L. T., Marilla, N. Y.; F. B., Marilla, N. Y.; J. V., Alden, N. Y.; W. J. R., A. S., C. F., and B. J. S., all of Lockport, N. Y.

These dogs were all acting strangely when observed, were aggressive, and bit without provocation, and attempted, though failed to bite many other animals. The animals bitten, and which died, were particularly examined and studied, and their malady diagnosed as rabies by Dr. Kelley, state veterinarian, Albany, N. Y., and Dr. Anderson Crowforth, Lockport, N. Y.

### MUNICIPAL RESTRICTION OF RABIES.

The question of municipal control for the restriction of the spread of rabies is most important, presenting many peculiar aspects. The experience of the Department of Health of Buffalo, in securing legislation in the interest of public health, shows that such procedures can not be obtained without strong opposition from certain classes, some undoubtedly well-meaning, but not well-informed, others well-conned, but not well-disposed.

Ordinances relating to sanitation, contagious disease, and the regulation of the practice of medicine, have all been borne with opposition that has ultimately fallen into merited oblivion, but in none has there been such unreasonable, violent antagonism as toward measures directed to restrain the possibility of injury from dogs. It would appear by those referred to that the possible discomfort of dogs was of more moment than the protection of human beings. Muzzles were objected to as cruel; leashing and chaining as injurious to their health, while evasion of the dog ordinance regulating the action of animals most likely to be infected is practiced and justified from a sense of false sentiment or morbid heroism. It was obvious that no laws, however good, could be substituted for good citizenship, and it was evident that the public is much to blame for this apathy, carelessness, opposition and cussedness.

The presence of a multitudinous dog population in a community serves no good purpose; their diminution and restriction is indicated and should be accomplished. They should be permitted only under restraint of safeguards. It should be the policy of the authorities of all large cities to have regulations of such character as would cause not only a decided decrease in the number of useless curs usually prevalent, but would limit their character and ownership to those most desirable, thus benefiting the community and the dogs themselves, which, in relation to rabies, would mean less material, less menace and greater facility of control. Unless every care is taken, each individual case is liable to start an epidemic. Only those who make a special study of this question can be fully impressed with its importance. The extreme ignorance of the public generally in this matter is a fact admitted by all capable of judging on the subject, and is, indeed, manifested by evidence of the most abundant and notorious kind. The most false and most absurd notions are entertained respecting the

whole subject and respecting the means capable of removing it. The prevalence of rabies in large municipalities is a grave danger, not only to the well-being of the community itself, but to all the surrounding territory—and equally pernicious, if not more so, are the so-called antirabic wiseacres who trade upon opposition which, unfortunately, obtains to such an extent in these days, and is, in my opinion, unmitigated insincerity of the most detestable description. Here, as elsewhere, it is apparent that their mind can scarcely ever escape from the conventional thraldom in which it has been nursed. They naturally oppose and restrain the unselfish efforts of the sanitarian in his attempts to blot out sickness, sorrow and suffering, by dodging the truth and working upon the ignorant to deceive the public, and to increase their own consequence, like the witches and imposters who have always held competition with physicians, caring nothing for the safety and health of the public, but continually striving to induce it to swallow falsities for facts. I have often wondered if it ever occurred to them that such misery and death might be entirely prevented. At any rate, and in all events, it is the duty of an honest mind, on attaining conviction of an error, to abandon and to explain it, even though the truth that is sure to succeed it may, as yet, be seen only darkly, or be entirely hidden.

Therefore, every city in dealing with dogs should be provided with efficient rules, regulations and ordinances and demand their rigid enforcement, the features of which should embody: 1. Police supervision, registration, tagging, a large license fee and penalties. 2. Capture and death of all dogs at large not so registered and tagged. 3. Muzzling and leashing all dogs when at large. 4. Distribution by police to registered dog owners of cards educational in character, giving information concerning the care of dogs, rabies, ordinances, penalties. 5. Periodical police house-to-house census to determine that such regulations are in force. 6. Stringent quarantine against all localities known to contain this disease; and additionally during periods of epidemics. 7. A large force of extra dog-catchers to raid the streets, catching, for destruction, all unmuzzled, unleashed and unlicensed dogs. 8. Police instruction to kill such animals, whenever found practicable, by shooting. 9. Destruction of all dogs, cats or other animals bitten under even suspicious circumstances. 10. Immediate cleansing and disinfection under official supervision of stables or premises where animals have been harbored while suffering from rabies. 11. The destruction by fire, or thorough cleansing with hot soap-suds, and disinfection of kennels, bedding and feeding utensils. 12. The skinning of carcasses of animals dying from rabies or suspected to have died from rabies should be strictly forbidden. 13. All carcasses of animals that have suffered from rabies, real or suspected, should be rendered harmless by cremation. 14. Prohibition to cure any animal suffering from rabies, or being suspected of suffering from rabies, without official permission. 15. The transportation, if ever necessary, of animals having or suspected of having rabies, should only be performed in a closed vehicle or receptacle.

By this combined system of raiding and police action rapid extermination is effected. Both methods are considered actually necessary on account of the dog-catching system being so possible of evasion—owing to the fact that the whereabouts of these officials spreads like wildfire, dogs are secreted and efficiency is thereby crippled. Therefore, in order to gain speedy protection, to succeed in suppressing an epidemic of this nature, the community at large must graciously express a willingness to accept the indicated procedures.

### OBSERVATIONS ON THE BUFFALO EPIDEMIC.

Briefly, the prominent clinical characteristics of the Buffalo epidemic were: 1. History of altered behavior of the animals; they showing irritability, restlessness, changed disposition. 2. Desire to swallow foreign bodies—wood, stone, glass, dirt, grass, etc. 3. A tendency to stray; in the majority of instances the dogs left their homes, wandering away for one or more days, an act unknown in their previous lives, and returning in a bad condition, sick.

Of all the symptoms, in the furious stage none were so constant, characteristic and diagnostic as the alteration in voice; almost every dog manifested this evidence of paralysis of the vocal cords in the hoarse, howling bark, changing into a high-pitched falsetto-like note. All were characterized by biting and snapping at imaginary objects, with furious aggression toward anything before them—the floor, bucket of water, sticks, any article in fact within their reach. Many would hold on so tenaciously to objects held before them that they would be lifted by their hold and moved from one place to another. A marked symptom observed in cases of the furious form, and one to which attention has, apparently, not been called or observed, and which may become a strong differential diagnostic point, was the absence of any inclination on the part of the dogs to shrink or retire from impending blows or attacks. Ordinarily, a dog approached with a club in the attitude of a coming blow recedes, dodges and evades it. In dogs, however, with this malady blows could be aimed directly toward their eyes, face or head without their giving any evidence or appreciation of the impending danger of possible injury or pain. This was so noticeable as to be commented on by even non-professional persons, and was demonstrated over and again. Of course, when objects were held before them, or were coming toward them they would frequently attack them viciously, blindly, but between the paroxysms of fury, when quiet, dogs approached with a club aggressively, as stated, would pay no attention, the act being unappreciated. This is not the case with well dogs which, under such circumstances—depending on their dispositions—appreciate the movement and either endeavor to evade or retire from it or attack. This feature, noticed in rabies, I believe to be characteristic, and, if experience in this epidemic is a criterion, it will be found in the future when looked for.

Another symptom noticed and heretofore undescribed, when spasms of muscles of deglutition were violent, was a pouching out of the throat, visible externally. When present in this degree these spasms were followed by relaxation of the sphincters and involuntary defecation and urination.

At the dog pound, from the inception of the epidemic up to April, 1900, there were 4429 dogs disposed of, among which were 95 furious and 35 dumb animals.

From April 1, 1899, till April 1, 1900, the Department of Health investigated 230 cases of persons bitten by dogs. Of the 37 persons bitten by rabid dogs in the city, 4 died in the agonies of hydrophobia. A synopsis of their cases seems pertinent, on account of their rarity.

### FOUR FATAL CASES.

W. B., living in the Cheektowaga Township, at the city boundary, had a mixed-bred collie watch-dog. The child of one of his near neighbors, 8 years of age, in

passing the gate on his way home from school was, without provocation, bitten by the dog, which at the time was loose in the yard. On B.'s return to his home, the biting being reported to him, he searched for the dog; found it secreted under the barn, and in securing it was bitten slightly on the hand. The dog was killed and taken to the bone-yard, when, on opening its stomach it was found to contain sticks, stones, grass and other foreign bodies. No further consideration was, apparently, given to the matter of the biting beyond ordinary medical attendance at the time.

Eighty-one days later, however, the boy who had been bitten was taken sick and died on the fourth day, in great suffering, his illness presenting a classic picture of rabies in the human being. The death of the boy brought a realization of the possibilities of the case to B., who was sent without delay to the Pasteur Institute in New York for treatment, but he died under similar circumstances, the disease developing in him just two days later than in the boy.

A. F., a strong young man, was attending a dance, when a stray fox-terrier wandered into the dance-hall, acting peculiarly. He succeeded in throwing the dog out, but was bitten in the hand in so doing, as was also a second young man who had attempted it just previously. Neither of them paid any attention to the incident, further than to have their bites cauterized and properly dressed at the Fitch Hospital. On or about the thirty-sixth day he was taken ill with symptoms of an indefinite character, but which soon developed into a typical case of hydrophobia, when he was removed to the Buffalo General Hospital, dying there, in the greatest agony, after an illness of but four days. During the time he was in the hospital, his case was observed by a number of prominent physicians, all of whom diagnosed the case as typical, also considering it one of the most terrible death-bed scenes in their experience. The other man who was bitter disappeared, but was finally found with some difficulty and sent to the Pasteur Institute, New York City, for treatment, and he escaped the fate of his companion.

The fourth case of death from rabies in a human being was in the person of M. D., of 375 Peckham Street. She was under the care of Dr. Emil Lustig, and died after a three days' illness from typical hydrophobia. The death certificate of this case, as those of the others, are on file in the office of the registrar of vital statistics.

*Postmortem Findings.*—Autopsy on the child, performed by Dr. W. H. Heath, of the Health Department, showed the boy well developed, with some emaciation. Rigor mortis was slight; the skin cyanosed, particularly in the dependent part of the lips. The mucous membrane of the mouth and throat was more especially swollen, dark colored and congested, and the larynx and large bronchi reddened, and swollen, with an excess of tenacious mucus present. The lungs were found moderately congested. The heart, in diastole, contained the death clot, and the large vessels were filled with dark heavy blood. The stomach was normal, the liver very full of blood; the kidneys normal. The bladder contained a small quantity of urine, with no albumin. The brain showed intense congestion over the cortex, most marked posteriorly and over the medulla, extending down and fading away over six or seven inches of the upper part of the cord: on section, red punctuated points of engorged capillaries were present: the membrances were edematous and not adherent. The autopsy showed no pathognomonic lesions. Death was due to exhaustion and heart failure.

Those who dispute the existence of this disease and its fatal consequences, likewise assail the honesty of Pasteur's great work, the usefulness of the Pasteur institutes and the integrity and even commercial honesty of those who operate them.

Our experience and the deductions best drawn from it is briefly as follows: Thirty-four persons were sent to New York City for this treatment. These were all bitten by dogs pronounced rabid after careful examination by Dr. W. H. Heath of the Department of Health of Buffalo, a graduate of the University of Pennsylvania, and lately from the U. S. Marine-Hospital Service. The Doctor brought to this work the proper training, education and reputation, and, further, a strong personal interest, all of which is referred to as evidence of the correctness of the deductions and weight of opinion. During this epidemic many prominent physicians were induced to make personal examination of the nature and character of the malady and the various phases of it present in different cases. Of these, many were known to be owners of dogs, skeptical or non-believers in hydrophobia, and it is gratifying to note that, with that honesty characteristic of the true medical man, there was no difficulty nor hesitation in recognizing the malady, nor in acknowledging their previous erroneous views. One of these gentlemen, a professor in the University of Buffalo, in undergoing this change of opinion considered it his duty to exhibit a case of the affection to the medical class of the University, and give a clinical lecture thereon.

### POPULAR MISCONCEPTIONS ON HYDROPHOBIA.

This epidemic demonstrated the fact that, at least in this section, popular misconception concerning certain features of hydrophobia continue to exist to a large extent and had to be contended with, viz., that after dog bites, in the event of the dog becoming rabid, the person bitten would become likewise affected; that dogs should be killed at once to prevent the bitten ones from becoming liable to the malady; and, singularly, no reference was made at any time in press or letters to the press to the superstition and curative properties of the "mad-stone."

To the writer it would appear superfluous to seriously present facts substantiating the existence of the malady in dogs, and its communication to man, were it not that a number of no doubt well-meaning, but misguided persons take the opposite view to the detriment and injury of their fellow beings. When consideration is given to the fact that governments abroad recognize the malady and make provision for it, that it has been the subject of investigation and demonstrated to be a malady of the most horrible possibilities, and by men of the highest ability and undoubted integrity, that it is considered in all classifications of disease, in all courses of medical education, in all text-books, it seems incredible that there can be found any to dispute the question. As the antivaccinationists seek for other reasons than the true one to explain the subjugation of smallpox, so do these persons seek by the most untenable way, in the light of facts, to explain this malady. They can not, or will not, see the simple fact that dogs get a fatal malady, inflict fatal wounds upon dogs and man with fatal results, and that it is possible to practically and successfully avert these consequences in man through a treatment which is based upon the correctness of views held by medicine concerning it; they are so strenuous to deny its existence in this connection.

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The smallpox cases in Glasgow, up to March 18, numbered 1527 with 187 deaths.

# PURE-FOOD LEGISLATION VS. POOR FOOD-LEGISLATION.*

MURRAY GALT MOTTER, M.D.

PHILADELPHIA.

For the purposes of this paper, it matters but little which of the above titles is taken: the one representing what is admittedly desirable, the other—unfortunately to a large extent—what actually exists. The problem involved is by no means so easy as, at first sight, it might seem. Much of our knowledge of the general subject is, as yet, but tentative and, in attempting to formulate it, so much depends upon our definitions. Certain general principles, however, seem to have been fairly established; and legislative enactments embodying them prove efficient or futile just in proportion as these fundamental principles are kept well to the front, or are lost in a mass of minor detail.

For the present we shall use the term food in its broadest sense, meaning thereby "the substances taken into the body which are utilized in maintaining the functional activity of the organism." This definition, given by Sidney Martin,[1] it will be seen may be made to include drugs, as well as foods and accessory foods, as they are more commonly understood. While it would be beside our purpose to argue that a drug is a food, or vice versa, it is certainly true that drugs are used to maintain "the functional activity of the organism," and as the subject of pure drugs is so frequently considered in connection with that of pure foods, the one general term may be used to include both—at least in public health discussions.

While the fact may be rather a sad commentary upon our times and customs, the necessity for legislation on these subjects is assumed to be granted. In a paper, not yet published, Dr. H. W. Wiley, of the U. S. Department of Agriculture, classifies food legislation in regard to its source, as national, state, and municipal. For obvious reasons, such division of the subject is, in this country, of peculiar import. Continuing, Dr. Wiley defines food legislation according to character, as general, subjective, prohibitive, restrictive, and fiscal. Taking them in inverse order, we can hardly look upon food legislation from the fiscal standpoint, however effective it may have proved, as other than an emergency measure. Of this, more later. Restrictive legislation is held to be objectionable because it can hardly be framed without more or less unjust discrimination. Prohibitive legislation is almost invariably a failure; that it has a distinctly deleterious moral effect has been deduced from our experiences in the effort to prohibit the sale of intoxicants. Subjective legislation is deemed too cumbersome for practical efficiency, inasmuch as it involves legal enactments for each separate product to be controlled.

General legislation then, according to Dr. Wiley, is the only just and practicable method of securing the desired results. The Brosius, Mason and other bills before Congress partake of this character, and are to be executed by the (to-be-elevated) Director of the (to-be-erected) Bureau of Chemistry of the Department of Agriculture.

Here, then, we may hear the old cry: "There is no god but God, and Mahomet is his prophet!" It is rather confusing, though, to discover that there is more than one claimant to the title of "Defender of the Faith."

Dr. Charles A. Crampton,[2] Chief Chemist, Internal Revenue Office, in a recent article on "Food Preservation and Food Adulteration," declares that: "In view of the difficulties which have beset the path of the Interstate Commerce Commission in the exercise of their authority, it is a matter of grave doubt whether the Secretary of Agriculture would be able to enforce a law based upon the same authority. The Department of Agriculture, moreover, while it is well equipped in the matter of scientific experts, has no large force of local officers at its disposal, a most essential and expensive part of the machinery necessary to the proper execution of a measure which will involve the inspection of the entire area of the United States from Maine to California." Dr. Crampton seems to have overlooked the fact that the U. S. Department of Agriculture has, perhaps, a larger and more widely distributed "force of local officers" than almost any other of the government departments. It may be questioned, however, whether a veterinarian for instance—at least in the present state of development of our veterinary schools—would be wholly competent to fulfil the manifold functions which these proposed laws create; and if the veterinarian be incompetent, the revenue officer would be apt to be still more so. Dr. Crampton concludes that "a much more feasible plan . . . would be the enactment of a general law modeled upon the revenue laws now in operation, or the gradual extension of these laws to cover other articles of food liable to sophistication; the scientific resources of the Department of Agriculture could be well applied to the establishment of standards of purity, a most troublesome branch of the subject, and one not necessarily connected with the routine of its execution."

For any one familiar with the history of the old National Board of Health, and the steps by which it was practically smothered out of existence, it is easy to imagine that the Supervising Surgeon-General of the U. S. Marine-Hospital Service, writing in the same strain, might be able to demonstrate that that Bureau of the Treasury Department is the only possible government office to which the great work should be assigned. It is a fair inference, from Dr. Crampton's opening paragraph, that the War Department, too, may know something—at least of preserved meats.

Turning now to the bulky volume of testimony before the Senate Committee on Manufactures (Senate Report No. 516, 56th Congress, 1st Session), one is inclined to question "the wisdom of Congress" (invoked by Dr. Crampton), if it is to be adjudged by some of the propositions here set forth. Perhaps, from the standpoint of a chemist or a member of congress, "the great bulk of the condensed milk of the country is a perfect human food" (page 3), and candy may be "a natural and proper element of food" (page 9), but the members of the Section on Diseases of Children, of this ASSOCIATION, will scarcely endorse these dicta.

It would be as tiresome as it would be futile to wade through this conglomeration of repetitious testimony, the value of which, by reason of the way in which it was taken and recorded, is—from a scientific standpoint—infinitesimal; even were all the articles there enumerated mentioned, the whole field would not be covered. Nor do we find the National Pure Food and Drug Congress conducted with that singleness of purpose which might be thought desirable. Those of us who attended its

* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Stevenson and Murphy: Treatise on Hygiene, vol. I, p. 393, Phila.: Blakiston, 1892.

2. N. Y. Independent, vol. lii, No. 2681, pp. 942-44, 19, iv, 1900.

sessions found much of the time taken up with the bickerings of conflicting interests, the cross-purposed wire-pulling of individuals who have axes to grind.

In spite of all these conflicts and differences of opinion—many of which arise from inability to get a comprehensive view of the whole situation, or from unwillingness to move in this matter with an entirely unselfish desire for the public welfare—there are some points about which all who are in earnest are agreed. For convenience, Dr. Crampton is again quoted: "The keynote of modern propaganda in respect to methods of control of food adulteration may be given in three words—viz. *an honest label!* No one wishes to deprive the poor man of his right to use a cheap and wholesome substitute for a more expensive article of food; it would be an unwarranted interference with the rights of both producer and consumer to prohibit the sale of such an article; moreover, it would be inimical to the advance of scientific invention, which has conferred a distinct benefit upon mankind by its production. But it should be sold under its true name and upon its own merits, not as or for the article of which it is an imitation or substitute."

The idea, then, would seem to be not that adulteration, imitation, sophistication, substitution, are unobjectionable, but that they would be practically impossible if everything were labeled *suo nomine*. From a scientific standpoint, it is desirable to demonstrate, wherever possible, that this or that food product is, or is not, wholesome. But there is a fact, so often overlooked by scientists as well as would-be scientists, which has been especially emphasized by Prof. A. B. Prescott in his testimony before the Senate Committee, namely, that laboratory reactions, test-tube physiology, are very different processes from those which take place in the human economy. Says Professor Prescott (Senate Report 516, page 197): "No two stomachs are in exactly the same condition. The contents of the stomach, the chemical agencies of solution in the stomach, are very, very, complex; in fact too complex to be fully defined by chemistry at the present time." Would that all physiologic chemists were so honest and frank! The inability of even competent chemists to reach final conclusions on these subjects is curiously illustrated in some of the German laws. In one section of the country we find that borax and boracic acid have been adjudged inimical to health, and therefore their use as preservatives prohibited. In another, we find that similar authority has decided that these preservatives are harmless and therefore their use is permitted.

Viewed from the other standpoint, the history of food legislation shows pretty clearly that the consumer may safely be left to his own instinct and experience to determine what is or is not wholesome. What he seeks and demands is simply the truth. So that, both physically and fiscally, the public weal is best conserved by absolute honesty. In proof of this take the testimony offered on the subject of mixed flour (Senate Report 516, page 5). Said Mr. Augustine Gallagher: "People don't want a mongrel, they want real goods; they are satisfied to trust their judgment. If they want any mixing done they wish to do it themselves. They do not wish to be victimized in the mixing. People understand there is no use of any one mixing products unless they are making money by the process. The enforcement of the flour act has accomplished more in three months than was ever claimed for it by the most extravagant. . . . Our export trade in wheat flour has increased between 24 and 25 per cent. during the first three months of the operation of the mixed-flour law."

This brings us to another point, well made by Dr. Crampton, the absolute futility of the attempt to inculcate moral principle by mere legal enactment. As he puts it: "the first and most important requisite to a more rigid control of the practices of false pretences and counterfeiting in the preparation and sale of food products is, not more legislation, but a more sensitive public conscience; not more illy considered and half executed laws, but more respect for existent laws on the part of the producer and seller, more vigorous assertion of his rights in the premises on the part of the buyer and consumer. So long as it is practically impossible, owing to the state of public sentiment, to send a man to the penitentiary for selling oleomargarine as butter, it will not be possible to execute with any degree of thoroughness further laws which multiply the number of the same character of misdemeanors."

What then, in conclusion, is the proper solution of these problems? The writer by no means feels himself competent to give a final answer to the question. Yet, there are suggestions which may come to the mind of any thoughtful student of the subject, and in proportion as they are honest and disinterested they are, presumably, worth recording.

In the first place, this subject demands a greater interest and a more thoroughly cultivated intelligence on the part of the medical profession. The physiology of digestion, absorption and assimilation and the whole question of dieteties, in health and in disease, together with that of practical therapeutics, must be more carefully worked out. These studies should be so conducted as to be wholly removed from the debasing influence of commercialism. We are yet far too prone to be led by the alluring advertisements of the enterprising manufacturer to try, and even to commend without a fair trial, the multifarious products which he foists upon the market—for revenue only.

Given such a preparation, the second point will have been insured, the adoption—by the profession, not by the laity—of certain definite and more or less reliable standards, embodying the fundamental principles involved.

The third item will have to do with the putting into effect and carrying out of these principles—necessarily a governmental function. And here I would ask, where is the sense in, what is the excuse for the miserable, puerile, petty jealousies of the various government departments in the discharge of these functions? In common with many other members of the Association, the writer has long hoped and worked for the establishment of a national department of health, which, logically, should have charge of this and all allied subjects. Perhaps our efforts along this line have been misdirected. Certainly any measure which would convert into a mere political organ what should be—if I may so phrase it—a purely scientific organism, is to be deprecated. But is this necessary? In the past ten years, as my acquaintance therewith has grown, I have been more and more amazed at the extent and value of the work of the many scientific establishments under the direction and control of our national government. From the standpoint of economy, the apparent waste arising from the duplication and reduplication of effort in this direction, is even more amazing. As a matter of fact, it would be very difficult to so differentiate and isolate these various works as entirely to avoid duplication. The diverse functions of the governmental body are as closely inter-

related and interdependent as are those of the human body. Might it not be possible to establish a bureau of science, for instance, in which the achievements of these various laboratories—no matter in what department located—might be assembled and centralized, a scientific clearing house as it were? What matters it whether a chemical analysis be made in the laboratories of the U. S. Department of Agriculture, of the Treasury, or of War? There is no danger that a soil analysis will be attempted by the Biochemic Division, nor that a specimen of *Trichinella spiralis* will be referred to the bacteriologist of the U. S. Marine-Hospital Service. Nor yet is there any reason why the Entomologist's nose should be dislocated just because the Helminthologist is able to determine a specimen of *Boophilus bovis!*

Finally, when this whole subject has been properly formulated in the shape of a bill to be passed—not passed upon—by Congress, let the bill first be submitted to all specialists, all the trades, all the trades organizations whose interests are involved. Let each perfect his or their own section, showing in what way it will affect them and what points it is most important to secure. It is absurd to expect that a committee of Congress should wisely and justly determine upon the details of such a bill. Equally absurd is it that a chemist should define what is to be the part taken in these investigations by the botanist, the zoologist, the pathologist.

Several of the bills before Congress are supposed to contain all that is necessary, after a careful study of the food laws of other countries; but a comparison of these bills with the national laws of Great Britain and Germany, for instance, will show how utterly inadequate they are. It has been urged that, in prospect of the passage of the bill recently agreed upon by the National Pure Food and Drug Congress, it is best to withhold criticism—this upon the argument: "Better half a loaf than no bread." On the other hand, it may be said: "'tis better to bear the ills we have than fly to those we know not of." The bill referred to, if passed as agreed upon, will not only work a manifest injustice in certain particulars, but it will, almost inevitably defeat itself, in others.

633 North Sixteenth Stret.

## A NEW LEG-SPLINT FOR TRANSVERSE FRACTURE OF THE TIBIA.*

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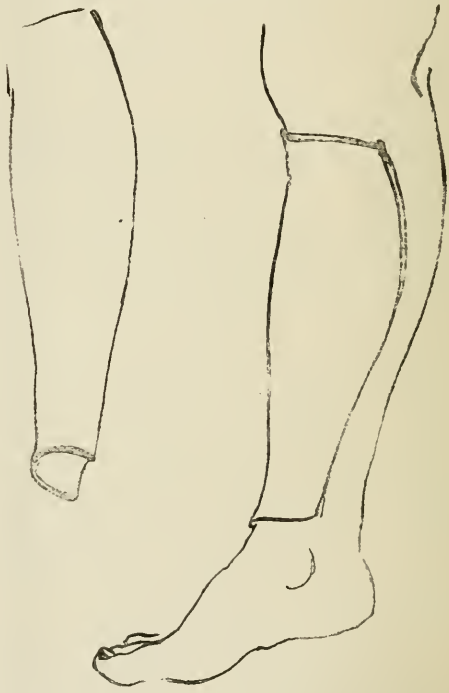
This paper considers, briefly: 1, why surgeons splint a broken leg; 2, the plaster-of-paris treatment for it; and 3, a new leg-splint devised by the writer.

### WHY SHOULD SURGEONS SPLINT A BROKEN LEG?

The question, though elementary, is quite opportune, as shall be shown further on. Senn[1] says: "In the treatment of fractures as in the treatment of wounds of the soft parts accurate coaptation and effective fixation should be aimed at, so as to place the parts in the most favorable conditions to unite by the smallest possible amount of new material." Thomas Bryant,[2] in his manual, writes: "After the setting of the fracture, the essential part to be observed in its treatment is the immobility of the broken bone: and next to this, its exposure during the process of repair to render certain that the bone has maintained its right position."

These quotations are sufficient to answer the query why we should splint a broken leg. A reference to the medical journals of the past year will show, however, that several surgeons—notably Championnière—advocate the treatment of fractures without the use of immobilizing apparatus. Massage and passive motion are deemed all sufficient. It is difficult to comprehend the *raison d'etre* of the newer teaching, unless it be viewed in the light of a reaction from alleged immobilizing apparatus in vogue that has serious disadvantages. The swing of the pendulum of practice, from misfit immobilizing apparatus that often produces deformity, and always prevents the seasonable application of massage and passive motion, to no apparatus at all, is the swing of the pendulum that has many illustrations in the history of the practice of medicine.



One advocate of the new method of treatment gravely informs us that the Hottentots never employ fixation in fractures, but rely solely upon rubbing. Despite this interesting information, it is probable that the English-speaking races, with the restraining influence of their jury system, will continue to employ immobilization in the treatment of fractures. The necessity for the use of massage and passive motion in the treatment of fractures is not questioned. That manipulation alone should suffice in the treatment of fractures, as with the Hottentots, is untenable. The combination of fixation, massage, and, in proper cases, passive motion, is doubtless the most effective treatment.

### THE PLASTER-OF-PARIS TREATMENT.

In describing this treatment, I shall quote an advo-

* Read by title in the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. "Principles of Surgery," Phila., 1890, p. 56.

2. "Manual for the Practice of Surgery," Phila., 1855, p. 63.

cate of it, a skilful surgeon, Dr. Estes,[3] of Pennsylvania: "After a transverse fracture has been thoroughly reduced and the fragments accurately adjusted, there is comparatively little danger of the fragments slipping, if the foot be kept quiet and some stiffening splint be applied to the leg. Plaster-of-paris splints I have found ideal in these cases. Two strips of tin, one on either side, or some flexible wood splints may be used as apposition splints at the seat of fracture, to prevent any movement of the fragments, until the plaster hardens. Before applying the plaster it will be well to pad the leg with an even layer of cotton-wool and to use a flannel bandage over the cotton, neatly, but not too tightly, applied, from the toes to the knees. If the fracture be near the knee it will be well to extend the plaster dressing 6 inches above the knee. More or less swelling will surely result after fractures of the bones of the legs; it is well, therefore, to bear this in mind and never use very tight bandages. The cotton-wool when properly used and the bandage skilfully applied will prevent any hurtful pressure resulting, but the surgeon should carefully watch the extremity for twelve hours after applying the dressing, and he should instruct the patient and his attendants to notify him at once in case great pain in the extremity or swelling and discoloration of the toes should take place. In any case which it will be impracticable for the surgeon to see within ten hours after the application of the plaster-of-paris dressing, he should insert, while applying the dressing, a narrow strip of tin under the plaster just over the flannel bandage, and instruct the attendants in case swelling and persistent and very severe pain should follow, at once to cut through the bandage upon the tin strips with a penknife, and so loosen the dressing."

The necessity of splinting having been shown and the plaster-of-paris treatment described, it remains to consider, in the third place, the new leg-splint.

### THE NEW LEG-SPLINT.

After the fracture is reduced, a piece of wood-plastic material is suitably cut, moistened with water and bandaged snugly upon the limb, directly next the skin, so that it embraces the shin-bone. The middle line of the long axis of the splint coincides with the anterior border of the tibia. This splint, lying next the skin, gives an efficient immobilization. It is light, cheap, and durable. At any time the surgeon can inspect the bone by unwinding the bandage and lifting up the splint. It thus permits of massage, to the importance of which this paper has already referred. There are no bits of wood, nor tin strips to be kept in place, no cotton batting to impair fixation, no flannel bandage, and no mussy application of plaster-of-paris.

Should the loosening of the apparatus be required in the absence of the surgeon, it can be done by simply unwinding the bandage. It is no easy matter for one unfamiliar with the technique to remove a plaster-of-paris "cast." The writer has treated cases of fracture where he would as well expect the attendant to know how to do an amputation, as to remove a plaster-of-paris dressing from a broken limb.

In conclusion, it is claimed that the leg-splint described fulfils the requirements deemed essential in the treatment of a broken bone, namely, efficient fixation, easy removal for inspection, or the application of massage, and proper protection of the weakened limb until normal bone reunion is complete.

3. "Internat. Jour. of Surg.," 1899.

## SOME OBSERVATIONS IN RENAL SURGERY.*

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This paper is a contribution to the natural history of error. In these days of enthusiastic renal surgery every frank analysis of diagnosis gone wrong, of operative blunders committed, of difficulties unexpectedly faced, must be not only of interest but of actual value to those undertaking operations on the kidney. It is a trite enough observation that we learn more from defeat than from victory—this is my apology for directing attention to certain of the errors observed during the development of the cases recorded in this article.

Jacobson describes nephrolithotomy as "one of those advances in modern surgery in which the operation has outstripped the diagnosis."[1] This statement is borne out by the astonishing fact that of twenty-seven nephrotomies for stone he met failure in six. Henry Morris also remarks that within his observation sixteen unsuccessful explorations of the kidney had occurred. Those who are overconfident of their own abilities, or disposed to think harshly of diagnostic error in others, would do well to study carefully the valuable outlines furnished by Jacobson of his six unsuccessful cases.[2]

It is a pity that this classification of error has not been extended further, so that we could have some statistical view of the percentage of miscarriages occurring in all kidney undertakings in the practice of some of the best diagnosticians and operators. For it would appear that the true *terra incognita* of present day surgical investigation lies behind rather than within the abdominal cavity. It is instructive to observe that this lack of definition as to the exact location and condition of the kidneys, which has not yet been sublimated out of the medical mind, is reflected on lines of broader ignorance in the sensorium of the layman, who never displaces heart or liver, rarely has left-sided appendicitis, yet incorrigibly locates his urinary organs anywhere from the sacrum to the *vertebra prominens* and from the spinous processes to the axillary line.

The cause for this constantly recurring inexactitude of place conception becomes on consideration sufficiently apparent, nor can it from the nature of things ever be thoroughly eradicated even from the medical mind, but must continue forever as a bar to anything better than a respectable percentage of perfect diagnosis. Our direct ideas of location and condition or quality of any organ or thing are based on sense perceptions, which enable us to separate it from other structures and conditions; bearing this fact in mind, it becomes immediately obvious that we can predicate little—with that certainty which we apply to ordinary things—of an organ which can never be apprehended by sight or touch except as disguised by the body wall, and is never directly or indirectly manifest to the other three senses. Moreover, while the absolutely definitive location of a kidney as such becomes singularly elusive, much more so must be the definition of local and limited disease within the organ itself. It must, indeed, be admitted that we are rarely in a position where the surgeon can predicate with certainty and from direct testimony the complete location and condition of any given kidney before exploration.

What I have said with reference to the uncertainty of the *direct* evidence of position and structure, applies with equal truth also to any *indirect* or circumstantial

* Presented before the Chicago Surgical Society.

methods employed to fasten the diagnosis of surgical disease upon one or both kidneys. It is an axiom of logic that the number and limitation of the premises being indefinite, the deductions must perforce become uncertain. Nowhere does this truth obtrude itself more constantly than during the endeavor to formulate a consistent and ultimately correct theory concerning an organ, the exact duplicate of which is found on the opposite side of the body, both organs pouring their only evidence of activity and identity into a common receptacle, and both of which are buried in fat and muscle and surrounded on all sides by organs, themselves scantily perceptible and themselves perhaps pathological both in location, position and intimate structure. Here we must of necessity often lodge finally, if we are honest, in a mere probability, putting up the moment before the incision with "the most likely looking" diagnosis, and more or less contented to follow in the lead of Lawson Tait, who solved the same kind of operative difficulties by observing laconically that "the kidney is best reached by the most likely-looking road."

Again, in groping for safe and infallible guides to this diseased organ, the surgeon is many times tempted to make deductions from single classical relations assumed on too narrow grounds to be inflexible in spite of changes in other organs and relations. If we would not make the error of placing the normal where it becomes abnormal, we must admit that normal relations disappear with the development of diseased conditions, so that no relation can be said to be normal or to be counted on in the presence of pathology. Most of us have at times lost sight of the fact that the principles of regional anatomy can not be applied to organs which have become so distorted through disease as to fall entirely out of their position, leaving vacancies into which other organs are at liberty to fall. We must admit that the colon lies in front of the kidney, and that the spleen and liver and gall-bladder lie above and in front of the colon; yet if we apply these truths too liberally, or lay down too many rules for the surgical guidance of our country friends, based on the literal and normal anatomy of these parts, we land them presently farther from the truth than if they had attacked their problems with ordinary common sense. Certain of the cases cited below bear witness to this point.

A somewhat acrimonious discussion which took place two years ago as to the relations of the portal vein to the common duct of the liver served to illustrate the fact that normal relations may be dangerous to follow in pathological and surgical dissections, for while we must admit that the vein normally lies entirely behind the duct, many of us have had occasion to thank Dr. C. Fenger for calling attention to the fact that in the engorged and distended portal vein incident to many diseases of the liver, the duct may be imbedded in and surrounded, in a great measure, by the vein.

This paper, therefore, is not written with the idea of exploiting any new or peculiar method of diagnosis in renal surgery, but rather to show that after careful consideration of this class of cases, and after applying faithfully to the elucidation of their diagnosis all of the methods commonly noted in the text-books, we still find it necessary many times either to confess ignorance or to run a large chance of being presently overtaken by error.

In the following reports we see the kidney taken for the spleen, and the spleen for the kidney; we see the liver sinking behind the colon to confound the surgeon in search of a kidney, and the kidney stretching its pedicle until it lies flush against the anterior abdominal wall; we see the gall-bladder finding its way into the loin and again into the iliac fossa, perinephritic abscess masquerades as calculus or appendicitis, and empyema as renal cancer. We see stone in the kidney treated for Bright's disease by the clinician, but we also see the kidney cut by the surgeon for stone and none found. Surely a chronicle such as this must give us pause if too much inclined to assume the skiagraphic eye when making a diagnosis of those surgical diseases lying in relation to the posterior reflection of the peritoneum.

Case 1.—A. B., aged 27, country schoolmaster by profession, of good family history, but of excessively neurotic temperament, came to Cook County Hospital, complaining of frequent and painful micturition, with pains shooting into both groins from the lumbar region.

There was no history of gonorrhea, or of sexual indulgence of any kind, no varicocele, and the patient was unmarried. There could be no question about the frequency of the micturition, which occurred at least every half-hour during both day and night, and had caused him to lose much flesh through loss of sleep and food. An examination of the urine showed hyperacidity, a few blood cells, but no pus. An exploration of the bladder by means of the sound revealed nothing except an abnormally sensitive prostatic urethra, which was accordingly dilated, but without improvement. After trying various remedies, including large doses of bromids and pichi, the patient begged for operative measures, and accordingly the bladder was opened and drained, with complete relief of the symptoms. This relief, however, continued only as long as the bladder was open, and when the wound closed—which it did some time after his return home—his symptoms were as bad as ever, and he was absolutely unable to perform any of his duties. He returned to the hospital, where he showed no change in his symptoms, except that the pain was referred more directly to the left side. He underwent a nephrotomy of that kidney, the organ being thoroughly explored for stone or other pathological condition, but nothing abnormal was found. After this operation he was assured that he would be absolutely relieved, which proved to be the case until some time after he returned home and the wound was thoroughly healed. Eventually, his symptoms returned, this time being referred to the right kidney with redoubled severity, and he came once more to the hospital, very much emaciated and begging for a final operation on the remaining kidney. At this time his symptoms were thoroughly canvassed; the acid urine voided at frequent intervals and containing blood in small quantities, together with the pain shooting from the loin into the testicles, were thought to justify a third search for stone. At the third operation the result was similarly negative, except that there was an obstinate hemorrhage, which was thought at the time to have been controlled by gauze packing; during the night there was either a continuance or a return of the hemorrhage, and the patient died. At the post-mortem, there was found an incision into the renal vein, from which something like two quarts of blood had escaped, finally forcing its way into the peritoneal cavity. Other than this, there were no conditions which could be called pathological beyond great thickening of the bladder walls with an abnormally small bladder. There was no stone.

This painfully instructive case discloses the fact that frequent and painful micturition with acid urine and a mild hematuria, may result simply from abnormally developed excitability of the genitourinary system, produced by conditions closely resembling hysteria. In the absence of better defined objective symptoms of organic disease it would seem that this case should never have come to an operation. Nature, unhampered by the suggestion of operative interference would very likely have worked out a cure.

Case 2.—G. S., age 32, normal weight 210 pounds, saloonkeeper by occupation, was referred to a hospital with what was thought to be appendicitis requiring operation. After some days' treatment in the hospital under observation both of the

physician and the surgeon, his symptoms subsided, and the case not seeming to call for an immediate operation, he was discharged, under the diagnosis of catarrhal appendicitis.

After leaving the hospital, the patient returned to his occupation, but continuing to lose flesh, his weight then being about 190 pounds, he consulted several surgeons for the purpose of confirming or establishing a diagnosis. By one surgeon his condition was held to be due to appendiceal abscess, with the appendix lying underneath and parallel to the colon; by another, a diagnosis of renal calculus was made. He then consulted the writer, and after an examination of the urine, which was neutral and contained a small quantity of blood and pus, I held to the first diagnosis, believing that the organic elements in the urine were due to the proximity of the abscess, the large number of the symptoms, viz., pain, slight temperature, constipation, recurrent intestinal colic, with occasional vomiting attacks being thought sufficient to turn the diagnosis in the direction of appendicitis. There was no tumor, but the right rectus abdominis was rigid and deep pressure showed tenderness. At the operation I found the appendix non-adherent and non-suppurating, but erect and in a condition of catarrhal inflammation. It was therefore removed, and the wound healed without temperature or complication. Shortly before leaving the hospital, the urine commenced to show a considerable increase in the quantity of pus, the reaction varying from mildly acid to mildly alkaline, and an evening temperature of 100 developed. This was thought to be due to a chronic cystitis, the patient having drank the alkaline Missouri River water for several years. A deep stricture was found and dilated, and the bladder washed out daily. The temperature fell, and most of the pus disappearing from the urine, he was discharged feeling much improved. After a period of about three months the patient returned with a farther loss of weight of about twenty-five pounds, stating that the pain in his side, which appeared to have been relieved by the operation, had returned, together with hectic fever and a large quantity of pus in a neutral urine, accompanied by intermittent hematuria. It then became evident that the diagnosis of stone in the kidney was a most probable one, since there was great and definitely located pain on pressure below the twelfth rib, which could not be said to have existed as definitely before. The pelvis of the kidney was therefore opened and drained. No stone was found, although the needle was freely used in exploring the kidney substance, but the pelvis on exploration was found to contain a considerable quantity of pus, blood and debris. This was thought to represent the extent of the disease. The operation was followed by fall of temperature, and cessation of the symptoms, except the pyuria continued, though less in quantity. The tube remained in the wound for three weeks, and the patient was discharged with a urinary fistula, through which at least a portion of the urine of that kidney made its escape. It was thought that a subsequent nephrotomy would be necessary at no distant date. In two months my good friend returned, emaciated by hectic fever and pain to 140 pounds, and with the urine containing a large amount of pus, but no tubercle baeilli or cheesy particles. At the third operation, which was performed under great difficulties in consequence of the enormous development of fibrous tissue in and around the kidney capsule, at least one-half of the renal structure was found to have disappeared, being replaced by fibrous and granulation tissue and sinuses leading in several directions. No abscess, however, was seen until the kidney had been partially extirpated and drawn into the wound. This procedure was attended by increasing difficulties, owing to the adhesions in all directions requiring a dangerous amount of traction to deliver the organ and its capsule. These adhesions were especially noticeable in a direction upward and behind the liver, and the final effort to free the organ literally pulled out the wall of a large cavity above the kidney and between the liver and diaphragm. After such pedicle as was possible had been formed from the fibrous tissue adjacent to the pelvis, the pedicle was clamped with three large forceps, which were left *in situ*, it being impossible to differentiate the ureter and renal vessels in the mass of adhesions. Attention was then directed to the abscess cavity, from which was cleared out a great quantity of pus, broken-down blood-clot, granulation tissue and partly organized abscess wall. In evacuating this mass of semi-solid debris, my entire hand was introduced between the liver and the diaphragm, barely reaching to the top of the cavity, but not identifying disease either of the lung, liver or spine as the source of the suppuration. The operation was followed by no shock, the fever and pain at once disappeared, and within a week the urine was free from pus. The clamps were removed on the third day and there was no resulting hemorrhage. It was found, however, that a small portion of the kidney had been left in the lower portion of the wound, and from this urine continued to be secreted through a sinus for about two months. There were no other complications, and at the end of three weeks the patient left the hospital. In three months the wound was entirely healed, and the patient at the present time weighs 230 pounds, secretes a normal quantity of normal urine, and is indulging enormously in stimulants.

It is of interest to know that this patient, when about to leave the hospital for the fourth time, finally recollected having fallen heavily against some article of furniture while entering his house one night in an intoxicated condition, and that he spent two days in bed, suffering great pain in the right lower portion of his chest, and that there was some discoloration of the skin over the lower ribs, continuing until about six weeks before he went the first time to the hospital.

This case certainly illustrates to a remarkable degree the vicissitudes of renal surgery. In the light of subsequent developments, some of the errors may seem inexcusable; nevertheless, I was not the only one who fell into them, for two other surgeons had previously made a diagnosis of appendicitis as the pathological condition. It is obvious that the error was based on too little attention paid to the relation of the pain to McBurney's point, and in failing to give the small amount of blood and pus present from the first in the urine their proper value. The temporary improvement in the patient's condition after the first two operations was due to the rest in bed. Again, it is probable that not sufficient care was taken in securing a previous history and a little more careful questioning by his four or five surgeons might have brought out the story of trauma. Too little attention also was paid to the fact that the urine was often acid in reaction, although containing pus and blood; this would have ruled out the theory of cystitis secondary either to stricture or to the drinking of alkali water. Fourthly, the first operation on the kidney should have been a nephrectomy and not a nephrotomy, thus saving the patient the perils of three operations. Lastly, the questions must arise, Was this abscess primarily in or above the kidney, and by what method could it have been located in the absence of bulging of the side and increased liver dullness?

Case 3.—Mrs. B., came to me with the diagnosis of Bright's disease, having been under treatment for one year for chronic nephritis. I found her suffering with slight temperature, and there was great pain in the right lumbar region shooting into the groin; there was a point of greatest tenderness about two inches above the anterior superior iliac spine, not accompanied by swelling. The urine was acid, contained no casts, but a large quantity of blood, pus and mucus; after filtration there was no more albuminuria than the blood serum would account for, and after repeated examinations, most of the blood, with practically all of the albumin disappeared. She was presently sent to the hospital for a nephrolithotomy, but prior to going there two skiagraphs were taken, the lower end of the plates reaching to the crest of the ilium. On development these proved negative, and the operation was postponed for several days until the urine could be taken from the separate kidneys after Harris' method. The separate urine analyses also proved negative, for the urine from both kidneys was acid,

and contained pus and few blood cells. On account of these negative findings, the operation was again deferred, the patient was put on large quantities of water with urotropin, and the bladder was washed out daily.

Under this treatment she steadily improved, and as there was no recurrence of the pain she was discharged from the hospital and visited me at my office. She gained in weight and comfort for two months, and one day brought in a brownish calculus the size of a navy bean, which had passed without pain. On examination the calculus was found to be rough, but nearly round, and to consist almost entirely of urates. She is now in good health, though pale, and the urine still contains pus and mucus, but no blood.

This case is a typical one of nephrolithiasis, but the negative character both of the skiagraph and the analysis of the separate urines saved the patient from an operation. Had the pain continued, or should it have recurred the indication was clear for operation, but it is plain that neither skiagraph nor separate urine analysis gave any assistance in diagnosing. It is possible, however, that the stone was in the ureter below the field of the plate.

CASE 4.—Mrs. H. In this case a very small stone was imbedded in the right kidney of a stout, gouty woman. Pain, accompanied by the passage of very small particles of gravel, without hematuria, were the only symptoms. The urine was acid, and contained urates. I hesitated to operate until a skiagraph had been taken, which showed a small stone on the right side. At this operation I had occasion to experience the solid comfort which can come from the positive evidence of the shadow found in the skiagraph, for without the testimony of the picture the search for the stone would have been abandoned. On opening the pelvis nothing abnormal was found, and the needle was introduced over twenty times before it encountered a small uric acid calculus the size of a split pea deeply imbedded in the substance of one of the pyramids. The operation was followed by a complete recovery from the symptoms.

CASE 5.—Mrs. B. A case where phosphatic gravel was repeatedly passed, together with blood and pus, and with intense pain located in the left loin. A sound in the bladder found numerous rough, gravelly surfaces and some ulceration. The surfaces were gently curetted and the bladder washed out daily, but there was no relief from the pain, which apparently radiated from the left kidney. No skiagraph was taken, as the symptoms were thought to point sufficiently toward stone in the kidney to warrant a nephrotomy. This was performed without result, the pelvis being thoroughly explored, and the kidney, which seemed perfectly healthy, was repeatedly needled. The wound closed rapidly, with no apparent infection, and the patient was sent home. In four weeks she returned with high fever, chills, and great pain in the same kidney, which was thereupon opened and found to contain multiple abscesses, requiring a nephrectomy, which was performed by Dr. Eisendrath. The wound did well, with the exception of a sinus from the ureter, and six weeks later I dissected out this structure from the kidney incision down to the broad ligament. She then made a good recovery, but still continues to suffer with her bladder, the condition of which seems to be due to a cystocele.

It would appear that this nephrotomy should hardly have been performed wihtout a previous skiagraph, especially since the patient was hysterical and complained of pain in the opposite side. I am also convinced that while the case has been previously reported[3] as one of surgical kidney, it should properly be classified as one of direct infection at the first operation; for not only were the kidney and pelvis apparently normal when I first incised them, but on removing the ureter at the third operation, that tube was found to show neither dilatation nor gross pathological change. If we accept the current definitions of surgical kidney, this one could hardly be classified as such, since the definition implies the spread of suppuration from the bladder up the ureter into the kidney, and must of necessity call not only for evident ureteral dilatation and infection, but also for chronic changes in the kidney and pelvis.[3]

CASE 6.—This was one of wandering kidney in an hysterical French woman, which I report because the condition was not recognized by me while the patient was on the table under an anesthetic, but was discovered by the house surgeon as she was erect and preparing to leave the hospital. The kidney could be brought close up to the anterior abdominal wall and had a decided pedicle. A nephrorrhaphy, after the usual methods, was performed, and although the kidney has been found in place by several surgeons, the patient claims to have sustained no relief from her symptoms.

CASE 7.—A case in which nephrotomy had been performed four months previously by another surgeon, with the successful removal of a stone of considerable size; a fistula persisted, and patient came under my care for relief. On examination the entire secretion from the right kidney was found to be escaping through an opening, remaining at the lower extremity of a very long lumbar incision. An effort was made to close the opening by curettage, and by keeping the patient on the opposite side. This was unsuccessful, and an opening was made embracing the lower half of the former incision, but extending to just above the middle of Poupart's ligament, as in Koenig's incision. The muscles being dissected back and the uninjured peritoneum stripped up, the ureter was disclosed from the brim of the pelvis to the point where it entered the pelvis of the kidney. No visible disturbance in the continuity of the ureter being noticed, a ureteral bougie was passed into the fistula in the hope of finding the ureteral orifice. The search was unsuccessful, except as it led to the discovery that the fistula passed directly through the lower pole of the kidney into the most dependent portion of the pelvis, and that gravity alone, without other assistance, would drain the bulk of the urine into the fistula. But this did not account for our inability to find the ureteral orifice, and a small incision was therefore made in the ureter about three inches below the kidney, through which the bougie was passed upward. On reaching the pelvis it would pass no further, and a careful inspection disclosed the fact that the scar from the original incision had passed through the lower portion of both kidney and pelvis, nearly bisecting the ureter. The contraction of the scar had evidently completely excluded the ureter. After some consideration it was decided to divide the stricture from without, cutting down on the point of the bougie by an incision parallel to the long axis of the ureter, and then to unite this incision—when it became evident that the ureteral orifice was again patent—transversely to the long axis of the tube after the Heinecke-Mickulicz method of pyloroplasty. This was accordingly done and the bougie, after closing the lower ureteral opening, was left *in situ*, the upper end projecting through the fistula. A drain was introduced down to the kidney and the wound was closed. No complication followed the operation, but on withdrawing the bougie, after five days, the urine refused to resume its flow through the original channel. The patient now passes the entire urine from that kidney through the fistulous tract. No nephrectomy was advised, because the urine from the opposite kidney contained some albumin and a few hyaline casts.

This case is instructive in showing that there is danger in too extensive incisions into the kidney substance and that in no case should the knife be carried so far through the lower pole of the organ as to encroach on the ureter. It is instructive also, in showing that the persistence of urinary fistulæ may be accounted for by gravity alone, since in this instance the fistulous opening from the pelvis must in the erect position have been considerably lower than that of the ureter. In such a case it was an absolute waste of time to try to close the urinary fistula or to attempt to restore the patency of the strictured ureter by plastic operation.

Case 8.—Mrs. G., a tall, pale, neurotic, small-waisted woman of 46, who boasted that she had been attended by twenty-four physicians prior to my own brief ministrations. She submitted to my examination, which was made at the request of her medical adviser, complacently, yet with frankly expressed doubt as to my ability to make a diagnosis, in which opinion I presently joined her. She gave a history of fairly normal pelvic organs, and the urinary examination was negative. Her digestion was impaired and her yellowish pallor showed deficient blood-production, though not sufficient jaundice existed to definitely associate the liver with her condition. There was constant slight pain or discomfort in the region of the ascending colon, and palpation showed an indistinct body encroaching, as it seemed, from behind that structure. The patient stated that the enlargement was of recent date, as she had not noticed it until a year previously. On distending the colon it was found to lie in front of the growth, and the liver, apparently not enlarged, could not be shown to be either continuous with or separated from it. The tumor was fixed, did not seem to move with the slightly prolapsed liver, and could not be pushed into the kidney position. The flank was neither sunken nor swollen. This case has already been presented to a clinic as one of renal growth, that diagnosis having been based on exclusion of the liver, because the distended colon covered the lump. My own diagnosis was withheld because the tumor was indistinct, the other symptoms were obscure, the patient had not failed materially, and the colon relations alone were not sufficient to bring conviction that a prolapsed and adherent liver could be excluded. A preliminary examination under ether was proposed, but was refused by the attending physician on the ground that the patient was hardly strong enough to bear two anesthetics, so she passed on. An operation, performed at a clinic two weeks afterward, for removal of the tumor, disclosed a prolapsed corset liver with omental adhesions. The kidney was normal.

This case illustrates the fact that deductions based on colonic relations are not always to be depended on. The absence of urinary findings was in itself suspicious, though blood and kidney or tumor elements are not present in more than 60 per cent. of renal growths. Again, though the patient was ill-nourished, she was not cachectic and took life rather too easily for one afflicted with a growth of a malignant nature, such as this would probably have been had the kidney really been the offending organ. The case serves also to demonstrate that the elusive nature of the diagnosis of loin tumors should preclude anything like positive predictions as to their origin.

Case 9.—This patient illustrates the same points and was brought by a suburban physician for the relief of gallstone colic. The patient was well nourished, with a color showing no trace of icterus; the doctor, however, stated that there had been jaundice, and severe colic located near the tip of the twelfth rib. An examination showed a rather movable tumor the size and shape of the kidney, behind the colon and near the edge of the quadratus lumborum, apparently too far back to be the gall-bladder. Urine analysis was negative. A cautious diagnosis of renal misplacement with possible tumor was made, but the incision was brought farther forward than usual, both because of the location of the swelling and in order to reach the liver in case of error. This course proved to be a wise one, for the tumor was a distended and prolapsed gall-bladder with a very long duct, and contained mucus and calculi. Recovery was perfect.

This case was not mine, but I believed the kidney was the organ at fault, simply because it lay adjacent to the usual kidney location and felt very much like that organ. Of course, the negative urinary findings were ignored, as well as the small voice of the country doctor who was posted on jaundice, but had not read up on colonic relations. The case offered also an illustration of the practical working basis furnished by Lawson Tait's observation already quoted, that "the kidney"—or any other organ—"is best reached by the most likely-looking route."

Case 10.—This case is introduced to demonstrate that the gall bladder may prolapse in front of, as well as behind the colon. The patient was brought to the city by her physician for an operation for appendicitis. When I saw her there was a not very tender tumor lying close to the abdominal wall, slightly above McBurney's point. Temperature and active symptoms had subsided, but the tumor continued. I made an incision without attempting a diagnosis, and found a prolapsed gall-bladder containing calculi and some pus mixed with mucus. There was recovery with a biliary fistula, taking a year to close.

Case 11.—T. C., aged 24, weight 110, family history tuberculous, and patient himself had had chronic cough and night-sweats for a year, with progressive emaciation. Right apex consolidated. A few days prior to admission to the hospital he was taken with colic, vomiting and constipation, and the right rectus abdominis became rigid. The abdomen was not distended and the temperature ranged a. m. 99, p. m. 101, with sweats at night. Pain was constant, but the vomiting and constipation disappeared shortly after admission. Urine analysis negative. There was no definite history of other attacks. Although the symptoms pointed strongly to appendicitis, the tendency of the pain to locate itself rather higher and more posteriorly and deeply than in appendicitis was thought worthy of consideration. Operation was withheld for thirty-six hours on account of these doubts, but there finally seemed no good reason to question the diagnosis of appendicitis. My house surgeon performed this operation, and was instructed to incise higher and more posteriorly than in an ordinary appendectomy incision. He was so convinced, however, that he was dealing with appendicitis that an incision was made over McBurney's point, which presently had to be extended four inches higher to reach a peri-nephrectic abscess containing several ounces of pus of tubercular origin. The appendix was not involved.

This case and Case 2 warn us that all abscesses covered by the ascending colon are not from the appendix. Taken with the preceding—Case 10—we note also the value of McBurney's point in establishing or excluding a diagnosis of appendicitis, for in Cases 2, 10, and 11 the spot of greatest tenderness was quite a little above that point. Pain radiating to or from the loin or liver is also of value in excluding appendicitis, for, though lumbar pain has occasionally been noticed, I doubt if in a great percentage of appendiceal disease the pain radiates in any other direction than toward the navel. We see here also that, other things being equal, the point of greatest tenderness is the point for incision, even when the diagnosis seems reasonably certain.

Cases 11 and 9 illustrate, respectively in a negative and positive way, the value of not allowing theoretic ideas to divert the surgeon's approach to the point of difficulty from a route manifestly in accordance with common sense, to one based on a preconceived theory of diagnosis.

Case 12.—This was a man of 50, with a very large round tumor under the left ribs, extending downward into the loin and abdomen, and pushing the colon toward the median line. The progressive emaciation and cachexia pointed to trouble of a serious nature, but diagnosis was withheld until an exploration was made through the abdomen. On reaching the growth it appeared to be the spleen. The wound was closed without proceeding farther and the patient presently went home no worse than before, taking treatment for splenic enlargement. After some months he returned for operative relief, requesting removal of the offending spleen, which was undertaken after advising him that his chances were small for recovery. An incision was again made across the peritoneum, and the tumor was found to be a carcinoma of the kidney which had attached itself to the spleen and had dragged

that organ below its normal location. The kidney was removed.

This case did not occur in my practice, but it is so remarkable, and illustrates so perfectly the unusual distortion of normal relations which occur in renal tumors, that I add it to my list. Roberts[4] describes a similar example of misplaced relations, the recollection of which led me into an error in locating the spleen in Case 14.

CASE 13.—E. C., aged 47, traveling man, temperate, always healthy until February, when he commenced to emaciate and suffer with pain in right side near twelfth rib. In April a tumor which seemed to be the focus of the pain appeared behind the colon and at outer edge of quadratus lumborum muscle. In May he came under my care after having been in bed for several weeks. He was sallow but not jaundiced, had lost forty pounds; there was an evening temperature of 100.5, no chills, no night sweats, no cough, bowels were open and tongue moist; the urine was loaded with urates, but contained no albumin, peptones, or organic elements; blood examination showed no increase of leucocytes. Spleen was not enlarged. The liver seemed to be enlarged upward, dulness reaching to within an inch of nipple and no lung sound below that line. The liver dulness extended higher posteriorly also, reaching to seventh interspace, and the lung sounds were not clear below that line. Change of position produced no change in the line of dulness, and an exploratory puncture withdrew no fluid. Below the liver and behind the colon a hard tumor had pushed itself into the flank between the twelfth rib and the iliac crest. It occupied a space about three inches in diameter, was irregular in outline, and seemed slightly movable, though not with respiration. It was not so tender but that it could be handled to test its mobility; it was continuous with the lower and posterior outline of the liver, but also lay on the quadratus in the kidney region. The temptation to make a diagnosis of malignant growth, with the patient's age and cachexia as a basis, was a strong one—in fact the patient had been told that he had a cancer of the kidneys. Granting malignancy, however, there seemed no good reason why the liver might not have originated the growth from its dorsal border. But the lack of jaundice and indigestion, and the absence of blood and organic material in the urine, looked away somewhat from cancer of liver or kidney. The temperature, tenderness, and febrile urine pointed toward inflammation, at least as a complicating factor in the problem; but the normal blood-finding and absence of peptonuria negatived the idea of an abscess. It would appear in this case that the diagnosis should lie between an inflamed malignant growth of either kidney or liver, and an inflamed gall-bladder with omental adhesions possibly concealing an abscess. In the absence of convincing proof of the existence of any of these conditions the patient was informed frankly of the dilemma and advised to submit to an exploratory operation. He consented, and an incision parallel to the quadratus was made directly over the tumor. On reaching the deep fat, evidences of inflammation appeared, and on pushing forward the peritoneum to separate the tumor there was a gush of thick material made up of fibrin, blood-clots and pus to the extent of eight ounces. On introducing several fingers into the sac the liver and peritoneum were found to lie anteriorly and the kidney and diaphragm posteriorly. The fluid continuing to flow after the sac was evacuated, the index finger traced the discharge to an opening beneath the ligamentum arcuatum externum of the diaphragm. Through this, access was had to the pleural cavity, and by the same route between one and two pints of the same thick fluid was presently evacuated. A microscopic examination of the material showed it to be made up of old blood, fibrin, unrecognizable shreds and a few pus-cells. Two drains were introduced, one into the abdominal sac, which had collapsed as soon as it was emptied, and another under the ligamentum arcuatum externum into the chest. The patient made a good recovery, although he hiccoughed a great deal, I think on account of the pressure of the tube passing through the diaphragm.

During his convalescence he stated that in January he fell from a chair on which he was standing to light the gas, and struck his side against the chair-back. He paid little attention to the injury, the pain disappeared in a few days and the circumstance passed out of his memory.

Cases 2 and 13 illustrate exquisitely the fact that many men of sturdy constitutions often sustain serious injuries which they presently forget in the stress of business and other activities; after a lapse of time disease appears, insidious in its course and mysterious in its manifestations, because the real cause has been put aside as inconsequent and forgotten.[5] Such cases—most of them with a strong elementary foundation, I think, in passive inflammations occuring in slight and neglected traumas—usually prove enigmas, impossible jumbles without any correct key available prior to operation, but clear and consecutive enough when looked back upon as completed pictures.

CASE 14.—Mary M., aged 24 months, very hearty and happy—in fact, a little over-nourished. There were no pathological changes in the urine, no hematuria, no pain in the side, even on freely handling a tumor which protruded noticeably into the left loin, apparently coming from behind and above. The lump was smooth but somewhat irregular, and proved on rectal insufflation of air to lie behind but intimately associated with the colon. The latter structure seemed to run in a kind of groove on the tumor. The spleen was not to be made out in its normal location. The tumor could be shifted in all directions, though swinging from a central point near the normal location of the kidney. Manipulation was made the easier by a smaller lump, the size and shape of a small apple, which projected from the lower pole. The growth was an irregular sphere averaging about three inches in diameter, and we took it for a renal sarcoma which had contracted attachments to the spleen, carrying the latter below and to the outside of its normal position. The colon was thought to lie in the groove, partially separating the two organs. In support of this view a case of cancer in a man aged 44, cited and diagramed by Roberts, was recalled, in which the spleen, usually pushed by renal growths well up under the diaphragm, was carried downward toward the iliac fossa in front of the mass.

It was decided to make an exploratory operation, to be followed by more radical measures should they seem to be justified. The loin was opened by an incision from the twelfth rib to one-half inch above the iliac crest and parallel to the outer border of the quadratus. This incision was afterward continued forward nearly to the rectus, dividing everything down to the peritoneum. That structure was not divided, but together with the colon and much subperitoneal fat, was held back by sponges. On reaching the kidney the following observations were made: 1. It was non-adherent to anything, being held merely by its own normal pedicle; 2. the spleen was in its usual location and not in any way attached to the kidney; 3, the small lump was the lower pole of the organ, and not yet involved in the tumor which had developed in the upper part of the capsule; 4, the growth had pushed the kidney over so that the pelvis lay in front and to the outside; 5, the incision was ample for purposes of removal. Accordingly, the mass was peeled away with the fingers from the peritoneum in front and the lumbar muscles behind, without encountering hemorrhage, adhesions or other difficulties, and by depressing the edges of the wound, it could be brought entirely out of the incision without traction on the pedicle. Two long-bladed forceps clamped the pedicle, overlapping each other from above and below. The tumor was then removed and the pedicle tied with silk, the ends being left long and hanging from the wound. No especial effort was made to isolate the ureter from the vessels, and a small portion of the pelvis distal to the ligature was left in the wound. I could find no glandular metastasis. Astonishingly little hemorrhage taking place, the cavity was packed and drained, and the extensive muscle and skin incision was brought together by catgut and silkworm sutures. There were no complications except a temperature

developing on the third day after removing the drainage tube; on returning the tube the temperature fell, about an ounce of thin purulent fluid escaping which had probably been infected from the stump of the ureter. Eight weeks after the operation the silk ligatures came away and the wound closed immediately thereafter. The patient is in excellent health and shows neither cachexia nor emaciation; the abdomen is larger than it was prior to the operation the bowel appearing to have lost some of its tonic contraction, but a tight binder is reducing the protrusion. The kidney and tumor weighed about eighteen ounces, and a report of the pathological examination made by Mr. Ready, of St. Luke's Hospital is appended.

Six months after the nephrectomy, this patient was brought back to me with a recurrence of the growth at the site of the original operation. The recurrent tumor is considerably larger than the original growth, and so diffuse as to be inoperable. She is now under treatment with mixed toxins.

In analyzing this case several points of interest are developed: 1, the diagnosis of organs involved and the kind of tumor; 2, elements entering into the choice of operation; 3, What were the errors in the operative technique?

A tumor appearing in the left loin of a fat and healthy child of 2 years could hardly be anything but a sarcoma—syphilis of the spleen, tabes mesenterica, retained feces, or congenital cysts, need hardly be considered. Hydronephrosis rarely produces a lobed tumor, nor did the growth fluctuate in size. The absence of history of trauma, as well as the age of the child, pointed toward a congenital growth. So, also, its painless and non-inflammatory development—without adhesions—occurred almost as smoothly and quietly as in the normal evolution of a normal organ. That the kidney should have turned halfway round on its long axis, between the peritoneum and the loin muscles, and neither have contracted adhesions nor have produced trouble through traction on the vessels, etc., in the pedicle, is certainly a remarkable evidence of the plastic character of infantile structures. The fact that this tumor is within its own capsule as well as within that of the kidney, and that the kidney tissue around and below it was still healthy and evidently performing its function, points toward the retention of fetal, but unhomologous elements within the kidney stroma as the starting point of the growth. I am disposed to regard it therefore as arising from the pronephros as described by Grawitz and Klebs,[8] although Mr. Ready describes it as an adenosarcoma, without referring to its origin. A curious fact is noted by König[9] that these sarcomas are much commoner in girls than in boys. As to a diagnosis of the organs involved, this also appeared easy, for the tumor had not yet attained sufficient size to push the colon toward the median line, and away from its normal relations to the kidney. To call the smaller lump the spleen, however, was hardly excusable, for a moment's thought would have shown, that so freely movable and uninflamed a growth could never have contracted adhesions to the spleen sufficient to drag it halfway down the abdominal cavity and around the splenic flexure of the colon. Such dislocations of the spleen are rare and, as in Case 12, and in Roberts' case, cited above, occur only in older persons with carcinoma of growth slow enough to produce intercurrent inflammations with resulting adhesions.

The comparatively small size of the tumor and its early recognition afforded ample justification for its removal. This growth weighed about one pound. König[10] has removed some of enormous size, weighing up to ten pounds, without immediate death. Nevertheless, the immediate mortality in nephrectomy for tumor is appallingly high, both König and J. W. White quoting Sigrist's statistics of 64 operations with 32 deaths attributable to the operation alone. Of these 64 patients only 5 were alive at the end of two years, and but one of Kronlein's series of 5 cases lived four years in good health.

As to the choice of operations, I believe the lumbar route by König's[11] long-curved incision, with the operation field lying entirely outside of the peritoneum, was the best in this case. Jacobson[12] also prefers this incision where tumors are of moderate size and without dense adhesions.[13] He concludes that the König incision is the one of election in all those cases where the peritoneum can be pushed to one side and the tumor is not too large for a loin incision. As showing the statistical argument for and against both methods, König[14] gives the following for what they are worth:[15] Immediate death after transperitoneal incisions 58 per cent.; immediate death after extraperitoneal incisions 24 per cent.; recorded recurrence among survivors of transperitoneal incisions 5 per cent.; recorded recurrence among survivors of extraperitoneal incisions 41 per cent. König, therefore, thinks it an error in the interest of radical work not at least to consider the transperitoneal route. J. W. White, also, thinks that with large tumors and more modern asepsis the transperitoneal operation is slowly gaining ground.[16]

Let us now seek, briefly, to summarize the errors with which the foregoing fourteen cases appear to have been fraught. Roughly classified, the miscarriages appear to have resulted from a violation of one or more of the following principles:

1. The surgeon should not attach too great weight to the recollections or the subjective symptoms of the patient, unless borne out by the physical signs. Thus the tale told by the patient with corset liver —Case 8— that her "tumor" appeared during the previous year must have been a fabrication, though she herself may also have believed it. In like manner the ill-starred schoolmaster went to his fate because his surgeon, in the absence of objective manifestations, did not cultivate a wise and conservative skepticism of the patient's ability to make his own diagnosis.

2. On the other hand, due weight should be given to statements made by intelligent patients, especially in cases where the objective testimony is abundant, but confusingly contradictory. Every legitimate opportunity should be offered the patient to establish a sequence of disease. Careless history-taking is responsible for more than a little obliquity of diagnosis. Thus, in the gathering and arrangement of minute and seemingly inconsequential facts, the two cases of traumatic abscess (2 and 13) might have been spared a good deal of perilous delay, and the surgeon a good deal of humiliating mystification, had the relations between trauma and tumor been sufficiently indicated in the history.

3. It is an error in pathologic conditions to place too great reliance on relations normal to the healthy individual. It is probable that exaggerated stress has recently been laid especially on certain normal relations of the colon, and that numerous absolute and exclusive diagnoses have been based on supposed correlations between tumor and colon, which were hardly borne out by subsequent operative revelations. (See Cases 8 and 9.) No diagnosis of tumor or structure is complete until consideration has been given to the possibility of the encroachment by organs or growths on the normal

sites of organs which *prima facie* evidence would lead us to believe to be the ones involved. In this connection, it is interesting to observe how easy it is to regard as pathognomonic certain signs happening to be much discussed in current literature (Case 8), and also how easy it is to think two cases identical because they happen to bear a certain superficial resemblance (Case 14).

4. It is an error, even in the presence of conditions which seem pathognomonic, to neglect every diagnostic resource, and to follow up each resource faithfully to its logical conclusion. Thus, in Case 2, the blood and pus in the urine, and the valuable deductions to be made therefrom, were ignored; in Case 3 the urine was probably not filtered, and a diagnosis of Bright's disease was made on the mere existence of albuminuria; in the same case, although a skiagraph was taken, the plate was so placed as to fail in taking the entire urinary tract, and a stone was, probably on that account, overlooked. In Case 5 a skiagraph was entirely omitted and no stone was found. It is difficult, at the present time, to justify a nephrotomy, undertaken for the avowed purpose of removing a calculus, where a preliminary skiagraph has not been prepared. Although it is contended that pure uric-acid calculi fail to give a shadow, this is hardly at present a matter of sufficient demonstration to warrant such an omission in every case of suspected calculus. The negative testimony afforded by the absence of shadow may lead to a revision of diagnosis and treatment not particularly productive of glory to the operator, but often of incalculable benefit to the patient.

In this connection it may be well said that no class of cases more than these calls for such careful and persistent observation of the physical signs, and the hourly record of temperature, urine, etc. Thus, in Cases 5 and 14 the temperature chart revealed abscesses, which might have proved fatal in the absence of the record and deductions based thereon. In Case 13 a more careful working-out of the physical signs might have pointed even prior to the operation to a subphrenic abscess.

5. Among operative errors, may be noted the failure to properly care for the ureter in Cases 5 and 14. The ureter should be ligated with catgut and brought separately into the wound after cauterizing with carbolic acid; or, better still, should be inverted a short distance and stitched. Kidney stumps should not be ligated with silk (Case 14). Too deep incisions into the kidney structures are dangerous and jeopardize the subsequent integrity of the pelvis and ureter (Case 7). The kidney and the operation wound should not be closed primarily after nephrotomies. Drainage for a few days, at least, is much safer and may save a subsequent nephrectomy. (Case 5.) A kidney which is riddled with sinuses is best removed; conservative measures only lead to another operation. (Case 2.) It is an error to base an incision on any preconceived idea of diagnosis. Rather follow Tait's rule that "the kidney is best reached by the most likely-looking route." (Cases 9, 10, 11 and 13.)

NOTES AND REFERENCES.

1. Jacobson: Operations of Surgery, 3d ed., p. 714.
2. Loc cit., pp. 715-716.
3. Chicago Medical Recorder, 1899. Also Century Dictionary: "Surgical Kidney is a term somewhat loosely applied to chronic nephritic conditions arising from trouble farther down in the urinary tract, but especially to pyonephrosis arising from a cystitis."
4. Roberts: Urinary and Renal Diseases, 4th ed., p. 525.
5. An interesting consideration of this class of cases is found in Paget's Studies from Old Case Books under the title "Obscure Cases of Caries of the Spine." He calls them "quiet diseases."
6. Roberts: Loc. cit.
7. Extirpated kidney, weighing 12½ oz., measuring 4x3½x3x2½ inches. Macroscopical examination: Both poles and a portion near the hylus show normal kidney substance; the remainder is occupied by a bulging tumor mass; near the lower pole the tumor extends 2½ inches above the niveau of the external surface. Section shows a soft growth measuring 3½x3x2 inches, extending from the capsule of the kidney (near the lower pole), and bulging into the pelvis. The tumor shows in places a tense fibrous capsule, from which it can be separated with some difficulty. The portion projecting above the niveau of the kidney is covered only by kidney capsule. Microscopical examination: Sections show epithelial cells traversed by bands of connective tissue, and without any characteristic arrangement. There are also large masses of cuboidal epithelial cells in groups of tubules, especially well marked in sections taken from the center of the growth. Near the periphery these neoplastic acini and tubules almost disappear. The tumor is quite vascular and hemorrhagic. Diagnosis: Adenosarcoma.
8. König: Spec. Chir., ii, 635.
9. Loc. cit., p. 636.
10. Loc. cit., p. 636.
11. Loc. cit., p. 654.
12. Jacobson: p. 753.
13. In this view he is opposed by K. Thornton, and an interesting analysis of the arguments for and against the intraperitoneal and extraperitoneal approaches to the kidney and its tumors found on pages 737 and 764 loc. cit.
14. König: p. 638.
15. These statistics are fundamentally deceptive and König himself warns against basing any deductions on them. The reason is quite obvious.
16. Dennis: Syst. of Surg., iii, p. 475.

DISCUSSION.

Dr. J. E. Owens—I have but little to say about this valuable paper. It reminds me, however, that long since diagnosis was defined to be the "science of probabilities." The cases reported are certainly very interesting and instructive. The paper, being a report of a series of cases in which errors are more or less mingled, is more useful than a report of a series of successes. I have always thought a carefully-prepared paper on deaths after operations well worthy of the consideration of any society, particularly of a surgical society; and likewise a paper on errors of diagnosis and unexpected aberrations encountered in operative surgery. But how rarely are such papers presented. It is very natural for us, even the older members of the profession, to report successes, leaving the less fortunate cases as silent teachers for ourselves. It will stimulate us to be more fearless in relating some of the complicated problems met with in practice.

I have failed with the needle to find stone. No further operative steps were taken in these cases as a promise was exacted beforehand, that if we did not find a stone we should not operate. Many times since the period I am about to speak of, I have asked patients "Were you drunk?" This was suggested to me by one of my cases. A saloon-keeper sent for me one night on account of a severe sticking, or lancinating pain in his side. He said he had not been hurt, and that he knew of no reason for his trouble. I put my ear to his chest and discovered a friction sound, so I said, "Put a blister upon the part complained of and I shall call again." Two days later the patient said, "You are not in it. I had the pain so badly I sent for another doctor and he fumbled about my chest and found a broken rib." "How did you get a broken rib, as you said you were not injured?" "I will tell you; I was very drunk and the folks told me a man said he could throw me, and he did."

Loin pain in appendicitis is often very severe. I had an attack of appendicitis some years ago and experienced intense pain far back in the loin, as well as in the appendiceal region. Other such cases have come to my notice. The use of silk in such operations is not desirable. It will almost certainly come out or give trouble sooner or later. I have had it do so in nephrectomies, and in other operations. I remember well an operation for a large venous varix extending from the armpit to the crest of the ilium. Seventy-five to one hundred silk ligatures were employed. During the following five or six months many of them came away or had to be removed.

Dr. D. A. K. Steele—I quite concur in the suggestion of the President that if we could have a society of surgical and medical pessimists it twould be a good thing. I believe there is such a body in London, where no fellow is allowed to report his successful cases, only his failures. We might once in a year or two have such a meeting with profit.

Some of these cases remind me of a personal experience along the same lines where a subdiaphragmatic right abscess was overlooked and mistaken for disease of the kidney. Two such have fallen under my observation. In neither was there a history of preceding injury, although undoubtedly an injury may have been precedent. The question whether the patient had been intoxicated was not asked. One of these cases was in the service of another physician and I was present at the operation. The kidney was incised under the impression that it contained a stone. It was explored with a needle and unnecessarily handled, and just before the kidney was closed up the abscess was accidentally discovered and drained, but the patient did not recover.

One of the cases reported by Dr. Allport, No. 12, seemed to me incomplete, because he did not tell us what became of the patient. A case of interest in this connection came under my observation three years ago, a colored man, 56 years of age, who had been under the care of Dr. Quine for some weeks for persistent pain in the region of the right kidney. He examined him, treated him for some weeks and made a diagnosis of stone in the kidney. I saw the case in consultation, and he was subsequently placed under my care at Wesley Hospital with the request that I operate. I do not know why, but I had an idea there was some mistake in the diagnosis; the operation was fixed for two different days and postponed by me on account of doubt as to the propriety of operating, and then I asked Dr. Danforth to see the case. He said the symptoms pointed to stone in the kidney and it was a case for operation. This was Saturday, and I said we will operate Monday. I called to see the patient Sunday; he had eaten a hearty dinner and was laughing and joking, when he suddenly complained of feeling faint, said, "I cannot see anything" and fell back on the bed; in ten minutes he was dead. I made the post-mortem examination and found that he had a ruptured aneurysm that was overlooked Fortunately for me I postponed the operation until nature ended his life; had I operated we would have had a death on the table. The kidney was normal, but displaced by the aneurysm behind it; there was only a quart of blood behind the kidney. It was an aneurysm of the renal artery. There is another class of cases, two of which I have under observation now, and have had during the past year, in which there are classical symptoms of stone in the kidney, in which I have declined to operate because the skiagraph fails to show the presence of the kidney stone. For the last year I have availed myself of this aid to science in diagnosing stones, and not finding them in the skiagraph I decline to make a positive diagnosis.

Dr. L. L. McArthur—In the series of cases reported by Dr. Allport, reference is made to the appearance of a few blood-corpuscles and pus-corpuscles in the urine, and yet the case was suspected to be appendicitic. Although there has not yet been any paper written calling attention to this fact, it is nevertheless a fact that blood-corpuscles in quite liberal number, and even albumin accompanying them sufficient to give a nitric-acid reaction, will be present in a certain small percentage of cases of appendicitis. I have had four cases in which it was difficult to decide whether it was renal colic or appendicular colic, and still more difficult after a microscopic examination and finding blood. In two cases in which the temperature seemed to be out of all proportion for renal colic, operation was had and gangrenous appendicitis was found, although bloody urine, vesical tenesmus, and albumin were found in the urine, and those symptoms which go with renal colic were present.

As to skiagraphs of stone in the kidney, I presented a paper before the Chicago Medical Society with skiagraphs of all varieties of renal stones, and at that time called attention to the fact that we must not look for a distinct shadow from renal calculi of organic origin. For instance, uric-acid calculi are probably the most frequent of all calculi, amounting to nearly 89 per cent. Uric-acid stones cast almost no shadow on the plate itself and how much less when it is to be observed through the body.

I returned to the city this evening from a case to which I was called at Columbus, Wis., that had been under the observation of three doctors for three years—a woman 58 years of age, the mother of a large family, who for three years has been complaining of obscure pains in the right loin. She had some yellowness of the skin and presented a tumor movable in respiration in the right loin in the neighborhood of the kidney. I was called to see the case because it was supposed to be a tumor of the kidney. Uranalysis was negative. On examining the case this morning a tumor was very distinctly to be palpated, which moved with respiration, and by bimanual palpation moved backward and forward as well as up and down, but the colon had not been inflated. So I inflated that and found the tumor lying anterior to the colon. That, taken with the fact that the colon was very distinctly palpable and the patient was icteric, led me to believe that it was a tumor of the liver or distension of the gall-bladder. I made a diagnosis of tumor of the liver, probably cechinococcus and not malignant, because the patient had not emaciated. An exploratory incision was advised and enlargement of the incision to remove the trouble if found feasible. A small incision was made to the outer margin of the rectus and a corset liver found, a lobular elongation shaped like the kidney. The kidney was perfect, distinctly palpable behind it, of infantile size, nothing in the pelvis and the gall-bladder very small. Nothing was to be found in the neighborhood of the ileum, or pancreas. Such mistakes can be made as Dr. Allport describes in his paper without any reflection being cast on the surgeon. At one of the meetings of the British Medical Society, for a presidential address, Paget read a paper entitled "Necessary Errors in Diagnosis." A logical conclusion can not but be drawn from the premises furnished, sometimes the premises are false and therefore your conclusions false. Jacobson says, any operation which justifies exposing the kidney for handling also justifies the exploration of that kidney with the finger. I think it extremely difficult, even with the finger, to find a stone; I know they are overlooked, I have done it myself; how much more difficult is it with the needle! I chanced to be present at the operation on the 14th case reported by Dr. Allport, and as he was about to amputate his ligatures I suggested that he leave one long so as to extend out of the wound. I think that extremely wise, because they do suppurate frequently. If you have an end, you can take hold of it and you can get them out by a small amount of continuous elastic traction.

Dr. D. N. Eisendrath—Case No. 1 seemed to come under the class of hysterical pains which are so frequently met in viscera, the stomach, spleen and kidney; they come under the head, in this case, of nephralgias. The second case was one of hematuria, without apparent cause until afterward trauma was found. I was interested because there are so many cases of hematuria without apparent cause which are due to tuberculosis. I read a report of a case in a German journal of very severe hematuria coming on suddenly in a patient without tubercular history, but operation showed typical tuberculosis of the kidney.

The case on which I did nephrectomy during the absence of Dr. McArthur from the city, in 1898, was undoubtedly a surgical kidney; it was an ascending pyelonephritis, and was hardly of the variety in which infection could have taken place except from the bladder upward. It is not likely that infection at the time of operation would have caused this form of infection of the kidney, which most frequently ascends from the bladder, passing upward through the ureter. Weir reports four cases in which surgical kidney was strictly unilateral, so I think the infection came from the bladder, and not from the previous operation.

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**Painful Limping from Uteropathy.**—De Luca writes to the *Riforma Medica* of February 7, describing three cases of lameness in women, owing to severe pains that appeared at the first steps or after walking a certain length of time. The pains affected the various groups of muscles in the lower members, and disappeared when the patient sat or reclined. The hobbling gait was traced to the influence of displacement of the uterus, retroversion, lateroversion or prolapse with anteroversion. Alexander's operation in one case cured the limping and pains at once. In the others there was no operation performed.

# THE RELATION OF INDICANURIA AND OXALURIA TO GASTRO-INTESTINAL FERMENTATION.

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CHICAGO.

The object of treating such a large subject in one article is, if possible, to determine if there is a relationship between the excreted indican and oxalic acid, and the bearing these bodies have on gastro-intestinal fermentations. Harnack[1] has shown most conclusively that when oxalic and sulphuric acids are given to dogs per stomach or per os, indicanuria is produced, the sulphuric acid producing not so intense an indican reaction as when oxalic acid is used. He further shows that the subcutaneous injection of even .06 gram of sodium oxalate is followed by indicanuria. He raises the question whether indicanuria is associated with pathologic oxaluria. This is one of the questions which I have tried to solve. The putrefactive bases are formed in the small intestines and are known as indol, skatol and phenol. They are also often spoken of as the aromatic compounds. By the action of the pancreatic juice the proteids are changed into alkali, albumin, proteoses, pepton, leucin and tyrosin. The proteoses are still further broken down by the action of bacteria, the aromatic bodies being some of the products formed. These are absorbed and changed into the potassium sulphate salts, indican being the postcedent of indol. Jaffe[2] has pointed out that the amount of indican is relatively proportionate to the degree of putrefaction. Diet is an important factor in the production of indican. It seems that a vegetable diet does not produce these aromatics. Rosin[3] found the urine of rabbits to be free of indican. Hoppe-Zeyler[4] and Peurosch[5] showed that in order to produce indicanuria in these animals it was necessary to feed them either orthonitrophenol propionic acid, or give them meat. As yet it has not been positively demonstrated that indican is produced anywhere in the body except in the intestinal canal.

Harnack,[1] however, believes that the indicanuria following the subcutaneous injection of small doses of sodium oxalate can only be accounted for as being of metabolic origin. He argues that as oxalic acid is a severe protoplasmic poison, its action would produce such changes in the living tissue as might lead to indican formation.

To support this view, Nencki[6] and Kühne[7] produced the aromatic bodies by heating proteids with potassium hydrate. Salkowski[8] and Jaksch[9] believe that indol can be formed in the tissues by the abnormal decomposition of this. Keilmann[10] believes that he demonstrated that in pus formation indican is produced. This would be entirely independent of intestinal origin. Rosenbach,[11] Senator[12] and Concetti[13] think indicanuria is found in many diseases, especially of children, in whom it is not of intestinal origin, but due to decomposition of proteids in the living tissue or to changes in the tissues themselves. Senator,[12] Rosenbach[11] and Mazetti[14] found that the urines of new-born infants do not contain indican during the first year or so. In cholera infantum and in tuberculosis it was always present. Momidkowski[15] finds indican in infants before they begin to nurse; after that it disappears.

I will show later that the milk is probably the important factor in the prevention of putrefaction in the intestine. It seems, from the literature, that when indican is found in the urine of infants, it always denotes some grave intestinal disorder. Against this view of indican formation, outside of the intestinal tract, is Beckmann.[16] He examined twenty-five cases suffering from suppuration and found an increase of indican in only six of the total number. Müller[17] says the indicanuria of inanition can only be considered as of intestinal origin.

We can readily understand how in cystitis incited by the colon bacillus and proteus vulgaris indican could be formed in the bladder. In 116 sweat analyses made for Dr. Hoelscher I was able to demonstrate indican in a very few. This does not prove that the indican thus found was not produced in the intestine, nor that it may not have been formed in the pores of the skin by the action of bacteria living on the proteids of the sweat itself.

The presence of oxalic acid in the urine was first demonstrated by Wollaston,[18] and later verified by Fourcroy.[19] The constant elimination was demonstrated by C. G. Lehman, [20] W. Kühne.[21] Schultzen[22] and Fürbringer.[23] The amount excreted daily is as yet unknown. Schultzen[22] gives it as .05 gram; Fürbringer,[23] .02 gram; Dunlop,[24] .01 gram, and Baldwin,[25] as being less than .01 gram. The last three figures are probably nearer correct than the first. It was not until Dunlop's[24] method was used that anything like correct and concordant results were obtained. This is readily understood when one considers that the amount being so small any slight error in the analysis would ruin the final deductions absolutely. Dunlop[24] believes that the small amount of oxalic acid eliminated daily is taken in with the food, and therefore is not produced in the body.

Gaglio,[26] from his experiments, concludes that oxalic acid is not readily oxidized in the body. Wesley Mills,[27] in his experiments, later verified by H. Lüthje,[28] came to the conclusion that oxalic acid does not disappear from the urine of starving dogs, and when meat alone is given the amount excreted is increased very materially. From these facts they conclude that oxalic acid is one of the end products of proteid metabolism. Helen Baldwin,[25] feeding dogs on meat, was able to stop the oxalic acid elimination absolutely, and Dunlop[24] demonstrated that a milk diet would do the same. Wöhler[29] and Frerick[30] believe oxalic acid to be an oxidation product of uric acid. Neubauer,[31] Salkowski,[32] Fürbringer,[23] and Hammerbacher,[33] feeding uric acid to dogs, were unable to produce an increase in oxalic acid. Salkowski[32] found that a diet of thymus gland did not increase it. Prout[34] and Schultzen[21] found oxaluria associated with diabetes and icterus. It may be of interest to state here that Salkowski[32] has recently shown that 1000 grams of cow's liver contained .012 gram of oxalic acid. Reale[35] and Boeri[36] believe that oxalic acid is produced in the organism when there is imperfect aeration of the tissue. Aside from the above statement, there are some cases, according to Smoler,[37] Cantani[38] and Hass,[39] where there was noticed an abnormal increase in oxalic acid excretion without any other prominent symptom. This excess formation probably was due to an abnormal metabolism.

Table No. 1 gives a series of twenty urines, most of them containing indican and oxalate crystals. The total acidity and alkalinity are given here, with the object, if possible, of determining the cause of the precipitation of oxalate of lime crystals. The total acidity was determined by using a decinormal sodium hydrate solution, phenolphthalein being used as an indicator. The

results thus obtained were figured as total hydrochloric acid. The total alkalinity was determined by using a decinormal hydrochloric acid solution, dimethylamidoazobenzol being used as an indicator. The results were figured to sodium hydrate. At a glance it is seen that the precipitation is not due to acid strength, nor to alkaline strength. Neubauer[30] and Dunlop[23] both believe that sodium acid phosphate and possibly other substances prevent precipitation. Especially is this true of urines with high acidity. My work, and also that of Baldwin,[25] shows that high acidity does not prevent precipitation. Moddermann[42] believes precipitation occurs when the sodium acid phosphate changes to the neutral or alkaline phosphate. The precipitation is not understood; concentration, high or low specific gravity, acidity, alkalinity, neutral reaction, none of these explain the precipitation. Dunlop[23] says that oxalates are only found in the urine as octahedron crystals, and that the dumb-bell forms are calcium carbonates. I find that several forms of oxalate crystals are produced from pure calcium oxalate. Besides the octahedron variety, there are also dumb-bell and prismatic forms. This agrees with the work of Salkowski[43] and Baldwin.[25]

Table No. 1.

| Number. | Reaction. | Specific Gravity. | Urea; per cent. | Indican. | Oxalates (500 x diam.). | Acidity for 1000 c.c. as HCl. | Alkalinity for 1000 c.c. as $NaOH$. |
|---|---|---|---|---|---|---|---|
| 1 | Acid. | 1025 | 3 4 | Absent | Absent | 1.387 | .68 |
| 2 | " | 1027 | 2.5 | Faint... | 1 to field | .749 | 3.2 |
| 3 | " | 1026 | 1.7 | Fair, | 1 to field | 1 715 | 1.56 |
| 4 | " | 1014 | 1 4 | Faint... | 3 to field | 1 825 | 1 4 |
| 5 | " | 1019 | 2 2 | " | 6 to field | .876 | .88 |
| 6 | " | 1025 | 3.2 | " | 20 to field | 1.35 | .28 |
| 7 | " | | | Absent | 1 to 10 fields | 2.37 | 1.6 |
| 8 | " | 1024 | 2.2 | " | 8 to field | 803 | 1 8 |
| 9 | " | 1027 | 3.3 | Faint... | 10 to field | 1 314 | .76 |
| 10 | " | | | Absent | 8 to field | 1 659 | 1 6 |
| 11 | " | 1031 | 3.3 | Heavy. | 1 to 3 fields | 1 825 | 2.32 |
| 12 | " | 1029 | 3.0 | Faint... | 20 to field | 2.37 | 1 68 |
| 13 | " | 1028 | 1 9 | Fair. | 10 to field | 1.13 | 2. |
| 14 | Neutral | 1028 | 2.8 | Faint... | 3 to field | .13 | 2.6 |
| 15 | " | 1013 | 1.5 | " | 2 to field | .29 | 2. |
| 16 | " | 1022 | 1 8 | Heavy. | 20 to field | 438 | 3. |
| 17 | Acid | 1028 | 2 6 | Faint... | 10 to field | 1 277 | 1.44 |
| 18 | " | 1020 | 1.9 | Absent | 1 to 3 fields | 839 | 1.8 |
| 19 | " | 1008 | 0 9 | " | Absent | 4 | 1.2 |
| 20 | " | 1020 | 2.0 | Faint... | Absent | 1.5 | 1 4 |

The percentages of urines showing oxalate crystals are variously estimated: Walsh[40] gives it as 28 per cent.; Gallois,[41] 36 per cent.; Smoler,[37] 57 per cent., and Dunlop,[23] 35 per cent. Of 2000 urine examinations made at the Columbus Medical Laboratory, Chicago, 22.5 per cent. contained oxalate crystals. Of 200 urines examined for indican, 50 per cent. showed more or less indican. Of 200 urines examined, 15 per cent. showed oxalate crystals and no indican.

Table No. 2 represents 100 indican urines, 85 per cent. of which contain more or less oxalate of lime crystals. In many of these, as, for example, Nos. 3, 6, 7 and 12, there seemed to be a definite ratio between the indican and oxalic acid, but excess of oxalate crystals does not signify increase in the total amount of oxalic acid, and I therefore decided to put this to a further test by estimating the total indican and oxalic acid. Harnack[1] has demonstrated that oxalic acid produces indicanuria. Might we not, therefore, believe that the formation of one is dependent on the other? If the above statement is correct oxalic acid may be an end product of protcid metabolism.

### METHOD TO DETERMINE INDICAN.

The method used to determine the indican is that of Eyvin Wang.[44] Take 300 c.c. of urine and treat with 25 to 50 c.c. of a 20 per cent. solution of lead acetate,

Table No. 2.

| Number. | Reaction. | Specific Gravity. | Urea; per cent. | Indican. | Oxalates. | Other Crystals. |
|---|---|---|---|---|---|---|
| 1 | Neut | 1022 | 1.9 | Heavy. | Medium number | Triple phosphates. |
| 2 | Acid. | 1020 | 2 4 | Faint. | Few | Uric acid. |
| 3 | " | 1030 | 3 8 | Heavy | Abundant. | " " |
| 4 | " | 1013 | 1.1 | Medium. | " | |
| 5 | " | 1017 | 1 8 | " | Medium number | " " |
| 6 | " | 1028 | 3.1 | Heavy. | Abundant. | |
| 7 | " | 1030 | 3.0 | " | " " | |
| 8 | " | 1015 | 1 9 | " | Medium number | Urates. |
| 9 | " | 1024 | 1.5 | Faint. | Absent | |
| 10 | " | 1020 | 1 0 | " | Few | |
| 11 | " | 1020 | 2.8 | " | " | " |
| 12 | " | 1009 | 0.9 | Heavy. | Abundant. | " |
| 13 | " | 1024 | 3 0 | Faint. | Few | " |
| 14 | " | 1028 | 2 7 | " | " | |
| 15 | " | 1005 | 0 5 | " | Very few | " |
| 16 | " | 1020 | 2 9 | " | Few | |
| 17 | " | 1020 | 2 0 | Medium. | Medium number | " |
| 18 | " | 1008 | 0 7 | Faint. | Few | |
| 19 | " | 1023 | 2.7 | " | " | Uric acid. |
| 20 | Neut. | 1019 | 1 4 | " | " | Phosphates. |
| 21 | Acid. | 1011 | 2 0 | " | " | |
| 22 | " | 1020 | 1.9 | " | " | Calcium sulphate. |
| 23 | " | 1016 | 2.1 | Heavy | Medium number | Uric acid. |
| 24 | " | 1017 | 1.8 | Faint. | Few | Urates. |
| 25 | " | 1022 | 2.0 | " | Medium number | |
| 26 | " | 1029 | 3.3 | Medium. | " | |
| 27 | " | 1026 | 4 0 | Heavy | Absent | Urates and uric acid. |
| 28 | " | 1020 | 1 8 | Medium | Few | Urates. |
| 29 | " | 1016 | 1 8 | Quite heavy | Abundant. | |
| 30 | " | 1013 | 1 7 | Faint. | Very few | |
| 31 | " | 1027 | 2.8 | Medium. | Few | " |
| 32 | " | 1020 | 3 8 | " | Medium number | " |
| 33 | " | 1005 | 0 8 | Trace. | Few | " |
| 34 | " | 1038 | 1.9 | Medium | " | |
| 35 | " | 1015 | 1.8 | " | " | Uric acid. |
| 36 | Neut. | 1016 | 0.8 | " | Absent | " " |
| 37 | Acid | 1024 | 2.3 | " | Medium | |
| 38 | " | 1017 | 2 2 | " | Few | |
| 39 | " | 1016 | 1 4 | Quite heavy | " | Urates. |
| 40 | " | 1013 | 2 2 | Medium | Medium number | |
| 41 | " | 1023 | 2 8 | Quite heavy | Abundant. | " " |
| 42 | " | 1021 | 3.2 | Heavy. | Medium number | |
| 43 | " | 1031 | 3.1 | " | Abundant. | |
| 44 | " | 1021 | 1 5 | Trace. | Absent | |
| 45 | " | 1020 | 2 2 | Faint. | Few | |
| 46 | " | 1011 | 0 9 | " | " | |
| 47 | " | 1019 | 2.5 | Medium | " | Phosphates. |
| 48 | " | 1017 | 1 8 | " | " | |
| 49 | " | 1011 | 0 8 | Trace. | " | |
| 50 | " | 1021 | 1 7 | Quite heavy | Abundant. | |
| 51 | " | 1027 | 2 2 | Heavy. | Absent | Urates. |
| 52 | " | 1020 | 2.1 | Faint. | Few | |
| 53 | " | 1026 | 2 4 | " | Very few | Uric acid. |
| 54 | " | 1010 | 1 1 | " | Few | Urates. |
| 55 | " | 1012 | 1 2 | " | " | " |
| 56 | " | 1008 | 0.9 | Trace. | Absent | Calcium sulphate. |
| 57 | " | 1017 | 2 4 | Faint. | Few | |
| 58 | " | 1020 | 2.8 | " | " | Urates. |
| 59 | " | 1016 | 1 8 | " | Very few | |
| 60 | " | 1016 | 2.5 | Medium. | Medium number | Calcium sulphate. |
| 61 | " | 1025 | 3.0 | Heavy. | Abundant. | Phosphates. |
| 62 | " | 1013 | 1 7 | Trace. | Absent | Urates. |
| 63 | " | 1013 | 1 5 | Faint. | " | |
| 64 | Neut. | 1015 | 2 0 | Medium | " | Triple phosphates. |
| 65 | Acid. | 1019 | 1 8 | Faint. | Medium number | |
| 66 | " | 1015 | 1 6 | " | Absent | Urates. |
| 67 | " | 1036 | 2 1 | " | Medium number | " |
| 68 | " | 1015 | 1 3 | Fair amount | " | " |
| 69 | " | 1016 | 1 5 | Very faint | Absent | |
| 70 | " | 1027 | 1 8 | Faint. | " | |
| 71 | " | 1014 | 3.0 | Very faint | " | |
| 72 | " | 1026 | 2 4 | Trace. | Very few | |
| 73 | " | 1024 | 1 8 | Faint. | Few | " |
| 74 | " | 1019 | 1 5 | Trace. | " | |
| 75 | " | 1027 | 3 0 | Very f'int | " | " |
| 76 | " | 1026 | 2 7 | Faint. | Absent | " |
| 77 | " | 1023 | 1 8 | " | Few | |
| 78 | " | 1025 | 2 7 | " | " | " |
| 79 | Neut. | 1020 | 1 7 | " | " | " |
| 80 | Acid. | 1030 | 2 2 | Medium. | " | " |
| 81 | " | 1008 | 2 7 | Heavy | " | |
| 82 | " | 1018 | 2.7 | Very f'int | Very few | " |
| 83 | " | 1008 | 0 6 | Faint. | Few | |
| 84 | " | 1010 | 2.1 | Medium | " | " |
| 85 | " | 1018 | 1 7 | " | Absent | |
| 86 | " | 1014 | 1.1 | " | Few | |
| 87 | " | 1012 | 1 3 | Faint. | Very few | " |
| 88 | Neut | 1012 | 1 4 | " | Few | " |
| 89 | " | 1018 | 1 2 | " | Absent | |
| 90 | Acid. | 1025 | 2 6 | Heavy | Few | |
| 91 | " | 1010 | 1 2 | Faint. | Very few | |
| 92 | " | 1018 | 1 3 | Very f'int | " | Uric acid. |
| 93 | " | 1014 | 2 3 | Faint. | Few | Urates. |
| 94 | " | 1026 | 1 7 | Medium | " | " |
| 95 | " | 1014 | 1 4 | Faint. | " | " |
| 96 | " | 1027 | 2 5 | " | " | " |
| 97 | " | 1019 | 2 2 | " | " | " |
| 98 | " | 1025 | 2 9 | Medium. | Medium number | " |
| 99 | " | 1027 | 2 5 | Faint. | Few | " |
| 100 | " | 1023 | 2.1 | Heavy. | Abundant | " |

or enough until no further precipitate is given. Filter. Take an aliquot portion of the filtrate and add to it an equal volume of Obermayer's reagent—1 gram of ferrichlorid to 1 liter of hydrochloric acid, specific gravity 119. Place the mixed solution in a separatory funnel and shake with chloroform until all the indigo is removed. The chloroform is then removed by distillation, the residue left washed with a mixture of equal parts of alcohol, ether and water. The washings are filtered through a dry filter-paper and the washing continued until the solution comes through clear. The indigo, which is in the flask and also on the filter-paper, is dried. The filter-paper is then placed in a solution of chloroform and boiled under an inverted condenser until all of the indigo is extracted. The chloroform indigo solution is then poured in the flask which contains the dried indigo and the chloroform removed by distillation. The residue in the flask is evaporated down to dryness and then treated with 4 c.c. of sulphuric acid and allowed to stand for one hour. The sulphuric acid is poured into 100 c.c. of distilled water, the flask thoroughly rinsed with warm water until all of the indigo has been transferred to the flask containing the water. The solution is now titrated with a standard solution of potassium permanganate—3 grams of potassium permanganate dissolved in 1 liter of water; 5 c.c. of this solution is diluted to 200 c.c. with distilled water; each cubic centimeter of this solution is equal to .00015 of indigo. Multiply the number of cubic centimeters of permanganate used by the above factor, and then figure out the indigo for the twenty-four hours' amount of urine.

I have found that this method gives very good results, and, furthermore, believe it to be more convenient and better adapted for clinical purposes than is the estimation of aromatic sulphates. As indican is one of the putrefactive bases, it is sufficient to determine the amount of this alone, and from the result an index of the total putrefaction can be obtained without paying any attention to the other putrefactive bodies.

### METHOD TO DETERMINE OXALIC ACID.

The oxalic acid was estimated by Salkowski's[43] method, with slight modification. Instead of weighing the precipitate of calcium oxalate as calcium oxid, it was titrated with a centinormal solution of potassium permanganate. It was found that the two methods agree within three-tenths milligrams. Coloring matter was thoroughly removed by washing the dried precipitate of calcium oxalate with equal parts of alcohol, ether and water. There is always a slight color residue left on the filter-paper, the sulphuric acid dissolving so little of it that it is not worth while to consider. The titration method can be used in the presence of phosphates, and in several of these precipitates of calcium oxalate phosphates were present, in spite of the fact that acetic acid was used to dissolve them. Acetic acid even in weak solution has more or less solvent action on the calcium oxalate. This in itself, besides phosphate impurities, is very liable to give in some instances too high and in others too low results. Comparing the method with the older ones, I find that the results are much more satisfactory, and liability of error cut down to a minimum.

*Modified Method.*—Take 500 c.c. of urine, acidulate with a few drops of hydrochloric acid, boil over a free flame until the volume has been reduced two-thirds. Now acidulate with 20 c.c. of hydrochloric acid, specific gravity 1.12, and continue the evaporation on a water-bath down to a small volume. The residue is taken up with about 150 c.c. of water, the dish rinsed out with more water, all of which is placed in a separatory funnel and shaken three times with an alcoholic ether solution—nine parts of ether to one part of alcohol—using 200 c.c. of this mixture for each shaking. The ether is drawn off, filtered and removed by distillation, the alcohol solution left in the flask, treated with 15 c.c. of water, and the evaporation continued until all the alcohol is expelled. Should the solution be milky, add a little more water and continue the evaporation until clear. Filter and wash the residue on the filter part two times with distilled water. Add to the filtrate ammonium hydrate to a slight alkaline reaction, and then 1 or 2 c.c. of a 10 per cent. solution of calcium chlorid. This precipitates not only the oxalic acid, but also throws down the phosphates. The phosphates are redissolved by acidulating very faintly with acetic acid. The precipitate is allowed to stand twenty-four hours, then filter, wash and dry. After drying, wash with a solution of equal parts of alcohol, ether and water. The precipitate is dried again and then treated with 100 c.c. of a 3 per cent. solution of sulphuric acid. To this solution 5 c.c. more of sulphuric acid is added and the solution heated to 60 C. It is then titrated with a centinormal solution of potassium permanganate. Multiply the number of cubic centimeters of permanganate solution used by .00063, which gives the amount of oxalic acid in the 500 c.c. of urine used. From this the amount of oxalic acid in the twenty-four hours' urine is determined.

The results obtained from these analyses show most conclusively that there is not a relative ratio between the indican and oxalic acid excretion. (See Table No. 3.) It was thought that as sulphuric and oxalic acid, when given by stomach or per os, produces indicanuria, there might be a definite relationship between these two products. These results, however, do not by any means prove that the oxalic acid is not an end product of proteid metabolism, nor that it can not be produced from the decomposition of proteid matter in the intestinal canal. Oxalic acid thus produced may have been eliminated with the fecal matter, or if a large quantity of it were absorbed, it may have been oxidized. P. Marfori[45] believes that he could demonstrate that after taking several doses of oxalic acid part of it was oxidized. Baldwin[25] fed a healthy man on a diet of bread, butter and meat, giving him .2 to .48 gram of ammonium oxalate for a period of two weeks: only traces of oxalic acid appeared in the urine. A dog received the drug hypodermically, and 37 per cent. of it was recovered from the urine. Table No. 3 also shows that there is no relative ratio between the number of oxalate crystals and the total percentage of oxalic acid. Abundance of crystals does not signify high oxalic acid percentage.

Before discussing some of these cases it will be necessary to call again attention to Helen Baldwin's[25] excellent article on oxaluria. She was able to produce oxaluria in dogs by feeding them meat and large quantities of sugar. I give here one of the experiments:

> A dog was placed under observation on Nov. 3, 1899. At that time there was a small amount of oxalic acid present in the urine. The dog was placed on a meat diet, and the urine examined November 18, 21 and 25 showed an absence of oxalic acid. On the last-named date the dog was placed on large amounts of sugar in addition to meat. The animal took the sugar greedily, at times receiving 250 to 300 grams in a day. For a month the dog showed no symptoms, but gained rapidly in weight. On November 9 a few calcium oxalate crystals were noted in the urine, but only a few. From that date until

December 27 oxalic acid was absent from the urine, or, if present, was in very small amounts. In the latter part of December there appeared simultaneously a group of symptoms consisting of loss of appetite, vomiting of frothy mucus, intermittent diarrhea, the absence of free hydrochloric acid in the gastric juice, the presence of organic acids in the urine, and the precipitations of numerous large calcium oxalate crystals in the urine. On January 1 the dog took almost no sugar, and there were again but few calcium oxalate crystals deposited in the urine. On January 3 very large and very numerous crystals were noted, some appearing in masses of imperfectly formed crystal-like microscopic calculi.

TABLE NO. 3.

| Case | Amount of urine | Sp. gr. | Reaction | Color | Urea | Albumin | Sugar | Casts | Bacteria | Total acidity grams | Oxalic acid grams | Density at 15° C. | Relative viscosity | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ia | 2150 | 1.033 | Acid | Pale yellow | 7% | Absent | 1% | Absent | Few pus cells | 0.209 | 0.402 | — | — | Meat diet. Diabetes and chronic interstitial nephritis. Constipation; head aches, mucous enteritis. |
| Ib | 1580 | 1.011 | Acid | Pale yellow | 9% | Trace | Absent | Absent | Few pus cells | 0.2414 | 0.167 | — | — | Same patient three first examination. Headaches and calculi values, faint latter. |
| II | 1750 | 1.008 | Acid | Pale yellow | 9% | Absent | Absent | Absent | Calcium oxalate | 0.2408 | 0.248 | — | — | Weak stomach, fits of depression, mixed diet, rubs on stomach and epithelia, mucous enteritis. |
| III | 575 | 1.037 | Acid | Normal yellow | 2.2% | Absent | Absent | Absent | Epithelial cells | 0.2716 | 0.211 | — | — | Aortic stenosis, broken compensation, unable to take much exercise of general retention of the salts, still partial headache, diabetic catharsis daily |
| IV | 1025 | 1.020 | Acid | Normal yellow | 2.1% | Absent | Absent | Few | Few pus cells | 0.2417 | 0.251 | — | — | Depression, no bowel palpitation, bowels regular, mixed diet |
| V | 1.20 | 1.020 | Acid | Normal yellow | 2.8% | Absent | Absent | Few | Few pus cells | 0.250 | 0.2811 | — | — | Drinking spells, palpitation, followed by numbness, cardiac murmurs, prolapsed hemorrhoids, milk diet for three days. |
| VI | 950 | 1.013 | Acid | Pale yellow | 1.5% | Absent | Absent | Few | Few pus cells | 0.2246 | 0.1414 | — | — | Congenital cardiac anomaly, palpitation of hemorrhoids and palpitation, slight indigestion, mixed diet |
| VII | 940 | 1.019 | Acid | Normal yellow | 1.8% | Absent | Absent | Few | Few pus cells | 0.2455 | 0.193 | — | — | Chronic arteria sclerosis, cardiac changes, still headaches, insomnia, severe to face arms, mixed diet |
| VIII | 1.00 | 1.012 | Neutral | Pale yellow | 1.4% | Absent | Absent | Absent | Few pus cells | 0.2158 | 0.275 | 1.011 | 92 | Cyst corneal head ache, mixed diet |
| IX | 960 | 1.018 | Neutral | Pale yellow | 1.2% | Absent | Absent | Many epithelial cells | Absent | 0.2587 | 0.2814 | 1.455 | 1.83 | Arteria sclerosis palpitation, red meats excluded, extra sparingly of diabetes |
| Xa | 1820 | 1.007 | Acid | Normal yellow | 1.8% | Absent | Absent | Absent | Absent | 0.236 | 0.1279 | 1.854 | 2.276 | Nervousness, easily startled, vertigo after climbing to a height of 10,000 feet, moderate arteriosclerosis, signs of failure of heart |
| Xb | 2.00 | 1.009 | Acid | Normal yellow | 9% | Absent | Absent | Absent | Absent | Absent | 0.246 | 1.461 | 12 | Same patient three first examination eat raw meat, fruits, mixed meals and more Vegetarian |
| XI | 900 | 1024 | Acid | Normal yellow | 2.3% | Absent | Absent | Absent | Bacteria in urine | 0.248 | 0.2866 | — | — | Meat diet, no catharsis |
| XIa | 1210 | 1022 | Acid | Normal yellow | 2.1% | Absent | Absent | Absent | Absent | 0.254 | 0.195 | — | — | Acid dyspepsia, nervous head aches, melancholia, loss of meat takes no part of calcium salts |
| XIb | 1500 | 1021 | Acid | Normal yellow | 2.0% | Absent | Absent | Absent | Absent | 0.248 | 0.113 | 1.766 | 1.86 | Uric acid diathesis, acid fermentation, gouty attacks, depressed, attacks of indigestion, Same patient But if direct exercise and hunger three days, Use of common headache mornings, pale latter |
| XIIa | 980 | 1024 | Acid | Deep yellow | 2.5% | Absent | Absent | Absent | Few pus cells | 0.2482 | 0.1587 | 2.135 | 1.84 | Same patient After one week on meat diet mental depression, insomnia, strong headache mornings |
| XIIb | 1350 | 1020 | Acid | Normal yellow | 2.0% | Absent | Absent | Absent | Absent | 0.2156 | 0.122 | 1.53 | 1.89 | Same patient three months and blood test for one week completed, mixed latter |
| XIII | 1.80 | 1023 | Acid | Deep yellow | 2.5% | Absent | Absent | Absent | Few pus cells | 0.203 | 0.433 Not much | — | — | Uric acid diathesis, gastric intolerance, indigestion, headaches, indigestion, constipation followed by diarrhoea, flatulence, irritation during urination |
| XIV | 780 | 1023 | Acid | Deep yellow | 2.7% | Absent | Absent | Few pus cells | Epithelial cells and mucous | 0.277 | 0.409 Not much | — | — | No Data |
| XV | 1280 | 1020 | Acid | Normal yellow | 2.% | Absent | Absent | Absent | Epithelial lung cells | 0.2806 | 0.161 | — | — | Uric acid diathesis, hyperchlorhydria, gastric fever, very gouty, severe headaches, indigestion, constipation, headaches, irritation during urination |
| XVI | 970 | 1020 | Acid | Normal yellow | 1.8% | Absent | Absent | Absent | Few pus cells | 0.2147 | 0.2716 | — | — | No Data |
| XVII | 860 | 1020 | Acid | Yellow | 2.2% | Absent | Absent | Absent | Few pus cells | 0.2315 | 0.1233 | — | — | Palpitation, pressure of abdomen, stupor, fever, vertigo, dizziness, all pointed headaches |
| XVIII | 1250 | 1020 | Acid | Normal yellow | 3.0% | Absent | Absent | Absent | Few pus cells | 0.278 | 0.129 | — | — | Uric acid diathesis, head aches, depression, attacks of vertigo, examination made after fasting for three days, mild catharsis, mixed diet |
| XIX | 1500 | 1.022 | Acid | Pale yellow | 2.0% | Absent | Absent | Few pus cells | Epithelial cells from bladder | 0.2167 | 0.269 | — | — | Head aches and depression, feces catharsis. |
| XX | 860 | 1017 | Acid | Deep yellow | 2.4% | Absent | Absent | Few pus cells | Few pus cells | 0.2477 | 0.18 | — | — | Neurasthenia, hyperchlorhydria |
| XXI | 1180 | 1016 | Acid | Normal yellow | 1.7% | Absent | Absent | Few pus cells | Few pus cells | 0.214 | 0.1586 | — | — | Impaired liver, depressed by constipation, head aches, melancholia, mixed diet |
| XXII | 1125 | — | — | — | — | — | — | — | — | 0.258 | 0.129 | — | — | Pale milk, constipation of no indigestion, mixed diet, gives a change of suffering from indigestion from severe pain from taking of artificial food of suffering |
| XXIII | 1450 | 1.023 | Acid | Normal yellow | 1.8% | Absent | Absent | Absent | Few pus cells | 0.2172 | 0.19 | 1.379 | 5.6 | Diffuse fibromyoma, albuminuria at intervals, uric acid, heart a vigorous life |
| XXIV | 1200 | — | — | — | — | — | — | — | — | 0.251 | 0.208 | 55 | 1.44 | Hydrochlorhydria followed by constipation, attacks of gastralgia, mixed diet, takes active cathartics daily |
| XXV | 1780 | 1020 | Acid | Normal yellow | 1.8% | Absent | 2% | Absent | Absent | 0.228 | 0.2448 | 1.91 Normal urine | 6.66 Normal urine | Glycosuria, melancholia, polyuria, constipation, mixed diet |
| XXVI | 3.00 | 1018 | Acid | Pale yellow | 1.3% | Absent | 8% | Absent | Mucous and pus cells | Absent | 0.205 | 3.5 | 1.8 | Uric acid diathesis, uric acid and oxalate crystals, mentally present in urine Diabetes for sodium iron but fast and negative, mucous enteric catharsis |
| XXVII | 780 | 1026 | Acid | Deep yellow | 2.4% | Absent | Absent | Absent | Few pus cells | 0.2246 | 0.252 | 968 | 7.2 | Recovering from an attack of acute rheumatism |
| XXVIII | 1750 | 1013 | Acid | Yellow | 1.1% | Absent | Absent | Absent | Absent | 0.1704 | 0.2425 | 958 | 2.8 | No Data |
| XXIX | 825 | 1025 | Acid | Deep yellow | 2.6% | Absent | Absent | Absent | Epithelial cells from bladder | 0.246 | 0.2803 | 527 | 6.66 | Uric acid diathesis, attacks of vomiting followed by diarrhoea and polyuria, uric acid and oxalate crystals in urine, indigestion marked, mixed diet |
| XXX | 960 | 1028 | Acid | Deep yellow | 2.4% | Absent | Absent | Absent | Absent | Absent | 0.278 | 1.161 | 1.536 | No Data. First examination showed many oxalate crystals, second one rather heavy to the touch from loose urine there were no oxalate crystals, not uric acid |
| XXXI | 1780 | 1.016 | Acid | Yellow | 2.3% | Absent | Absent | Absent | Few pus cells | 0.231 | 0.235 | 1.86 | 8.8 | Expulsion of mucus, pulse beat weak, rate 40 |
| XXXII | 150 | 1.028 | Acid | Yellow | 2.6% | Absent | Absent | Absent | Bacteria | 0.2357 | 0.234 | 1.27 | 1.88 | Uric acid diathesis, indigestion, dizziness, headaches, dementia, painful diffuse flatulence, from an unwatching, bowels regular |
| XXXIII | 1250 | 1.020 | Acid | Yellow | 1.9% | Absent | Absent | Absent | Absent | 0.179 | 0.239 | 837 | 1.8 | Uric acid diathesis, low fevers, normal mind, calculi, at present less attacks of renal colic, suffers from indigestion |

She found that gastritis with anacidity usually showed oxalate of lime crystals in the stomach contents. Sugar solutions with beef extract inoculated with a portion of stomach contents from the above cases and incubated for two days contained oxalate crystals. Quantitative experiments will have to be made along this line before positive conclusions can be drawn. Suffice it for the present to say that oxalic acid is probably produced in the gastro-intestinal tract through fermentation.

Taking all of the urines showing less than 11 mg. of oxalic acid (see Table 3), we get .0077 as a daily average. Taking all of the urine showing more than 11 mg. we get a daily average of .0175 gram of oxalic acid. (Leaving out Nos. 1a, 13 and 14, as these were estimated by Neubauer's[30] method, and therefore not reliable.) As these were all urines from persons more or less ill, it is impossible to state absolutely just what amount would be considered a daily average. I think, however, that Baldwin's[25] average of less than 10 mg. for the twenty-four hours is about correct. Of indican there should be, under normal conditions, virtually none, or, if any, a very faint trace.

### DISCUSSION OF CASES.

In Case 1, *a* and *b*, there was a great difference in the amounts of indican and oxalic acid eliminated. This was a result of purging.

Case 11, *a* and *b*, was the same patient, cut down on meat and taking urotropin since first examination. Whether it was the urotropin or not that stopped the formation of indican I would not want to say on one examination. I call attention to Case 12, *a*, *b*, *c* and *d*, as representing several examinations of the same patient; also to Cases 13, 15, 18, 26, 29, 32 and 33. These cases were under my personal observation and therefore I am in a position to discuss them more intelligently. Most of these cases were being treated, receiving cathartics and other drugs. One seldom gets the urine when the paroxysm is at its height, consequently the material can not be worked up as well as is desired.

Case 12, *a* had been suffering from indigestion, hydrochloric gastritis, for a great many years. Meat diet agreed with him best. Starches seemed to distress him. Taking of starches made the index finger on the left hand swell and become very painful and stiff. He was treated for gout. Going back to the meat diet would always correct the finger difficulty. Examination of 12, *a*, showed considerable indigo and a high percentage of oxalic acid. The excess of the latter would signify acid fermentation with some putrid decomposition. The patient was put on a cheese, bread and bran diet; a dose of sodium bicarbonate in the morning. At the end of three days' examination, Case 12, *b*, showed a slight increase in the indigo, but a marked falling off in the oxalic acid. He said he felt much better, and was placed for a week on meat, bread and coffee. Examination of Case 12, *c*, showed a little less indigo, but a marked increase in the oxalic acid. The patient complained of feeling heavy, drowsiness, was very nervous, and had considerable flatulence, so was again put on cheese, milk and bread diet, this time for one week, so as to be sure and have the bowels empty of previous diet. Examination of Case 12, *d*, showed a marked falling off in indigo and oxalic acid when compared with previous examinations on a meat diet. This looked as though the meat increases oxalic acid as well as indican. The casein diet probably lessens the putrefaction.

The object of putting the patient on cheese was to determine whether or not this diet would prevent putrid fermentation. Winternitz[47] and Carl Schmitz,[46] as well as myself,[48] have shown that milk and koumyss diminish putrefaction, thereby restricting the formation of aromatic sulphates. I would like to refer to one case published in my original article. A patient, a typhoid, was put on a koumyss diet. Before commencing this the aromatic sulphates were .5 gram for the twenty-four hours. In three days, on the above diet, they were reduced to .0033. This goes to show that milk and koumyss restrict putrefaction. Carl Schmitz[46] says it is the casein in the milk which prevents the formation of these putrefactive bases; in that event one naturally would believe that the casein does not contain the skatol, indol and phenol group.

Cases 12, 13, 15, 18, 26, 29, 32, 33, all belong to the uric acid diathesis group. They suffered from hyperacidity gastritis. Examinations of the stomach contents seven hours after a meal showed the presence of considerable hydrochloric acid. Attacks usually come on as follows: Hands and feet cold and moist, feel heavy and depressed, polyuria lasting from five to six hours, headache, prostration, diarrhea and in some, vomiting. After a paroxysm the patients feel well again. This points to intestinal fermentation, the symptoms being brought on by the poisons absorbed.

Case 29 is especially interesting. I do not find so much indican and oxalic acid in the twenty-four hours' urine. The total quantity of urine passed being only 425 c.c. One can readily understand that there must be a great deal of retention. I have no doubt that if 1400 c.c. of urine had been passed the oxalic acid would have risen to .02409, which is very high. The patient, a medical student, has these attacks about once a month.

Case 26, *a*, diabetic, suffers from acid fermentation. I find no indican in his case, the absence of this probably due to diet. The oxalic acid is the highest percentage of all obtained by the modified method. Tenbaum[49] has called attention to the fact that in diabetes it is not uncommon to find indican, oxalic acid and lime salts very much increased.

Caspari[64] and Senator[12] have demonstrated that in oxaluria there is always increased elimination of the lime salts. This tends to point to an abnormal breaking down of proteid substance. P. Krohl[50] even goes so far as to say that he has produced glycosuria by subcutaneous injections of oxalic acid. Harnack,[1] however, in his experiments was not able to verify this.*

### GASTRO-INTESTINAL FERMENTATION.

As a rule, in this condition we have two forms of fermentation going on—putrid, in which the aromatics are the end products, and acid fermentation, in which amido, fatty and oxalic acid are the end products. Table No. 3 shows that both forms are found in the majority of these cases. It matters not whether the hyperacidity is due to hydrochloric acid or to acids of fermentation, putrefaction will result in either case, indican being one of the end products.

Ziemke[51] says the normal amount of hydrochloric acid prevents putrefaction; anacidity, on the other hand, increases it. Blumenthal[63] finds that alkaline fermentation increases the indol and acid fermentation increases the amido acids. These last-named products should also be considered as putrefactive bodies. C. E. Simon[52] has demonstrated that in the hyperacidity of gastric ulcer indican is much increased. The poisons resulting out of this double fermentation belong to two groups: Those

* I used Dr. Walter Christopher's classification, putrid and acid fermentation.

that originate in the proteids and those that originate in the carbohydrates and fats. These probably produce different symptoms. It is, however, not the purpose of this paper to discuss that part of the question, merely to call attention to it.

### OXALIC ACID PRODUCTION AND OXALURIA.

Oxalic acid in small quantities is a normal constituent of the urine, and is derived from food-stuffs. An increase in its amount—not due to food—can only be accounted for as being a katabolic product, or produced through fermentation. Beilstein[53] says that if cyanogen is allowed to stand in water a short time ammonium oxalate is produced. The potassium sulphocyanid found in the saliva is thought to be an end product of proteid metabolism. Furthermore, if glyceric acid is heated with potassium hydrate, oxalic acid is produced. I mention the last fact on account of the close relationship between this acid and the sarcolactic acid.

The fermentation theory is pretty well proven. Baldwin's[25] experiment shows quite conclusively that the acid is produced by a fermentation in the gastro-intestinal canal. Many experimenters have demonstrated that fungi can produce oxalic acid. Pfeffer[54] says oxalic acid is produced in considerable quantities when different food-stuffs are treated with fungi; he found that he had to add enough of calcium carbonate to take up the acid quickly, as otherwise it is oxidized into carbon dioxid. Zopf[55] shows that saccharomycetes found in cotton-seed meal, when added to fermentable carbohydrates, produce oxalic acid in place of alcohol. Beilstein[53] says that after the taking of fermented beverages oxalic acid is always found in the urine. Ernst Wissel[56] finds yeast cells and sarcina abundant in the stomach of individuals suffering from hydrochloric hyperacidity. Dunlop[23] notices an increase in the oxalic acid after the giving of hydrochloric acid. All of these facts must be considered in the production of oxalic acid.

Begbie[57] describes oxaluria as a poison produced during digestion and assimilation, carried into the blood and eliminated by the kidneys. Gallois[41] says oxaluria is frequently met with in health, at all ages, and in all conditions of life; its appearance is influenced by certain food-stuffs and by certain drugs; it is often found in the urine of patients suffering from very different diseases. Prout[34] believes there is an oxalic acid diathesis. Hayem,[58] Ewald,[59] and others call attention to the neurasthenic phase in this condition; suffering from dilatation of the stomach and a great many other symptoms. Cantani[38] relieves the oxaluric condition by putting these patients on a strict meat diet.

### URIC ACID THEORY.

In this connection a word must be said about uric acid. The most accepted theory at present is that uric acid is an end product of nuclein metabolism. The clinical diagnosis is based on the symptoms of headache, malaise, despondency, deposits of urates around the phalanges, etc.: the chemical diagnosis, on the total amount of uric acid excreted, and the presence of free uric acid in the blood and urine. Meat is still thought to increase the output, although it has been shown by competent observers that this also diminishes it. The ratio of uric acid to urea, namely, 1 to 33 (Haig's[60]) has been proven to be wrong. It has been shown that in healthy individuals this ratio is a most variable quantity. In pneumonia and in leukemia the uric acid is much increased, due to the decomposition of leucocytes. These cases are not diagnosed as gouty, although chemically and microscopically we get the gouty findings. All this, to my mind, shows that there are many and different causes that produce uric acid. Food per se, perhaps, is not a factor in its formation. The decomposition products of the food, however, are probably the inciters of uric acid formation. Poisons absorbed from the gastro-intestinal tract produce leucocytosis and general cellular activity, all of which have a tendency to early decomposition, uric acid being the ash of this combustion. Uric acid is non-toxic, therefore the general symptoms produced in these cases must be due to other poisons. These patients invariably complain of gastro-intestinal fermentation and flatulence. I refer to Cases 12, 13, 15, 18, 26, 29, 32 and 33, as individuals usually called gouty. Examination of the urine for the total amount of uric acid in such cases has been of no service as aiding in the diagnosis. This was not the fault of the laboratory man, but the fault of improper deductions. More work must be done along this line. Urines should be examined more for the products of fermentation and putrefaction than for uric acid, for in the gastro-intestinal canal will be found the agent causing these constitutional symptoms, uric acid being only a product of early decay and in no way a factor. The treatment of of these cases by giving alkalies has been beneficial for two reasons: 1, they neutralize the gastro-intestinal tract; 2, when absorbed they increase cellular activity and oxidation. This last point has been beautifully brought out by the works of Professors Loeb[61] and Zouthout.[62] To make a proper examination of a twenty-four hours' urine for the total oxalic acid and indican the following foods must be excluded: Fruits, spinach, rhubarb, sorrel and tea.

### CONCLUSIONS.

1. Traces of oxalates are found normally in the urine, having been taken in with the food.

2. Oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded.

3. Abundance of oxalate crystals does not signify high acid percentage, because in addition there may be oxalate of lime in solution.

4. Indican is often, but not necessarily, associated with oxalate crystals.

5. Hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acids or acids of fermentation.

6. In certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased.

7. The symptoms of oxalic acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred.

The study of oxaluria and indicanuria holds open a rich field for investigation. In the intestines there are various poisonous bodies produced directly associated with the formation of oxalic acid and the aromatics. These, when better understood, will lead to new ideas, thereby giving us a better understanding of chronic diseases, such as rheumatism, gout, nephritis, etc. I hope to be able to continue this work, as material presents itself.

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## SOME ADDITIONAL OBSERVATIONS ON THE EFFECTS OF INJURY TO PERIPHERAL NERVES.*

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CLINTON, IOWA.

Two years ago I read a paper before the Academy, on "Injuries to Peripheral Nerves," in which a case was related illustrating the effects of a comparatively slight injury to the nerves of the thumb, resulting in very distressing symptoms covering a period of more than two years. The extremely painful symptoms were due to a pressure lesion including the branches of the median nerve supplying the thumb. The amount and density of the connective tissue attending the healing of the wound was remarkable. The healing of the original injury was scarcely accomplished before painful twitching of the thumb occurred. It was at once recognized that the nerve branches were caught in the scar, and it was apparent that relief could be obtained only through surgical means. Twice the scar was dissected out and the nerve freed. Later the external cutaneous and the collateral branches of the median supplying the thumb were resected with the effect of producing paralysis of sensation on the palmar surface, but the pain recurred after the healing, with the addition of painful spasms of the fingers supplied by the median nerve, painful sensations extending up the arm, and vasomotor paralysis together with somewhat widespread reflex disturbances.

A fourth operation consisted in a division of all the soft parts, including the adductor muscles, nerves and vessels, to the inner side of the original injury down to the bone, at the same time removing the scar tissue, allowing the parts to retract, uniting only the skin with a few stitches and using gauze drain.

The fifth operation consisted in amputating the thumb through the middle of the metacarpal bone. Complete relief would follow each operation for a period of about six weeks, when the old pain would return—although it may be said that after the last operation the pain did not reach its original intensity, in fact, for a few days in succession comparative relief would be obtained, then for several days the pain would be very severe, extending up the arm, and attended with vasomotor paralysis in the hand and fingers, violent and painful flexion of the fingers into the palm of the hand. It was at this time that the case was reported.

At the end of six months, the condition not improving—and, as the pain had increased and the man totally incapacitated for any kind of employment—propositions for further operative procedure were made. The patient was now quite willing to have the median nerve resected with all the crippling effects resulting therefrom, or even to have his arm amputated if it would afford any relief. At the suggestion of Dr. Owens, the remaining portion of the metacarpal bone of the thumb was removed by amputation at the carpo-metacarpal articulation, all the scar tissue dissected out and the median nerve carefully raised and freed from any nerve connective with the thumb—if any existed. The wound healed promptly, but in three weeks the pain returned in all its former intensity. I had already been impressed with the fact that a chronic neuritis existed in the median nerve, and that under the influence of this morbid condition trophic changes occurred in the new-forming tissue of the wound, resulting in the production of a large amount of dense connective tissue, which exercised a pressure influence on the already irritated nerve. The great suffering of the patient, his utter inability to perform any labor, and my failure thus far to furnish any permanent relief led me to consider every possible means short of the mutilation operation of the median nerve resection or amputation. After considerable reflection, it occurred to me that if I could protect the nerve from the compressing influence of dense scar tissue, something could be accomplished. I therefore secured from a dentist a sheet of gold of the uniform thickness of 1/500 of an inch, $1\frac{3}{4}$ inches in length and $\frac{3}{4}$ of an inch in width. This I placed in the sterilizer, and I prepared the hand with great care, observing the most rigid asepsis. I again opened up the wound, dissected out all the scar tissue, lifted up the median nerve as it passed through the wound, on a strabismus hook, to make sure that the nerve was free from scar tissue. When this was done I covered the nerve with the sterilized gold sheet above

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

referred to, pressing it down on each side of the nerve, fitting it evenly so that the nerve could come in contact with the tissues of the hand only at its posterior surface as it passed along its course. The flaps, composed of the skin and subcutaneous tissue—which I had formed in exposing the field of operation—were united over the gold foil with silkworm gut and horsehair. The greatest care was taken at every step of the operation to secure the most perfect asepsis and coaptation of all the parts. The wound was covered with copious dressings which were removed at the end of ten days, when the wound was found perfectly dry and the stitches removed.

This last operation was made April 18, 1899, and about two months later the patient resumed work as a bridge carpenter, and has continued in this employment since, having been practically free from pain.

When he first resumed work, if he exercised the muscles of his arm much or exposed it to any continued jarring influence, or if he became exhausted from any cause, he would suffer more or less severe attacks of pain, which would however subside after a day of rest. The condition of the nerve gradually improved until at the end of a year he was practically free from pain, whatever he might do. At that time an incident occurred which illustrated the serious nutritive disturbance resulting from two and one-half years of constant irritation. He was employed to pick up nails for three hours, and that night suffered considerable pain, contraction of fingers into the palm of the hand and vasomotor paralysis. This all cleared up without treatment, after a day or two of rest. It may be observed in this connection that the hand was very susceptible to the influence of cold.

At the present time—one and one-half years after the operation—the median nerve may be said to have been restored to its normal state of nutritive stability, and that the man is able to perform any labor adapted to his years and strength with entire freedom from pain.

## AN OPERATION FOR CYSTOCELE.

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ATLANTA, GA.

The necessity of operating for cystocele, either with or without plastic operations, of the female genital tract, is not an infrequent occurrence. The unsatisfactory results of operations usually employed, especially in old women with relaxed and dilated vaginal outlets, are frequent. Usually failure is due to stretching of the newly formed cicatrix, or to imperfect attachment when the base of the bladder is anchored to structures above the plane of the anterior vaginal wall.

In the absence of dense fascia in this part of the genital canal the repair of cystocele must depend upon the fixation of soft yielding structures to similar parts, but should be reinforced by ample support from the posterior vaginal wall and perineum, and in certain cases with ventrosuspension or some similar operation. Even then the results are not invariably good. This, with the fact that extensive operations in old women are objectionable, makes an urgent appeal for improvement in technique.

Hoping to find something to answer the demand, various procedures were tried as cases of this kind presented themselves to me. First, superimposed layers of catgut sutures were used in the sulci on either side of the vagina with fair success, and perhaps superior to the ordinary Stoltz-Sims operation or elliptical denudation. Following this the redundancy of tissue was folded in upon itself and pressed into the bladder-space by superimposed layers of catgut sutures in the median line (see Case 1). The effect was quite good, but occasionally there would be some return of the cystocele in after years. Other modifications were tried with varying success until buried sutures of silk, silver and kangaroo were used.

With patient in Sims' position, a diamond-shaped denudation is made over the protruding cystocele, which should be outlined in the following manner: With two pairs of tenacula the mucosa is picked up on either side of the vagina, about half-way up the canal, and drawn toward the median line. This is repeated until two points are selected that will barely meet or touch when slight tension is put on them. They are marked by snipping out the pieces of mucous membrane engaged by the hook. In like manner the angle at the base of the urethra, and also one anterior to the cervix uteri, are marked. A tenaculum should engage the point on the right-hand side and sufficient tension be made upward to throw the mucous membrane of the vagina into a sharp fold or ridge running from the urethra to the tenaculum. With a pair of scissors a strip of mucous membrane is pared off along the crest of the ridge marking the right inferior side of the quadrangle. The hook should then be fixed at the mark anterior to the cervix and a thumb forceps should catch the lateral angle just released from the tenaculum. The two instruments are then drawn in opposite directions, forming a fold in the vaginal wall similar to that described above. A strip of mucous membrane is removed between the instruments marking the right superior side of the quadrangle. In like manner outlining of the diamond is completed upon the opposite side, after which it becomes an easy matter to remove the island of mucous membrane in one piece. All fatty tissue should be removed as far as practicable, that it may not interfere with direct contact of the muscular tissue. The sutures are easiest introduced by starting on one side of the urethral angle. The needle should enter the edge of the denuded surface beneath the mucous membrane, penetrating at the junction of the middle and lower third of the right anterior side of the quadrangle, passing in an eccentrical direction to a depth of one-half inch into the vesico-vaginal septum. On returning it should emerge from the margin of the wound one-half inch away, completely burying the suture. It is then carried a short distance toward the center of the field, perhaps one-half inch, and a deep stitch taken in the vaginal wall but not including the mucosa of the bladder. The suture is then returned to the margin of the wound and another buried stitch made as first described, but penetrating the septum one-fourth to one-half inch further. Another stitch is then made in the denuded surface, after which a third one is introduced upon the outer side of the wound as first described (see Fig. 1). In this way five stitches are introduced on each side of the diamond (see Fig. 1), three of which are submucous and extended horizontally outward, including the muscularis of the vagina and bladder; the other two are made in the denuded field and passed at right angles to the surface. It will be observed that a line drawn from the tips of each of the loops extending outward will approximate a circle, and the suture when drawn tight will assume a similar shape, effectually closing the wound on the principle of a purse-string. The sides of the diamond are forced sharply inward and each converted into a right-angled triangle,

the apices of which come in close contact in the center of the wound, forming an imperfect cross (Fig. 2). The margins of the wound are accurately closed with catgut (see Cases 4 and 5).

When silk or kangaroo sutures are used they should be introduced in a slightly modified manner (Fig. 3). Let the diamond *a, b, c,* and *d* represent the denuded surface over the vesicocele. Four small silk sutures are passed across the angles at the points 3-3-3-3, or at a distance from the angles equal to one-fourth of the respective sides of the quadrangle. They should be small silk or medium kangaroo, and include all the tissues of the vesico-vaginal septum except the mucous membrane on either side, and should be buried deep. They serve to close the angles of the wound and reduce the field of operation to such an extent that a smaller purse-string suture can be used. This is quite an important feature for unabsorbable sutures. When they

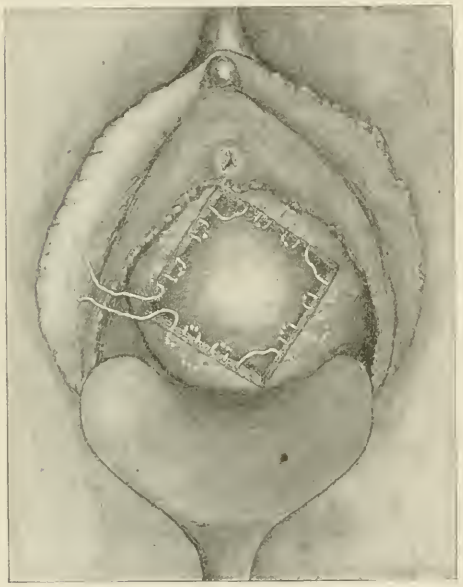

Figure 1.

exceed No. 28 silver wire in size the latter gives the least resistance, consequently the shorter the ligature the better are the chances of success, especially when silk is used.

This suture should be introduced in the manner described in Fig. 1, except that one stitch or loop only is made on each side of the diamond.

It should follow the line 2-2-2-2, each stitch surrounding the central point (Fig. 3, 1) of each side of the quadrangle. In passing across the denuded surface, from side to side, two deep stitches should be taken in the base of the bladder down to but not including its mucosa, at the points marked X. When drawn together and tied the sides of the diamond are forced in concentrically (Fig. 4, 1), producing the same effect as the wire—that is, the formation of a cross. The margins of the wound should then be closed with a whip-stitch of fine catgut (see Cases 2 and 3).

Success of the operation does not depend on the use of silver wire, *but any lasting buried suture may be used.* Any one familar with the technique of burying fine silver wire (No. 28) will meet with success when employing it in this operation. It should be buried deep, fastened with very little tension, and the ends folded under twice and mashed down flat to prevent its sticking or irritation (Figs. 5 and 6). When wire is used it is perhaps better to begin its introduction at one of the lateral triangles, that the twisted ends may be covered more deeply and placed out of harm's reach. Silk suture, large kangaroo, chromicized catgut are satisfactory materials, but personally I prefer the silver *for very bad cases,* because I have had no unpleasant result with it in the operation.

ILLUSTRATIVE CASES.

Case 1.—M. C., Atlanta, Ga., aged 35 years, was admitted to the King's Daughters Hospital, April 30, 1890. The physical examination showed anemia and neurasthenia. The heart, lungs, and kidneys were negative. The perineum had been lacerated to the sphincter in her last confinement, four years

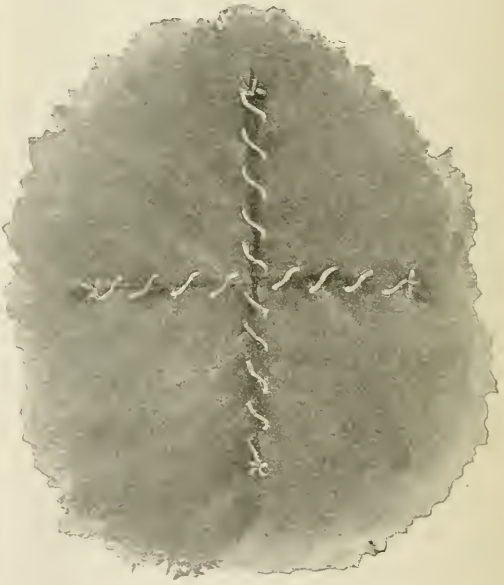

Figure 2.

before. The uterus was subinvoluted, retroverted and about three times its normal size. The bladder was rolling out between the vulvæ in a mass the size of a large goose-egg. There was frequent dysuria, the urine alkaline, otherwise negative.

An oval denudation was made over the cystocele to its base on all sides and superimposed layers of catgut sutures—whip-stich—were put in from above downward, tucking the redundancy of tissue into the bladder space as each layer was imposed. In all, three layers were employed, two being completely buried, the last used as a finishing suture to close the margins of the wound, after which colpoperineorraphy after Martin was done with slight modification. The immediate results were satisfactory and the patient was dismissed May 24, 1890.

Seven years afterward I had an opportunity of examining this case, and, much to my gratification, she had remained well with the exception of slight retroversion. Other cases were done in this way prior to the year 1888, but my notes of them are missing, consequently this one is employed for illustration.

Case 2.—Mrs. M. E. D., aged 33 years, was admitted to the King's Daughters Hospital, Sept. 11, 1888. She was a hard-working woman, having the care and support of an invalid husband, two children and herself forced upon her. The perineum had been lacerated to the rectum in the first confinement, five years before. The uterus was completely prolapsed and protruding from the vulva. The bladder extruded in a globular mass about the size of a baseball. The anterior vaginal wall was very short, the posterior very long, making the fitting of a pessary impracticable. Frequent attacks of cystitis added much to her discomfort and the prolapsus grew rapidly worse until she was forced to go to bed.

The heart, lungs and kidneys were normal, also the urine, except that it was alkaline in reaction and contained a quantity of pus and albumin. Anemia was marked.

The cystocele was reduced in the manner described in the

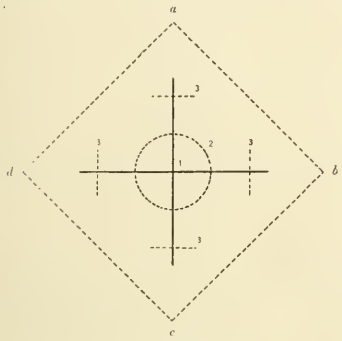


Figure 3.

operation where silk sutures were used (Fig. 3), this being the first case in which I employed it. I first began making the diamond denudation in preference to the oval, on account of the greater facility with which it could be done; then found

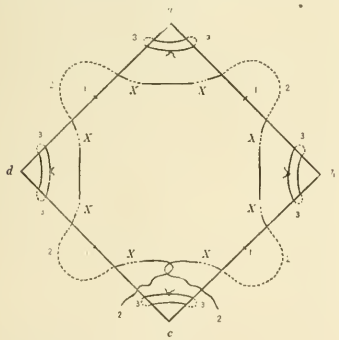


Figure 4.

that it afforded a better and easier approximation of the edges of the wound. This was strikingly apparent after putting in the small stitches across the angles. The purse-string suture naturally presented itself, and was employed to bring the sides of the diamond into the center of the field. An important step in each of these stitches is taking an extra deep hold in the muscular coat of the bladder as well as in the vagina. This is an immense advantage over the old Stoltz operation, which only puckers the mucous membrane together.

The posterior operation was done upon this case, employing Emmett's operation on the perineum and buried catgut—superimposed—in the posterior vaginal wall. The results were excellent. The patient was dismissed Oct. 13, 1888, and today—twelve years after—is a well, hard-working stenographer and typewriter.

Case 3.—With this case I had the honor of beginning the surgical work of the Grady Hospital—the first case, the first day, the first operation. Chromicized catgut was used, closing the diamond on the principle of the purse-string as described above. There was great relaxation of the vaginal outlet, requiring closure by the Emmett operation on the perineum.

The cystocele was very large, dragging the uterus so low that the cervix protruded between the labia with the rectum rolling out behind it. The patient was incapacitated for work of any kind, being confined to bed the greater portion of the time, and, not being able to retain any form of artificial support, suffered frequent and distressing dysuria and fermenting and alkaline urine.

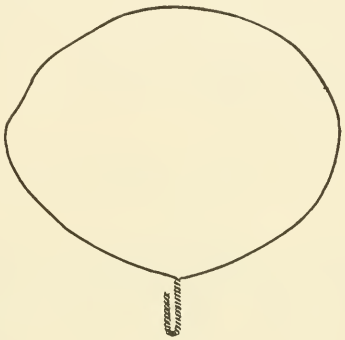

Figure 5.

The operation proved satisfactory for five years; after that time she was lost sight of. A result of this kind in a woman 60 years of age, who was placed in charge of the children of an orphan asylum, with the exertions her duties required, speaks well for the method of operating.

Case 4.—Mrs. G., Decatur, Ga., aged 65 years, presented a bladder protruding through the vaginal orifice the size of a goose-egg, with painful and frequent urination from fermenting urine. Confined to bed for the greater part of three weeks, she

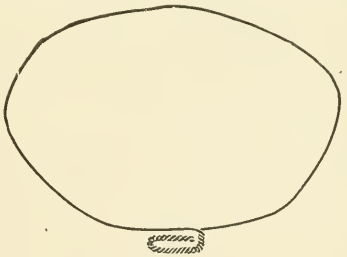

Figure 6.

was anemic with relaxed vaginal outlet; no tear in the perineum. The uterus was senile, but engorged, enlarged and dragged down nearly to the floor of the pelvis.

Operation was done with the assistance of Drs. Green and Thomas, and silver wire, No. 26, used. Approximation was nearly circular, the denudation being oval in shape. The center was imperfectly closed, leaving a slight aperture in the center where the tissues crowded together. Here the advantages of the diamond-shaped denudation were shown, as the sharp angles formed by the four sides of the quadrangle fitted accurately into each other so as to prevent gaping of the wound. Success was all that could be expected. The cystocele was relieved. The dragging uterus was relieved of its strain and

weight, consequently it resumed its normal position. The cystocele was not of very long standing.

Case 5.—Mrs. C. O., aged 54 years, was admitted to Grady Hospital July 16, 1898. Urine: Color normal, specific gravity 1028, acid, small amount of albumin, much oxalate calcium crystals; no casts. The perineum was torn to the sphincter ani, a vesicocele, like a large pear, protruding from the vagina.

I operated on July 28, with diamond shaped denudation; wire purse-string suture, buried; superficial suture, catgut. A flap operation was done on the perineum, with wire and catgut. The stitches were removed Aug. 5. The results were perfect.

This case is selected as an illustration because the operation was done in the presence of Major McDonald, Surgeon U. S. V., of Albany, N. Y. The diamond was drawn together with buried silver wire, No. 28, and the margins of the wound whipped over with small catgut. The results were excellent and the wire was successfully buried. At last accounts the patient remained well and free from polyuria or prolapse of the bladder. The dysuria was completely relieved.

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## INDIVIDUAL PROPHYLAXIS.

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The question of individual prophylaxis includes preventive measures against bacterial and all other diseases and morbid conditions other than inherited structural changes and pathologic processes. What I will say will be limited to a few features of bacterial diseases.

In bacterial diseases we must never lose sight of two groups of factors: 1, the invader and its modifiers, and 2, the defendant and his modifiers. In the case of epidemic diseases the first of these is of supreme importance. However, even here the second is a factor, for even in times of severe epidemic not all of those who inhale or otherwise take in the bacterial cause have the disease, even though they have not the immunity acquired by a previous attack or by intermittent association.

In the case of endemic diseases, the second factor, namely, the individual and his modifiers, becomes of major importance. However, the first factor is not to be lost sight of, for, with influenza bacilli present in mucous secretions that are normal, and there being no such thing as acquired influenza immunity, in the ordinary acceptation of the term, it follows that there must be variance in the chemistry of the influenza bacillus.

Levy and Klemperer say: "From the constant contact with the infective bacteria to which man is continually exposed, infections would be far more frequent than they really are if the predisposition of human beings to bacterial disease were not on the whole but inconsiderable. In general, the power of resistance of our tissues against bacteria is so great that for infection to take place an additional special contributing cause that diminishes this power of resistance, in other words, a predisposing influence is necessary."

When we study the individual as a factor in infectious diseases we find many subsidiary factors. There is inherited immunity acquired by an attack of the disease, by an attack of a similar disease, by intermitting exposure, etc. In addition to these influences retarding infection, there are factors aiding it. I will restrict what I have to say to four of these: 1. Mental depression. 2. Overexertion. 3. Cleanliness. 4. Exposure to cold.

*Mental Depression.*—We have illustrations in the experience of every one that temporary susceptibility can come from mental depression. Every text-book article on susceptibility and immunity gives mental depression as a predisposing cause. This is a very considerable factor in infection in its inception; it can also be a factor in its continuation. The patient with an infectious disease, who is frightened or otherwise depressed, has a lessened chance of successfully resisting.

*Overexertion.*—The effects of overexertion are matters of constant laboratory observation. The dog treadmill and the rat-cage with a revolving attachment are matters of almost habitual class demonstration. The only point that I wish to raise here is: Is it not possible that at times our physical treatments are too vigorous? For example, some surgical dressings, especially those of fractures; the prolonged maintenance of one position in bed, whether that position is difficult or the easiest possible; the prolonged maintenance of head-low-position after hemorrhage; vigorous rubbing, etc.

*Cleanliness.*—A few years ago one of the most brilliant younger members of Chicago's medical profession quit that for the soap business. In a recent private letter he claims continued kinship with the medical profession because the soap profession is the cleanest of professions.

Two sides of the dirt question require no word: The first is, dirt as one of the elements of bad hygiene; the second, dirt as a carrier of infection in wounds. There is an unorthodox side about which I wish to say a word. Suppurative conditions and suppuration-bacteria are endemic. In ever-present diseases the personal equation of the individual attacked is the larger factor. Is not cleanliness increasing our susceptibility to pus processes, both as prime causes of localized abscesses, metritis, appendicitis, and diffused disease conditions—septicemias and pyemias—and as complications of other diseases, such as tuberculosis and typhoid. Fowls do not have suppurations. It is difficult to infect guinea-pigs, rabbits, and, in fact, any of the lower animals with pus cocci. Wounds of the feet of horses and other domestic animals do not ordinarily suppurate. Tuberculosis in such animals frequently makes fibrous, often caseating lesions. Sometimes liquefying areas are found. Suppuration is altogether exceptional.

It is a matter of common observation that wounds on the hands of farmers and machinists, where cleanliness is not possible, seldom suppurate. Wounds on the hands of people whose work does not soil the hands are very prone not only to local infection, but they frequently serve as portals for more or less general lymphatic or blood infection. Susceptibility and immunity of a given area entirely regardless of general susceptibility and immunity have been demonstrated in the case of the rabbit's ear.

I have seen postpartum infection of negro women of the less cleanly type yield speedily to the most rudimentary cleanings. Infections in white women, seemingly much less violent and combatted by cleanings that were much more thorough, have been inefficient.

*Exposure to Cold.*—It would consume space unnecessarily to cite proof that exposure to cold, to heat, to wet, etc., can determine infection in both man and the lower animals. It is quite possible that the mechanism lies in the vasomotor apparatus alone. Again, it is possible that it pertains to the vasomotor apparatus and the local cells combined. The only point I wish to make here is: To protest against the policy of protection; to be specific, woolen underwear, rubber shoes, chest protectors, throat mufflers, hot Scotch, etc.

Our resisting capacity, whether vasomotor, biologic, or something else, does not differ from our muscle capacity in the particular that, if it is exercised, it grows; if it is not it diminishes. If certain zones of the body surface are never allowed to get cool, then a sudden local chilling results in infection. But education can make those areas indifferent to the effects of chilling. One of the predisposing factors is removed. If the feet are habitually dry and warm, cold and wet will determine infection. If no attention is paid to whether the feet are wet or dry, they cease to be predisposing factors in infection. The neck can be trained to the same hardihood and the same indifference to changes of atmospheric conditions as the face, both in its relation to infection of the throat, and to general infection. I am trying to emphasize the habit side of this question. What I have to say does not apply to isolated exposures.

## STATEMENT MADE BEFORE THE COMMITTEE ON PUBLIC HEALTH OF THE NEW YORK ASSEMBLY

AT THE PUBLIC HEARING ON ASSEMBLY BILL 759, REGULATING AND LEGALIZING THE PRACTICE OF OSTEOPATHY IN THE STATE OF NEW YORK AND FIXING PENALTIES FOR THE VIOLATION THEREOF.

JAKOB BOLIN.

NEW YORK CITY.

The New York Medico-Gymnastic and Massage Society, incorporated under the laws of the state, has a membership of graduates and non-graduates of medicine who practice those branches of therapy, which are denoted in the name of the society. When this society resolved to appear before you through delegates, it was thought advisable that both these elements in its membership should be represented in order that the opinion might not prevail that the physicians among us carried things with a high hand, but to let it be known to you that whatever differences of opinion there may be on other questions, all the members stand hand in hand on this particular one. I have been elected to represent the laity in our society, and to give you our views on this matter.

The questions for me to answer are simply these: what relations exist between osteopathy on the one hand and massage and medicogymnastics on the other? What are their similarities and differences? And how does this bill, if it becomes law, effect those who practice massage and medicogymnastics?

Let me then state that here, as in so many other cases, the old saying slightly changed is true: What is good in osteopathy is not new, what is new is not good. Manipulations and movements have been used in therapy from time immemorial. It is not necessary to refer to the ancients, but you should know that from 1804 they were set into system in Sweden by P. H. Ling, and were in 1813 recognized by the government as a legitimate branch of therapy, and at the present time they are so recognized. But even in that country where these practices are unqualifiedly better understood than anywhere else, where the course of instruction has a duration of three years, and the students must have a preliminary knowledge corresponding approximately to the academic degree of B. A. before they may even enter upon their professional studies, the government does not allow the independent practice of the graduates of its own institution, but requires a certain amount of co-operation between them and the legalized physicians. In this bill it is proposed to give independent practice to persons who may have taken a course of a month or a correspondence course of a few months. When the standard of medical education in the state has been laboriously raised to approach that of Europe, is it not an arrogance, an audacity, a crime, aye, even a stupidity, which is perhaps still worse, to try to degrade it with one stroke?

The treatment of disease by manipulations and movements is not, then, a new discovery, as claimed. Nor is it new in this country. From Sweden it was introduced into New York by two physicians, the two brothers Taylor, in the fifties, and it is now practiced more or less successfully by several hundred persons all over the country, who have gained no new knowledge from the osteopaths. I have here some works by osteopaths, and some by gymnasts. It was my intention to demonstrate by the pictures in them their similarities of procedure. The denial by the osteopaths of authoritative value to the works published in their name would, however, make such demonstration invalid.

Have our physicians taken any interest in these matters? A great variety of manipulations were collected in 1835, by Dr. Martin, of Lyon, and under the name of massage they have been studied and applied by several of the most noted physicians of our era. The celebrated Esmarch, late surgeon-general of the Prussian army, was one of its most pronounced advocates. Zabludowsky, Mosso, and a host of others have studied its physiology. Dr. Metzger has gained world-fame in its application.

Now these men who come before you to urge this bill, which under the guise of breaking the monopoly of the physicians, endeavor to set up a monopoly in this particular branch, shutting out completely us who have practised long before osteopathy was thought of, these men are simply very poor imitators of their predecessors, very poor not only in so far that they apply only part of the means at our disposal, but poor also in the sense that they apply what they do use upon absolutely false and preposterous grounds. They see dislocations and subluxations everywhere. Last summer there came under my care a case of locomotor ataxia where they had diagnosed a dislocation of the spine. Less than two months ago I received from one of the most prominent neurologists in the city of New York a patient with localized cerebral venous stasis. They had "discovered" a subluxation in his neck! That is one difference between them and us. We take the diagnosis of the physician. They claim to make their own diagnosis and it is practically always the same. Why, if any one of you should put yourself in their care you would undoubtedly be found to have a dislocation of the neck. And still I will warrant that it is not your heads which have been turned, but theirs—turned completely around and topsy-turvy into the bargain.

The society, which I have the honor to represent, endeavors to gradually embrace all the reputable practitioners in this mode of treatment. And one of the cardinal points in our declaration of faith is this, that there must be co-operation between the physician and us, that the diagnosis lies outside of our sphere, that we are not prepared for it, and this notwithstanding the fact that most of us have looked far deeper into the etiology and pathology of diseases than these gentlemen with their peculiar notions. When we have got the diagnosis made by a reputable physician, we undertake the treatment in suitable cases, and so far as technique is concerned I have yet to learn of undue influence by the medical fraternity, at least the foremost among them. They recognize that those of us who have made a conscientious study of this matter during several years understand it far better than they themselves, while we bow to them without hesitancy so far as diagnosis is concerned.

It is rumored that an esteemed gentleman here present, Mark Twain, is to speak on the opposite side of this question. I do not know what his acquaintance with osteopathy, so-called, may be, but this I do know, that he himself has gained his first insight and benefit from manipulations and movements not from them but from Swedish gymnasts at Sanna in Sweden.

Let this bill become a law and havoc will be played with the health of the community. You will make impossible the endeavors of our society to raise the standard, so as to become an honor to the country. You will frustrate the plan, now in progress, to found a school where the science and art of this branch of therapy may be taught in accord with the doctrines of science. Defeat the bill and you will uphold our hands, and you will shortly see in New York City a school worthy of the imperial state, a school conducted by citizens of this state, a school which shall put the diploma factories in the west to shame.

7 West One Hundred and Twelfth Street.

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## THE EMBRYOLOGICAL BASIS OF PATHOLOGY.

In the Middleton Goldsmith lecture before the New York Pathological Society, March 26, 1901, Minot discussed the relations between pathology and embryology.[1] Embryology and pathology—more particularly pathological anatomy and histology—both deal with problems of development of anatomical forms; and naturally the laws of organization of normal structure must be of fundamental importance to the student of abnormal structure and function. Minot first discussed normal differentiation, beginning with the fertilized ovum, which, though a very complex organization, is an undifferentiated being with a protoplasm of apparently uniform structure, every part of which is capable of producing any or all of the tissues of the adult. During the process of differentiation each successive stage limits the range of possible change, and before long the potential fate of the cells is limited by the conditions of layership, as Minot terms the relations of the cells to the germ layers, the three distinct primary strata—ectoderm, entoderm, and mesoderm (mesothelium and mesenchyma). Each of the three layers has specific functions to carry out in the further work of differentiation and histogenesis. He emphasizes the fact that recent efforts to upset the basic doctrine of the specificness of the cells of the germ layer have failed completely, the conclusions of Klaatsch and others against this doctrine having been based upon erroneous observations.

Differentiation in one direction terminates the possibility of differentiation in other directions so that there is no reversal and no transformation of the cells of one layer into cells with the capabilities of those of another layer. Hence pathological cell processes are still governed, as generally taught, by the law of the specific value of the germ layers. Various types of cell differentiation are recognized: the epidermis, derived from the ectoderm, presents in its basal layers cells that remain embryonal while the cells of the upper layers are more highly differentiated, and in the nervous system, also derived from the ectoderm, certain cells, namely the neurons, lose altogether the power of multiplication. In the mesoderm differentiation attains its highest maximum; here the endothelial cells, the red blood-cells, and the sexual cells are specialized precociously, retaining the embryonic power of proliferation at the same time as they can only reproduce their like. In the case of the connective tissues of the mesoderm, cells are arrested in their development at various stages in differentiation. Minot urges the adoption of mesothelium to designate the epithelial lining of the abdominal and thoracic cavities because it is genetically different from the endothelium of the blood and lymph vessels. Up to this point the changes referred to have all been of constructive character; but they are eventually succeeded by changes of an entirely different nature, namely destructive. These destructive changes fall into three main groups: direct cell death; necrobiosis, or indirect cell death, preceded by structural changes in the cells; and hypertrophic degeneration, or indirect cell death, preceded by growth and structural changes as seen in the uterus after pregnancy. Necrobiosis and hypertrophic degeneration are normal processes, and may play a very important rôle in the life history of the individual. This phase in normal development is but little discussed outside of works on pathologic subjects, presumably because the traditional use of the terms mentioned carries with it the idea that the processes occur exclusively under pathologic conditions. It is seen that the changes, which occur in the death of cells, are nearly identical under normal and pathologic conditions. And the dead cells are removed by the same means under the two conditions, namely, mechanically as by sloughing and shedding, by chemical means (solution), and by phagocytosis. In the absence of a suitable term to designate the entire series of changes, progressive and regressive, of cell-structure, Minot proposes the word "cytomorphosis," which includes " all the structural alterations which cells, or successive generations of cells, may undergo from the earliest undifferentiated stage to their final destruction."

In applying the laws of normal differentiation to pathological processes, Minot dwells especially upon the current classification of tumors, which though based on embryonic grounds permits such errors as placing glioma, an ectodermal derivative, among mesodermal tumors. Several similar inconsistencies are noted. He suggests that carcinoma, now regarded as including a definite form of tumor, probably includes various distinct forms each with its peculiarities according to the layership of the cells from which it springs. From the standpoint of differentiation the cells of the basal layers of the epidermis, of the entoderm, and of certain mesenchymatous derivatives should possess the most marked powers of proliferation, and this has certainly been found to hold good in pathologic processes; for we know that it is precisely in these cells that tumors and other proliferations especially start. Liver cells, muscle cells, and nerve cells have but little power to form tumors because more highly differentiated. It is furthermore emphasized that most if not all pathologic necrobiosis and degenerations of cells are identical with normal processes of cytomorphosis, being pathologic solely on account of abnormality in time and place. Enough has been cited to show that embryology and pathology deal

1. Boston Med. and Surg. Jour., March 28, 1901.

with similar problems of cell life. Both await anxiously the discovery of the causes of cell differentiation and histogenesis. Experimental morphology, the new science, by means of which it is hoped to secure control of cell differentiation, may yet prove of the greatest practical importance in furnishing the physician with the means of attacking a number of diseases at the point of their departure, namely in erroneous differentiation.

## THE PREVENTION OF VENEREAL DISEASES.

Although gonorrhea, chancroid and syphilis are occasionally conveyed through other channels than that of sexual intercourse, such a mode of transmission must be looked upon as exceptional and accidental; and these diseases, therefore, are with propriety designated venereal. That all are more prevalent than is good for the welfare of society, no one will doubt or deny, and despite various attempts, no measure yet applied has proved successful in their prevention. While the actual exciting agents of syphilis and chancroid have not been isolated with accepted certainty, sufficient is nevertheless known with regard to the mode of propagating these diseases, as well as gonorrhea—the exciting agent of which is agreed to be the gonococcus—to indicate clearly the lines upon which their spread is to be prevented and their ravages restricted. While it must be obvious that as a result of such knowledge much can be done to limit infection, by observance of the principles of asepsis and antisepsis the most important prophylactic measure must ever remain avoidance, so far as possible, of exposure to the risk of infection.

As the outcome of an investigation made by a special committee of the Section on State Medicine of the American Medical Association, appointed to inquire into the questions whether and when a patient who has suffered from an attack of gonorrhea may be permitted to marry, and whether the matter is a proper one for regulation by statute, an affirmative answer was given to the first and a negative to the second, in last week's Journal. Consent to marry is made permissible only after it can be said positively that in all human probability the patient is no longer infective. In the minds of the Committee, "it is doubtful whether any plan of examination of prostitutes or any plan requiring a report to health authorities of cases of gonorrhea occurring in the hands of general practitioners and specialists can be made practicable."

With regard to syphilis, Dr. L. D. Bulkley (p. 936) makes a plea that, by reason of the injury it inflicts upon the public health, imperilling not alone those who have been guilty of sexual transgression, but also those who are quite innocent, the disease should, like other transmissible diseases, be placed under the control of the health authorities. In the course of a discussion on the "Ravages of the Venereal Diseases," recently held before the Physicians' Club of Chicago, Judge Lorin C. Collins[1] pointed out the difficulty in reaching an agreement as to proper legislation to be enacted for the purpose of controlling and diminishing venereal diseases, and the obstacles likely to be encountered both in its enactment and in its enforcement. In the course of the same discussion, Dr. Edmund Andrews struck the keynote of the situation in urging education of the public upon the subject of venereal diseases, in order that it may for itself realize the dangers, and intelligently apply the preventive and corrective measures, individually and collectively. The wisdom of such a course seems to have been appreciated by the German Department of Education, under whose auspices a series of public lectures on syphilis and gonorrhea has been delivered by prominent authorities at the Charité Hospital of Berlin and which, after publication in the *Berliner klinische Wochenschrift,* are to be reprinted for distribution among the students at the German universities and among the troops. A course of free clinical lectures on syphilis for physicians was begun on March 6 at the New York Skin and Cancer Hospital, to continue on successive Wednesday evenings until May 1.

The question is a most important one, and its regulation is likely to continue, as it has in the past proved to be a most difficult undertaking. It is clear, however, that the desired results are to be secured, not through any single means, but from a combination of all. The most important of these, as striking at the root of the evil, includes a full knowledge of the nature of the diseases, the methods by which they are conveyed, as well as the means by which such conveyance is to be prevented, and the adoption of all possible measures of prophylaxis, moral and physical, together with the most rigorous and systematic treatment in private and public alike.

1. Jour. Am. Med. Assn., March 16, p. 761.

## HISTOLOGIC DIFFERENTIATION BETWEEN TUBERCULOSIS AND SYPHILIS.

At the last meeting of the German Pathological Society an interesting discussion was precipitated by Baumgarten's[1] remarks concerning the differential histologic diagnosis of tuberculous and gummous orchitis. The differentiation of tuberculosis and syphilis is a problem that has a much wider interest than merely that of an examination question in medical schools. Baumgarten points out that quite commonly the macroscopic and microscopic appearances are so typical that the diagnosis is easy, but cases are sure to occur in which difficulties arise. The demonstration of B. tuberculosis is a sure criterion of tuberculosis, but in old, chronic cases of this disease, no matter whether in the testicle or elsewhere, bacilli may not be found in spite of prolonged search, and negative results do not exclude tuberculosis. Syphilis and tuberculosis may occur together, and consequently the finding of tubercle bacilli does not certainly always exclude syphilis. For these reasons the differential diagnosis must often rest on histologic

1. Verh. deut. path. Gesellsch., 1900, iii, 107-121.

grounds. At one time the giant cell of Langhans was regarded as specific for tuberculosis, but the same cell was long ago described by Baumgarten and others in gummatous growths—or growths so considered. From his extensive studies of tuberculous and gummatous testicles Baumgarten has been compelled to change his opinion, and he now believes that in pure syphilitic lesions giant cells are not present. In this opinion he will probably not find many supporters, but it is based upon the observations that cases with Langhans' giant cells contain tubercle bacilli no matter what the clinical or anatomical appearances are. He suggests the possibility that in some of his cases there were combinations of syphilis and tuberculosis, a very difficult problem to decide because of our ignorance of the virus of lues.

What, then, are some of the essential differences between the lesions of tuberculosis and syphilis? Syphilitic lesions consist mostly of small cells, the fibroblasts of syphilis rarely reaching the size of the epithelioid cells of tuberculosis. There are in syphilitic foci no such accumulations of epithelioid cells as in tuberculosis. In the case of the so-called lymphoid tubercle the differentiation is very difficult indeed unless bacilli are found, and they are usually frequent in lymphoid tubercles. While the old vessels disappear and new vessels are not formed in tuberculous foci, syphilitic growths are provided with vessels and capillaries. Syphilitic proliferations may change directly into fibrous tissue, but in tuberculous areas, except in lupus, cicatrization is usually secondary to caseation and absorption of caseous material—a statement to which exception undoubtedly will be taken by many. In gummas, necrosis may occur in the stage of connective tissue formation, an event not yet definitely proved in the case of tuberculosis. The necrosis in gummas is peculiar in that it slowly leads to obliteration of structural details, especially vessels, whereas in tuberculosis structural markings are lost rapidly. In the caseous centers of gummas it may be possible still to recognize the indistinct outlines of the necrotic cells. In the case of the testicle, tuberculosis begins in the walls of the canals of the epididymis while syphilis starts in the interstitial tissue of the testis where primary tuberculosis is exceedingly infrequent. When the syphilitic growth reaches the tubules it causes degeneration of the epithelial cells lining them, whereas tuberculosis induces the epithelium to form giant cells.

In the discussion, Orth and others emphasized the formation in syphilitic lesions of elastic fibers, which are absent in tuberculous foci. Chiari remarked that fibrous orchitis, commonly regarded as of syphilitic nature, frequently is of gonorrheal origin and starts in the canals. This statement seems to have met with general approval. Marchand believes in the direct transformation of tuberculous tissue in mature tissue, and Marchand, Hansemann and others thought that Baumgarten's statement that giant cells do not form in syphilitic lesions went contrary to the facts. Giant cells form in various kinds of connective tissue, that caused by foreign bodies as well as in that caused by specific organisms, hence there is no reason apparent why they may not develop in granulation tissue of syphilitic origin. Baumgarten rejoined that to him Langhans' giant cells were always indicative of tuberculosis, especially in the absence of foreign bodies and larger, evident parasites. But experienced pathologists will have had abundant opportunity to observe that the inoculation in guinea-pigs of tissue containing Langhans' giant cells does not always cause tuberculosis. Giant cells are found frequently in typically syphilitic livers, and in suitable cases of this kind it should be possible to determine definitely by means of staining and by inoculation experiments whether tubercle bacilli are present or not.

## THE RAPID DIAGNOSIS OF RABIES.

The time has surely long passed when serious doubt prevailed as to the existence of hydrophobia as a distinct entity. It is unfortunately true that the hypothetic micro-organism of this disease remains yet undiscovered, but the same statement is applicable equally to other disorders concerning whose identity no question is raised, and which it seems perfectly safe to consider as infectious and therefore of micro-organismal origin, as for instance, measles, chicken-pox, scarlet fever, whooping-cough, rheumatism, smallpox, and typhus fever. Even for some of these, causative micro-organisms have been described, but not with the demonstrativeness and constancy necessary to carry conviction and compel acceptance. With regard to rabies, reliance in diagnosis has been placed in the past upon the biologic method, namely the inoculation of lower animals with an emulsion of the medulla of the suspected animal, but the period of incubation is long and valuable time may be lost by the unavoidable delay. Recently, however, two methods have been proposed by which a rapid diagnosis seems possible, and these are described in an interesting communication presented recently to the Pathological Society of Philadelphia by Drs. M. P. Ravenel and D. J. McCarthy[1]

Pollaillon and Nepveu found the entire cerebrospinal axis from a man dead of rabies markedly congested, and the ganglion of Gasser hyperemic and infiltrated with round or oval cells, some hyaline in appearance and believed to be epithelioid cells from the capsule of the ganglion-cells. Balzer and Benedikt observed distension of the vessels of the nervous centers, with escape of erythrocytes and leukocytes into the perivascular spaces. Kolesnikoff described, in addition, an invasion of the pericellular spaces by round cells in the hemispheres, the cerebellum, the spinal cord and the sympathetic and intervertebral ganglia. Schäffer called attention to hyaline and fibrillar degeneration and vacuolation of the cells of the anterior horns of the spinal cord. Finally Babès, who had previously suggested the prob-

1. Proceedings of the Path. Soc. of Phila., March, 1901, vol. iv, No. 5, p. 89.

able existence of characteristic lesions in the nervous centers, concluded, as a result of numerous observations in dogs and human beings, that the essential lesions of rabies consist in an accumulation of embryonic cells in the neighborhood of the central canal and especially about the large modified cells of the motor centers of the bulb and the cord. Later he pointed out the possibility of making a rapid diagnosis by a microscopic examination of the bulb and the cord and the discovery of the pericellular accumulations of embryonal cells, for which he proposed the name "rabic tubercle." The cells of the bulbar nuclei undergo degeneration and present the various stages of chromatolysis. There occur loss of the prolongations, progressive modification and even total disappearance of the nuclei, dilatation of the pericellular space, invasion of this space and of the nerve-cells by embryonal cells and also small corpuscles, hyaline, brownish and in part metachromatic. Many of the nerve-cells become surrounded by a large zone of embryonal cells, which take the place of completely degenerated cells and constitute the rabic tubercle.

Later Nélis and van Gehuchten found atrophy, invasion and destruction of the nerve-cells in the peripheral, cerebral and sympathetic ganglia and especially in the intervertebral ganglia and the plexiform ganglia of the pneumogastric nerve by newly formed cells derived from the capsule, appearing between the cell-body and its endothelial capsule. These newly formed cells increase in number, invade the protoplasm of the nerve-cell, and finally occupy the entire capsule. The observations of Nélis and van Gehuchten have been confirmed from a number of sources, including observations by Ravenel and McCarthy in twenty-eight cases of rabies in dogs, rabbits, a cow and a human being. In a large proportion of cases the rabic tubercle of Babès also was found. Similar lesions, although they can not be said to be identical, may be found in association with other toxic and irritative states of the nervous system, so that while they may be considered characteristic and under certain conditions diagnostic, they can scarcely be looked upon as specific. In any event we are thus brought one step nearer the solution of an obscure problem, with increased possibilities in the prevention of a justly dreaded disease.

## MALARIA INVESTIGATION IN THE PACIFIC ISLANDS.

Dr. Patrick Manson recently delivered an address before the Epidemiological Society of London, in which, according to the *British Medical Journal*, he said that one of the problems of epidemiology still unsolved is why malaria is present in one country and absent in another, though the climatic conditions in both are the same. Also why the same applies as regards filariasis. He suggested as an explanation that the presence or absence of any malarial disease or filariasis in any particular locality depends on the presence or absence of their respective subserving mosquitoes in sufficient numbers, the presence of the respective mosquitoes being determined not so much by the presence or absence of the essentials for mosquito life, viz., water, adequate atmospheric temperature, and vegetable food, as by the presence or absence of special conditions inimical to special kinds of mosquitoes. Manson suggested a plan for the investigation of this subject in the Pacific Islands, estimating the expense of such an expedition at £2000. Some one who has kept his name a secret, has already contributed one-fourth of this amount, and it is hoped that sufficient funds will be forthcoming for the investigation to be made.

## SPECIAL LEGISLATION TO LEGALIZE HUMBUGS.

A bill was recently introduced in the New York legislature exempting a certain individual from the examinations required by the medical practice act. In this case it is said that the favored party was possessor of a certain remedy which he alone knowing its formula could use with great success, and the plea was made in behalf of the people who would otherwise be deprived of its benefits. The legislature was therefore asked to turn itself into a diploma-mill for the benefit of a secret-remedy proprietor. This would have been a very convenient precedent for other similar acts, and the result that the state would have been flooded with medical practitioners by special legislative enactments. In fact, the *New York Tribune* speaks editorially as if more than one such attempt was either made or contemplated, and very naturally and sensibly protests. But, after all, the licensing of one or two individuals to practice medicine without education or preparation is as rational as doing the same for a whole class as was proposed by the osteopathy bill.

## THE PROTOZOON OF CANCER.

Elsewhere in this issue of The Journal will be found an abstract of a recent lecture by Prof. H. R. Gaylord, of the state cancer laboratory at Buffalo, N. Y. In this he announces his success in inoculating cancer by means of the organism described by him in 1899, and which was subsequently found, by Plimmer, also to be present in the majority of cancers examined. The pleomorphism of the organism, which was supposed for a time to be a yeast germ, has hindered its early recognition, but it appears that with the methods now available it can be readily demonstrated by any bacteriologist and its animal nature confirmed. Dr. Gaylord does not claim the exclusive right to be considered the discoverer of this germ. He credits Sjoebring, Pfeiffer, Plimmer, San Felice, and others with having had their share, but he has correlated their investigations with his own and has apparently furnished the demonstration that was heretofore lacking. There is yet much to do before our knowledge of the subject is even approximately complete, but it is a great step in advance when the germs that can experimentally produce cancer have been found. It is possibly not necessary, as Adami has maintained, that they should always be present in the growth, but that they are present seems to be the case, and this being a fact may materially affect the treatment of the disease and render its prognosis more helpful than Adami seems to hold. If their presence is essential it is to be hoped that in studying their life history

we may find an antidote to this pest of mankind that seems to be yearly increasing in its destructiveness. A verified discovery of the cancer germ may prove to be one of the epoch-making events of the opening century. It is interesting to note that some of the work leading to this apparent discovery was published nearly ten years ago by Pfeiffer, and has only been very recently recognized in its medical value.

### CODE OF MEDICAL ETHICS.

Believing that much of the ignorance on the part of some members of the profession concerning the provisions of the Code of Ethics of the American Medical Association is due to unfamiliarity with the Code, and realizing that in most medical schools very little, if anything is taught directly on the subject of medical ethics, the Association has, during the past months, issued a pocket-sized edition of the Code for presentation to the members of the senior classes of all regular medical colleges in this country. These Codes are given gratuitously, one to each member of a graduating class, and already over 5000 copies have been distributed. It is believed that this will result in a higher standard in the majority of these young practitioners. We feel confident that no one will be injured by reading this little book, although in the eyes of some it is a very vicious document. On another page we reprint some remarks on the value of the Code to medical students, from one of our exchanges, and recommend its perusal by our readers.

### OSTEOPATHY VS. MASSAGE.

Elsewhere in this issue appears the statement of Mr. Jakob Bolin, representative of the New York Medico-Gymnastic and Massage Society, before the Committee on Public Health of the New York Assembly, having before it the assembly bill No. 759 regulating and legalizing the practice of osteopathy. It was presented, it appears, before the widely noticed plea of Mark Twain, and ought to have somewhat modified its force with the members of the committee when they considered the fact that all his favorable experience had been with honest Swedish massage instead of the Missouri fraud, osteopathy. Mr. Bolin's exposure of some of the common mistakes of these pretenders ought to have prepared the legislators to properly appreciate the value of verbiage made up by the literary bureau of the Still manufactories. Whatever is of value in osteopathy is massage; in spite of their denials the osteopaths are simply masseurs, but using their methods with an ignorance and presumption that is liable to make their manipulations perilous in some of the graver cases they too often venture to treat. Its speaks ill for the scientific culture and general intelligence of the country that such palpable pseudoscience as the utterances of the Still propaganda should find so many dupes.

### RECIPROCAL SANITARY MEASURES.

The recent brilliant showing of the U. S. health authorities in Havana has called out some comment. The *Boston Herald,* in its remarks, suggests that the Government also try its hand on some of our southern cities whose "happy go lucky ways of guarding the health of the people" court pestilence and disaster. If we are to hold Cuba under guarantees to maintain satisfactory sanitary conditions, it would be only fair for our South Atlantic and Gulf cities, as well as those farther north, to be under similar enforced obligation. The *Charleston* (S. C.) *Courier* editorially endorses the view, saying that the remarks of the *Herald* are by no means impertinent. The officially reported annual mortality of some of our southern cities, it says, "tells the story of their condition to the outside world too plainly for denial or misplaced indignation on their part." This is strong testimony from such a source, and it is certain that not all our southern or even our northern municipalities can make as favorable a showing as the recent one from Havana with all its climatic disadvantages. The recent exhibition of ostrich policy of a certain state government is in point in this connection, and all these facts emphasize the need of the introduction of sanitation into the questions considered by international law. In this as in other matters there is room for international comity and regulation.

### "THE PUNISHMENT TO FIT THE CRIME."

A writer in a sociologic publication[1] finds that one method of punishment for crime is defective in so many ways that a radical change is demanded, and suggests one so radical and revolutionary that it is strange it has so far escaped comment. Punishments are not reformatory because the mass of criminals are not reformable, and it is impossible with present means to secure the needed environment among the aggregations in our prisons. The old retributive idea of punishment is being abandoned, and while the sequestration of the criminal is still a need for the defense of society, the question what is to be done with him becomes more and more a problem. We are getting to a state in which we can not work our criminals to advantage because the trades unions forbid it, and we can not keep them in idleness and confinement because that means mental breakdown and is, in the eyes of the philanthropist, the worst alternative of all. Every member of society, even in a prison, should have his utility, and the author in question sees this for the incorrigible in making him of benefit to the race in deciding scientific questions, in other words a subject for experiment for scientific purposes. It has been said that the worst use to which a man could be put is to hang him, and this idea was doubtless in the mind of the sociologic student in question. While it is a little odd that the idea should be seriously propounded—at least to all appearances— it is much more likely to come from such a quarter than from any one even remotely connected with the medical profession. It would not be surprising, indeed, if it should receive the endorsement of some antivivisectionist zealots, for zoophilism and genuine philanthropy, understanding by the word a real love for their own species, are sometimes mutually exclusive. Science can get along with the necessary occasional sacrifice of the *corpora vilia,* and certainly does not ask for human sacrifices, even of murderers. The days of Herophilus and Erosistratus have not yet come again and it is to be hoped never will.

1. Am. Jour. of Sociology, March, 1901.

# Medical News.

## ALABAMA.

**Dr. Willis W. Scales,** Mobile, has been elected assistant quarantine physician.

**Birmingham Medical College** held its annual commencement, April 1, when degrees were conferred on a class of fifteen.

**The quarantine board** of Mobile Bay held its annual meeting at Mobile, March 13, adopted rules and regulations for the present quarantine season, and elected officers.

## CALIFORNIA.

**Smallpox** is increasing in San Francisco. On March 26, thirty-five cases were on the records of the health office.

**The State Board of Medical Examiners** has been sued by a graduate of the San Francisco short-term college recently referred to editorially in THE JOURNAL. He accuses the board of bias and is endeavoring to compel the issuance of a license in his case.

**The legislature** has appointed a committee to investigate the feasibility of establishing a state hospital for the treatment of tuberculosis, in the southern part of the state. Great opposition was offered on the ground that the establishment of such an institution would flood the state with consumptives.

## ILLINOIS.

**Dr. Andreas Johannes,** Peoria, will leave in a short time for Berlin, where he will take a post-graduate course.

**Dr. John W. Kelley,** formerly of Augusta, has been appointed physician at the Quincy City Hospital, vice Dr. Williams.

**Dr. Joel G. Williams,** Quincy, met with a serious accident March 22, fracturing his hip. The injury is the more grave owing to Dr. Williams' advanced age.

**Two veteran physicians** of Champaign County, Drs. Charles H. Mills, Champaign, and Samuel S. Salisbury, Tolono, who have each been in practice fifty years, are to be given a banquet by the Champaign County Medical Society, April 11.

**Dr. John Milton Holt,** assistant surgeon U. S. M.-H. S., in charge of the marine-hospital at Cairo, has been transferred to Chicago. He will be succeeded by Passed Assistant Surgeon James Hurdus Oakley, who has been stationed at Queenstown, Ireland.

### Chicago.

**Dr. Rudolph W. Holmes** and wife arrived in Chicago April 1, after a year's absence abroad.

**Diversion of sewers** is said by Health Commissioner Reynolds to have reduced the mortality from impure-water diseases in the district affected, 60 per cent. since 1898.

**The Baptist Hospital** lost an estate of $2000, left to it by a former patient. The probate court refused to admit the will to probate on presentation of evidence that the devisor was not of sound mind at the time the will was drawn.

**Unvaccinated School Children.**—In the case noted in THE JOURNAL of last week, Judge Dunne has reversed his decision in all except one child who suffered from heart disease which the family physician declared might be aggravated by vaccination.

**Chicago's Smallpox.**—The smallpox situation was substantially unchanged at the close of March, the figures showing 36 cases in the Isolation Hospital at the close of February, 38 admitted during March, 39 discharged, 35 remaining under treatment March 31, and no deaths. The record of "never vaccinated" remains unbroken.

**March Mortality.**—This was about the lowest for March in the history of the city. Between 1890 and 1900 the number of deaths in March averaged 2279, the lowest being 1821 in 1894, and the highest 3405 in 1891. In the month just ended there were 1958 deaths, or 14 per cent. less than the average of the actual number of deaths and 20 per cent. less than the average deaths per 1000 of population.

## KANSAS.

**Damages for Quarantine.**—The secretary of the State Board of Health has been sued by a Horton woman who avers that she suffered damage to the extent of $5000 while in a temporary isolation hospital on account of smallpox, by inattention on the part of the medical authorities.

**The New Medical Practice Act.**—The last legislature passed a new law governing the practice of medicine in the state, which goes into effect this week and provides for a board of seven members who are to be appointed by the governor. Three members will be selected from the regular school, two from the homeopaths and two from the eclectics. The appointments will probably be made in May, as Governor Stanley has requested a list of physicians from the state societies, from which he will choose the members of the Board. The regular meetings of the Board will be in February, June and October. All applicatons must be approved by at least five members of the board before the certificates to practice can be issued. The certificate fee will be $2 and the examination fee $15. Osteopathy and "Christian Science" are not barred, provided the graduates are from some reputable school and agree to obey all quarantine regulations. Medical students may practice if approved by a majority of the physicians of their particular locality. Graduates of optical colleges are admitted by passing an examination before the Board. The penalty for violation of the law and practicing without a license is a fine of from $50 to $200.

## KENTUCKY.

**Dr. John P. Gilmer,** Louisville, has been commissioned as ad interim examining surgeon for the local pension bureau.

**Norton Infirmary.**—Ground will shortly be broken for the new addition to the Norton Infirmary, which will give two new operating-rooms and about fifty additional beds.

**Graduation.**—The annual commencements of the Louisville Medical College and the University of Louisville's medical department were held on March 27 and 28, respectively, both schools graduating large classes.

**Good Samaritan Hospital.**—This Lexington institution has selected the following medical staff: Dr. Henry M. Skillman, consulting physician: Dr. Charles W. Norris, consultant on diseases of eye, ear, nose and throat; Drs. Benjamin L. Coleman, Joseph W. Pryor, Frank H. Clarke and James C. Carrick, medical; Drs. George D. Kelley, Walter O. Bullock, Jr., John W. Scott and Thomas Lewis, surgical, and Drs. Claude W. Trapp, John Y. Oldham, and William B. McClure in special departments.

## MARYLAND.

**Carroll Monument.**—A movement has been started to erect, by public subscription, a monument to Dr. Thomas King Carroll, whose remains rest in old Trinity Church cemetery, near Church Creek, Dorchester County. So successful has been the movement in the community where this gentleman labored for over a half century as physician and friend, that already the order for the monument has been given. It will be of white Italian marble, the shaft 10 feet 8 inches high, carved in laurel wreath with appropriate inscription.

### Baltimore.

**The Baltimore sewerage bill** has passed the Maryland legislature.

**University of Maryland Medical School.**—A five-story wing for a maternity will be erected on ground recently purchased near the hospital: the students' building for internes will be remodeled, and the regents are negotiating for the present law building, which will be rebuilt, remodeled and made the "Hitchcock Laboratory," in honor of the alumnus who gave the bequest with which the purchase is being made.

## MICHIGAN.

**Saginaw** is to have an isolation hospital with accommodation for ten patients.

**The Isolation Hospital** for Chippewa County is completed and has been accepted by the committee who had the matter in charge.

**The remuneration** for the physicians who cared for the smallpox cases in Marquette County has been fixed by the supervisors at $20 a day.

**Dr. G. Parker Dillon,** Grand Rapids, has received an appointment as acting assistant surgeon in the Army, and has been ordered to report at Fort Sheridan, Ill., for duty.

**Lansing City Hospital.**—This institution will have the following medical board: Dr. Rush J. Shank, chief of staff; Dr. L. Anna Ballard, secretary; Drs. Charles N. Hayden, Lansing; Sidney H. Culver, Mason, and Alden G. Sheets, Eaton Rapids, consulting surgeons; Drs. Harry A. Haze, Alexander D. Hagadorn and G. Franklin Bauch, all of Lansing, attending surgeons; Drs. Frank W. Shumway, Williamsten; Thomas M. Sanford, De Witt, and John E. Hinkson, Wacousta, consulting physicians; Drs. John F. Campbell, Freeman A. Jones, Frank M. Thoms and William W. Munn, all of Lansing, at-

tending physicians; Dr. Johnson W. Hagadorn, consulting oculist; Dr. Joseph Foster, attending oculist; Dr. Robert E. Miller, attending neurologist; Drs. William A. Davis, Grand Ledge, and John A. Mapes, Dimondale, consulting gynecologists; Drs. Chauncey Barber, Rush J. Shank, Lansing, attending gynecologists; Drs. Gertrude D. Campbell, Mason, and Elwood D. Wilson, Bath, consulting obstetricians; and Drs. L. Anna Ballard, Theodore Cole and Cora P. Ganung, Lansing, attending obstetricians.

## MISSOURI.

**Kansas City Medical College** graduated a class of 43, March 22.

**Dr. A. H. Hull**, Carthage, recently lost $2500, in office furniture, instruments, etc., by fire.

**University Medical College**, St. Louis, held its annual commencement April 3, and conferred diplomas on seventy graduates.

**Dr. H. L. Walker**, St. Joseph, who has had charge of the smallpox cases in the Buchanan County jail, has been appointed jail physician.

**Dr. James L. Day**, Lebanon, who has been on duty with the Army in the Philippines, will leave Manila, May 1, and return to Lebanon, where he will resume practice.

## MONTANA.

**St. Peter's Hospital, Helena**, was damaged by fire, May 16, to the extent of about $20,000.

**Diphtheria** is reported to be epidemic among the Kootenai Indians at Dayton Creek; seven died in the last week and the agent fears that the Indians may become panic-stricken and attempt to leave the reservation.

**The Smallpox Situation.**—In Billings this is improving. There are only six cases in the city and about thirty at the pest-house. There are no cases in the railroad camps, but an isolation hospital has been established at Pryor Gap. At Anaconda, the disease has been stamped out, and the hospital has been closed. During the last two seasons 424 smallpox patients were treated, only five of whom died.

## NEBRASKA.

**Dr. Julius Lingenfelder**, West Point, sailed for Hamburg, March 30.

**Dr. Augustus Anderson**, Norfolk, has also left for Europe, to take post-graduate work at Berlin.

**Osteopathy** has received the stamp of approval by vote of the legislature, but the bill has not yet been signed by the governor.

## NEW JERSEY.

**Several new cases** of diphtheria have been discovered in Gloucester county during the past week.

**Dr. William H. Shipps**, Bordentown, has been appointed a member of the State Board of Medical Examiners.

**Dr. Joseph Doherty**, the new resident physician at the Atlantic City Hospital, assumed charge of the institution on March 25.

**Dr. Louis A. Denis**, West Hoboken, and Edward C. Armstrong, Weehawken, have resigned from the medical staff of the North Hudson Hospital, Union Hill.

## NEW YORK.

**Dr. Joshua E. Sweet**, Ñadilla, who has been studying in Germany for several years, has obtained his doctorate degree and is now taking a special course in bacteriology at the Pasteur Institute, Paris.

**Batavia Hospital** is now assured. The $10,000 asked for has been obtained and this will insure about $2000 additional, which was subscribed on condition that the former amount be first raised. The site has been purchased and the plans prepared, and the work of construction will be in progress in a short time.

### Buffalo.

**Dr. James E. King** recently sailed for Europe to spend six months in study.

**Dr. Edward E. Blaauw** has been appointed editor of Dutch ophthalmic literature in the *Annals of Ophthalmology*, in the plan of Dr. Wendell Reber, resigned.

### New York City.

**Indicted for Neglect.**—J. D. Pierson, a strong believer in healing by faith has been indicted, and held in $1000 bail for trial, charged with violating the penal code in neglecting to furnish medical attendance for his 2-year-old child, who died from pneumonia.

**Scarlet Fever.**—This is very prevalent in this city at present, though it is of a milder type than last year. Since January 1 4959 cases have been reported, distributed in the different boroughs as follows: Manhattan, 3175; Brooklyn, 1382; Bronx, 278; Queens, 77, and Richmond, 47. An unusually large number of adults have contracted the disease, which has been quite evenly distributed among the tenements and among the better classes.

**Control of City Hospitals.**—The committee has reported favorably on the plan to change the management of the city hospitals. The bill provides that the control of Bellevue Hospital, and the Fordham, Harlem, Gouverneur and the Emergency hospitals shall be vested in a board of trustees of seven members, together with the Charities Commissioner, appointed by the mayor from lists presented by the United Hebrew Charities, the special council of the Society of St. Vincent de Paul and the New York Association for Improving the Condition of the Poor.

**Power of "Christian Scientists."**—Some idea of the power of this cult may be gained from a reported statement of a member of the legislature, to the effect that in their efforts to defeat the so-called "Bell" bill they went into the district of every member of the Assembly, developed to the utmost there the "Christian Science" sentiment, and then coolly informed the representative of such district that if he did not vote against the bill he would not be returned to the assembly. It was said that this threat was accompanied by a statement of the number of votes controlled by the "Christian Scientists," with means for verifying them.

**Alleged Hospital Abuses.**—Sensational charges have been made by a wealthy importer, against the city's smallpox hospital on North Brother Island. His statement, given out to the newspapers, is specific and circumstantial, but comprises briefly assertions to the effect that while he was an inmate of that hospital, from March 9 to March 22, the bedding in several wards was in a horribly filthy state; that there was but one attendant—and that untrained—for twenty-six patients in the acute ward at night; that the patients were not given sufficient food; that they were roughly treated when being taken from the steamer dock to the wards; that disinfection was perfunctory, and that the health board inspectors took little precaution against carrying the disease back to the city. On the afternoon of the day these charges were published representatives of several newspapers accepted the invitation of the president of the board of health to accompany him on a tour of inspection of this hospital. The reports of these visitors have failed to substantiate the charges and assert that there was little or nothing to justify the suspicion that preparations had been hastily made for this visit of inspection. On the other hand, Mr. Martin stoutly asserts that one of the hospital employes, whose name he has given, has informed him that a warning was sent to the hospital, and that every possible preparation was made before the inspection, even to the extent of routing night nurses out of bed and putting them at work in order to refute the charge of not having sufficient nurses.

## OHIO.

**Dr. John L. Hervey**, Martin's Ferry, has been appointed surgeon of the Wheeling Terminal Railway Company.

**Dr. David B. Stener**, president of the Cleveland city council, will go abroad early this month to study in Germany for two years.

## PENNSYLVANIA.

**Damages for Smallpox Scare.**—Julius Law, a citizen of Allegheny, has entered suit against the city to recover damages resulting from placarding his house with a sign announcing the presence of smallpox which the plaintiff alleges was not smallpox. The man kept a grocery store and the house was placed in quarantine, and he desires to recover damages resulting from loss to his trade.

**Diphtheria at Parryville.**—This small town, five miles from Mauch Chunk, is threatened by an epidemic of diphtheria and officers of the Board of Health have ordered the public schools closed and many of the books, maps, charts, and other supplies furnished the students will be burned. The town was visited last year by a serious epidemic of the disease, and more urgent measures will now be taken to prevent its spreading.

### Philadelphia.

**The Jewish Hospital Association** will receive the estate of Edward Weinberg, recently deceased—$1000.

**The Germantown Almshouse** will abolish the system of having three outside physicians, and the township has been placed in charge of Dr. E. Sherman Clouting.

**Reception to Dr. Dana.**—The Philadelphia Medical Club, on March 29, tendered a reception to Dr. Charles L. Dana, of New York. Previous to the reception Dr. Dana was entertained by Dr. Edward L. Duer, president of the club. Among other guests present were Drs. William W. Keen, J. H. Musser, James Tyson, Dr. Wharton Sinkler, Hobart Amory Hare, Guy Hinsdale, James M. Anders, and S. Naudain Duer.

**Examination of Eyes and Ears of School Children.**—A movement has been set on foot by Drs. Samuel D. Risley, Edward Randall and others, together with the corps of school medical inspectors whereby it is hoped the Board of Education will adopt a plan to have examinations made of the eyes and ears of all pupils attending the public schools. To a certain extent this has already been done by the corps of volunteer medical inspectors, but the work has not been satisfactory, since a great amount of time is required to do this work thoroughly. It is hoped that school medical inspection will be put on a paying basis, and that the above work can be instituted, beginning with the fall term. Up to this time both branches of city council have entirely ignored the work of the school medical inspectors.

## TENNESSEE.

**Tennessee Medical College,** Knoxville, graduated a class of 40, April 1.

**Fire at Sparta** caused a $500 loss to Dr. D. R. Gist, and a similar one to Dr. James H. Snodgrass.

**Dr. Frank P. Dance,** Lynchburg, has been commissioned captain and assistant surgeon of volunteers and ordered to report at Hongkong for assignment to duty.

**The University of Nashville** held its commencement exercises March 29 and graduated a class of 75. The faculty address was delivered by Hon. James M. Head.

**The alumni meeting and banquet** of Tennessee Medical College, Nashville, was held March 25. After reading of papers, and clinics, Dr. Perry Bromberg was elected president; Dr. William R. Sifford, vice-president, and Dr. Robert L. Hayes, secretary, all of Nashville.

## TEXAS.

**Dr. Walter F. Blunt,** Austin, state health officer, has been obliged to resign on account of continued ill-health.

**Dr. John A. Jones,** Ferris, has been appointed health officer of Ellis County, vice Dr. Charles W. Simpson, Waxahachie, resigned.

**Smallpox** is reported in epidemic form at Thurber Junction, an eating station on the Texas and Pacific Railway, where 23 cases exist. At Brenham, Dr. John B. York, health officer reports that he has 20 cases under treatment.

**Farm for Consumptive Convicts.**—A little over a year ago the state penitentiary authorities established a farm for consumptive convicts, about two miles from the Huntsville penitentiary. Large, airy and comfortable quarters were given these invalids, and they were required to do such light work about the farm as they were able. The result of the experiment has been highly satisfactory to the prison management in every respect. Many men who went to the farm, apparently in the last stages of consumption, are now hearty and stout, evincing not the slightest objective evidence of consumption, and the death-rate from the disease is steadily diminishing. The plantation is made self-supporting by this invalid labor.

## UTAH.

**Dr. Andrew J. Hosmer** has been appointed surgeon to the Holy Cross Hospital, Salt Lake City, vice Dr. F. A. Meacham, resigned.

**The Axton bill,** which authorizes state and local boards of health to make and enforce regulations against malignant and contagious diseases, was unfavorably reported on.

**Dr. George H. Penrose,** Salt Lake City, who went to the Philippines with the troops from Utah, has been made major and surgeon of volunteers. He is at present in this country on sick leave.

**New Quarantine Law.**—The legislature has passed a law quarantining against smallpox and other contagious diseases, which so amends the statute that the quarantine shall be for at least twenty-one days, and includes whooping-cough, placing it on the same basis as scarlet fever or smallpox, except that no flag need be displayed.

## WEST VIRGINIA.

**Marshall County** now has a board of health consisting of Dr. John N. Alley, Benwood, president, and Drs. James E. Cooper, Cameron, and Isaac N. Houston, Moundsville.

## GENERAL.

**San Francisco's Plague.**—The U. S. Marine-Hospital Service has just published a summary of the plague situation in San Francisco as derived from the report of the commission of experts which recently concluded its investigation of plague conditions in that city. Ten cases of plague have been officially reported in San Francisco since January 1, all fatal. Six of these were reported by the special commission in February. The report says that the disease has been officially reported in San Francisco since March 6, 1900, the total cases to date being 32, all fatal. All of these were reported in detail in THE JOURNAL at the time of their occurrence. Following the work of the Commission, Surgeon J. H. White, of the U. S. Marine-Hospital Service was given control of the situation, as a result of a compromise between the California state officials and the Marine-Hospital Service, and the general disinfection of Chinatown and the betterment of light and air space is being provided for, also a suspect hospital, detention houses and morgue. The report says that the disease has been confined almost exclusively to the Chinese, and that the prevailing type is the bubonic, which, while mildly contagious, may give rise to graver forms and emphasizes the necessity of prompt and thorough measures to eradicate the disease.

## CANADA.

**Dr. Crockett** has been elected mayor of Fredericton, N. B.

**The Diet Dispensary,** Montreal, held its annual meeting last week and appointed regular officers.

**Bishop's College,** Montreal, has added a course of lectures on the treatment of accidents and simple surgery. Dr. W. Russell Thomas has been appointed the lecturer on the subject.

**The contagious diseases report** for March, for Toronto, is as follows: Diphtheria, 77 cases; scarlet fever, 57; typhoid fever, 6. The figures for February were: Diphtheria, 91; scarlet fever, 37; typhoid fever, 2.

**Appointment.**—Dr. Manchester, a graduate of McGill University, who was at one time assistant to Dr. Burgess at the Verdun Hospital for the Insane, has been appointed superintendent of the Asylum for the Insane at New Westminister, B. C. Dr. Manchester has been assistant superintendent at that institution for the last three years.

**Hospital Change.**—In regard to the act at present before the British Columbian legislature, to incorporate the New Westminster Royal Columbian Hospital, a deputation recently waited on the city council of New Westminster asking that no medical superintendent be appointed and that the name be changed to the Westminster General Hospital.

**Toronto's Hospitals.**—The various hospitals of Toronto were not so great a drain upon the city in 1900 as they were in 1899. The city's assistance to charity patients consists of 40 cents a day per patient. The total amount given in that way in 1900 was $30,829, as against $37,238.05 in 1899. Of this sum the Gravenhurst Sanitarium got $104.80. Other charitable institutions received $43,895 or $3500 more than in 1899. In the latter sum an amount of $7500 appears for the Sick Children's Hospital.

**Smallpox Circular.**—The Ontario Board of Health has issued a circular to the physicians of the province, medical health officers, and members of local boards of health, on the diagnosis of smallpox. This is the outcome of the alarming spread of this disease during the past month, and the fact that some mild cases have been diagnosed as chicken-pox has also something to do with the sending forth of the circular. It is illustrated with confluent, semiconfluent, and mild smallpox, as well as chicken-pox. The circular is signed by the committee on epidemics, Drs. H. E. Vaux, Peter H. Bryce, J. J. Cassidy and William Oldright.

**Labrador Hospitals.**—Dr. W. T. Grenfell, deep sea missionary and captain of the hospital-ship *Strathcona*, who has spent eleven years among the fisher folk of Labrador, recently addressed a public meeting in Montreal. Speaking of the hospital work in Labrador, Dr. Grenfell said that there were three hospitals, one at Battle Harbor, another at Indian Harbor, and a third now in course of erection at St. Anthony, on the north French shore. In addition to these there is the steamship *Strathcona*, equipped with six beds, and all the necessary appliances, including the *x*-rays, cruising up and down the coast. There are two female nurses, and men

qualified in every way for the work. Last year 1020 cases were handled on the ship; and there were 62 in-patients at Battle Harbor, and 37 at Indian Harbor. Dr. T. G. Roddick has given great assistance to this work. Dr. Grenfell returns to Labrador about the middle of May.

**Peculiar Quarantine.**—There exists in the northwest territories of Canada a very peculiar quarantine. For some time a very unusual condition of affairs has prevailed among the settlers of the Edmonton and Calgary districts. There has been an epidemic of a disease which approaches so nearly to smallpox that two of the doctors in that district aver that it is that disease. Others say that it is either German measles or chickenpox; and this diagnosis seems to be the correct one, from the fact that though there have been over 1000 cases, no deaths have been recorded. The health officers appointed by the Territorial Government stand at the ticket wickets as people are buying their tickets between Edmonton and Calgary and present certificates to every one so purchasing, and then demand $1, and sometimes $2, for these. Armed with one of these certificates, a traveler can come and go as he likes, though he is supposed to be in quarantine all the time.

**Dowie Practice by Wire.**—Death and "Dr." Dowie (in the spirit) recently appeared in Scot's Bay, Kings County, Nova Scotia. This village is said to boast of a disciple of every religion known, and of course had its Dowieite. Ten days after confinement, his wife, who had not been attended by any physician, did not appear to be doing as well as she ought to be at that period, so the wires were put in touch with Dowie's Chicago "prayer office," with instructions to reply, collect. As there was no answer (Dowie was cautious), another message was sent, with return prepaid. Dowie now telegraphed a "prayer," and was answered: "a little better, pray again." He did and wired that at a certain time (Chicago) he would be found working as usual for the Scot's Bay disciple. The woman died, probably as Dowie was committing his specified sacrilege. The whole affair has created great excitement and indignation, and even the Toronto lay press has been most outspoken on the aspects of the case.

## LONDON.

### The Army Medical Service in South Africa.

Speaking at the annual dinner of the Hunterian Society, Sir William MacCormac, formerly consulting surgeon to the army in South Africa, said that neither he nor Mr. Treves attached much importance to criticisms which had been levelled at them of having deliberately misrepresented the conditions in South Africa. Their critics had no proper conception of the requirements of war. The work of the army medical corps had been extremely good under extraordinary difficulties. There were only 800 officers where there ought to have been 1200. It is now suggested in high quarters—which was most deplorable—that the fault lay with the officers. One of two things must be done; either the medical department of the army must be done away with altogether, or, if it is retained, it must be placed on a better footing. Medical officers must be placed on a higher status. Their chief is not accorded the high place he should occupy and which he occupied in other countries. The chief of the German army medical corps occupies a very different position. So far this is quite right. But it is a pity that Sir William MacCormac had not the courage of his convictions to fix the blame on the right shoulders—the war office—which has so bungled in this campaign, both as to medical and military matters. The attempt to fasten the responsibility on the army surgeons is not merely the desire of the military authorities to protect themselves. The army medical service has ever been treated with as much contumely as possible by them, simply because it consists of a body of men who live by their profession and are not fashionable idlers of the upper classes who enter it for the sake of the *eclat*.

### The Infectiveness of the Dust of Houses Inhabited by Consumptives.

Careful investigations on this subject have been made by the Manchester corporation. They were carried out in: 1, houses in which a consumptive lived who was taking no precautions to dispose of his expectoration; 2, houses which were very clean but in which there was a patient who was not sufficiently careful, and 3, in very dirty houses in which there had been no case of tuberculosis for some years. Samples of dust were taken from various situations in the room in which direct infection with sputum was impossible. The dust was mixed with sterilized water and inoculated into guinea-pigs. In many cases the animals died within forty-eight hours, from septicemia. Those which survived were killed after a month and found to be affected with tuberculosis.

### The Sanitation of West African Coast Towns.

Mr. Chamberlain, the colonial secretary, has received an influential deputation consisting of Professor Boyce, Major Ronald Ross, and others, representing the Chambers of Commerce of London, Manchester and Liverpool, and the Liverpool Tropical School of Medicine, who submitted the following requests: 1. That the governments of the various colonies on the West Coast of Africa be invited to prepare schemes with estimates for the complete organization and sanitation of the ports occupied permanently by Europeans, especially with regard to: *a*, removal and disposal of refuse; *b*, surface drainage and removal of bush and undergrowth; c, removal of native huts where their presence is a menace to Europeans; *d*, institution of sanitary regulations for the people. 2. That sanitary commissioners be appointed to visit repeatedly these Colonies and report on their sanitary condition. 3. That where new settlements are being planned quarters for Europeans be arranged as far as possible on the Indian cantonment system.

In reply, Mr. Chamberlain said that he feared that a gigantic system of sanitary inspection of the houses of natives as well as Europeans would be too costly. The questions of water-supply, sewage and other points are receiving the careful consideration of the government. He proposed that the chambers of London, Manchester and Liverpool should each appoint a member of a commission to which the colonial office would add one as secretary, and that a scientific expert would accompany it. If these commissioners would show him how to govern the colonies with less excessive expenditure of life and health he would be much obliged.

### The Conflict Between the Medical Staff and the Board of the National Hospital for the Paralyzed and Epileptic.

This unseemly quarrel, which has lasted a considerable time and has produced a controversy in the columns of the *Times* for nearly twelve months, is no nearer a solution. It may be remembered that the medical staff complained of certain defects in the administration of the hospital, such as an inadequate supply of nurses and defective diet of the patients, and that they requested to be allotted two seats on the board as a means of preventing such evils. This very modest request for two seats on a body of twelve has been persistently refused on the flimsy pretext that as the members of the medical staff were officers of the hospital their conduct might be called in question and become the subject of investigation by the board, and thus they would be in the position of judging their own case. The staff then demanded an inquiry into their charges of mismanagement, by an independent body. The board acceded to this and appointed a distinguished lawyer to investigate the matter. But the terms of reference were carefully drawn up so as to exclude proper investigation of the crucial questions, the staff declined to be parties to the inquiry, and it fell through. So the *impasse* continues and the most brilliant staff that ever gave its services to a hospital—men of world-wide reputation who have played a great part in the creation of the science of neurology—Hughlings-Jackson, Gowers, Ferrier, Buzzard, Bastian, Semon, Victor Horsley, etc., have been driven to the verge of collective resignation, and are overruled on purely medical questions by a lay body. But the real source of the difficulty is a certain secretary-director, a paid official who has been placed in the extraordinary position of both servant and master of the institution. All power seems to be concentrated in his hands and the board has become simply his puppets. His latest arguments in the *Times* do not require confutation in a medical journal. He alleges that in consequence of the prejudices of the public against vivisection, and the reputation of certain members of the staff for experiments on animals, an impression has arisen that the hospital might be turned into a scientific laboratory if the staff attained administrative power. Moreover, he fears domination by the staff—domination by two on a board of twelve! The struggle has now reached an acute stage. Unless the very reasonable demand of the staff is conceded, the members will certainly collectively resign, and the foremost position of the hospital will be lost. As Sir William Broadbent points out, secretary-directors and governors are cheap and can easily be replaced, but such men as comprise the present medical staff are irreplacable.

## PARIS.

### Researches on Leprosy.

Dr. Jeanselme, physician of the Paris hospitals, was sent some time ago by the French government to investigate the

sanitary condition of the native population in the French possessions of Tonkin and around Saigon, and he has published in a recent number of the *Presse Médicale*, the result of his researches on the prevalence of leprosy. One fact is of striking importance; no measures have been taken so far in the French possessions to stop the spread of this malady. In Saigon itself and the surrounding country there are about 3500 lepers, and one should also take into consideration the fact that a great number of nervous forms escape attention. Along the shores of the Annamite province there are several small centers of leprosy, and at Hanoi, the capital of Tonkin, there is an important settlement which is more or less included within the city. Further up the Red River, there are several villages where a few cases are to be found, but it is a well-recognized fact that the number of cases is in direct correlation with the density of the population. In Burmah there are quite a number of cases, and at Singapore it has been found necessary to establish a special colony for the victims of this disease. On the upper stretches of the river Mekong, the number of lepers is much smaller and they are strictly isolated from the rest of the population, being obliged to live on a raft or on sandbanks in the river. It is often found that the disease was unknown until the advent of a Chinaman, who has been the focus of an epidemic around his abode, infecting first of all his own family and then those who came into contact with the different members thereof.

### Treatment of Anorexia.

A new drug for anorexia has been recommended bq Prof. Albert Robin, of Paris, as well as previously by Drs. Nicolas and Garel, of Lyons. It has been called "persodin" and is formed of a mixture of persulphate of sodium and ammonium. This body, persulphate of sodium, is by itself unstable, but by combining it in a certain proportion with persulphate of ammonium, a compound body may be produced which will remain unaltered. This drug is a fairly good antiseptic, as has been shown by Drs. Nicolas and Garel, and injected into the intravenous system of the guinea-pig or dog it produces death. As an agent for increasing the appetite, it has been found beneficial in the treatment of tuberculous patients, for anemia, hysteria and neurasthenia. The dose recommended is 5 to 20 cg. of the compound persulphates, making, therefore, in solution about 5 to 10 grains. This drug should be given in a small quantity of pure water about an hour or an hour and a half before the ingestion of any solid or liquid food.

### Depopulation of France.

The depopulation of France has drawn the attention of medical men, as to the cause and a remedy. In 1870 the population was increasing by 2.57 units per thousand in France, 7.16 in Austria, 7.26 in Italy, 10.33 in Germany and 12.18 in England. At present the gain is only 0.81 in France, 10.6 in Austria, 10.7 in Italy, 11.2 in England and Russia, and only 15.6 in Germany. This shows how rapidly France is being surpassed in population by other nations, and it is of importance to know what can be done to counteract this tendency. The increase in the number of births is one that is more a question of ethics, but as for the death-rate of infants, a book, recently published by Senator Strauss, called "Depopulation and Puericulture," tends to show what might be done in this line. Public opinion has not as yet been awakened to the importance of the principles of social hygiene, and a great deal has yet to be done in France as elsewhere.

### Administration of Phosphorus, Iodin and Turpentine.

Some experiments, made recently by Dr. Hulot, and Dr. Ramond, of Paris, would tend to show that phosphorus and iodin combined with turpentine, may be administered in large doses without causing symptoms of poisoning. It is a well-known fact that turpentine is an antidote to phosphorus. According to the researches of Jonas, Köhler, Rommelaëre, Moreau and Fort, there are two combinations formed: hypophospho-diterebenthic acid and hypophospho-monoterebenthic acid. To produce this body one should take 300 grams of essence of turpentine and add 5 grams of white phosphorus, cut up into small pieces. This mixture should be kept for twenty-four hours at an average temperature of 45 C. or during six days at the temperature of the laboratory. The product obtained contains about 6.5 per cent. of phosphorus and is found to be a sort of resin of a light amber color, transparent and presenting an agreeable odor. Two grams have been given to guinea-pigs, 4 to a rabbit and, on these animals being examined two or three weeks' later, no lesion was found. Two tuberculous patients were given pills containing from 0.75 to 1 gram of this product, which makes about 65 mg. of phosphorus, and no morbid reaction followed. The quantity of phosphorus in the urine of each patient increased to double the previous amount, and the general health of one of the patients seemed improved. When iodin is combined with turpentine, there is production of heat, so that this body should be added in small fractions to the turpentine. The result is a greenish-brown resin with an agreeable odor, insoluble in water, but soluble in alcohol, chloroform and ether. As much as two grams of iodin were given to some guinea-pigs without any noticeable result. Some patients were given daily a gram of iodin, without showing any symptoms of iodism. About 80 per cent. of the iodin was eliminated, and the therapeutic action seemed to be that of iodid of potassium, but more extensive researches are needed.

### Anniversary Celebration.

The Association of Internes and Former Internes of the hospitals of Paris will hold a celebration next year in honor of its foundation in 1802. At that period there were special physicians and surgeons for the hospitals, but there were no students attached in any special manner to each service. The position of interne has remained in many ways what it was in 1802, but the number has increased noticeably. There were thirteen named at first, but since then the number has increased so that now there are about 260 to 300. All the notable medical men in France, with but few exceptions, have been internes of the Paris hospitals, where they have worked four years before graduating.

## FOREIGN.

**The wine-growers** of France have bestowed a handsome medal on Dr. E. Mauriac, of Bordeaux, for his work entitled "The Defense of Wine and the Campaign against Alcoholism."

**Hypnotic Practice** has been forbidden, except by medical men and under special permission, by the Hungarian government, on account of the number of crimes attributed to hypnotic influence there.

**The newly-organized chairs** of gyneecology and surgery of children, at Paris, have been bestowed on the agrégés, Professors Pozzi and Kirmisson. Bouilly and Segmond were competitors for the first chair and Brun and Broca for the second.

**Silver Jubilee Number.**—The *St. Petersburger Med. Wochenschrift* for March 19 is a large souvenir number. This journal has been an important means of communication between Russia and the outside world, as it is published in German.

**Campaign Against Tuberculosis.**—An international bureau for the campaign against tuberculosis has been organized at Berlin, the outcome of the executive committee of the Antituberculosis Congress, whose task was not completed with the Congress, but has continued to date and is now thus officially remodeled. The headquarters of the "Internationales Centralbureau für Tuberkulosebekaempfung" are at Wilhelmsplatz, 2, Berlin, W.

**Zinc Oxid in Painting.**—The painters' syndicate of Paris has been officially notified by the municipality that henceforth zinc oxid must be used instead of lead carbonate in painting, and that contracts must specify this fact. The regulation will be strictly enforced. The toxicity of lead carbonate has been fully established, as THE JOURNAL mentioned at the time of Laborde's recent communication on the subject to the Paris Académie de Médecine.

**Organotherapy in the Paris Hospitals.**—The authorities have consented to the demand of the hospital physicians to be supplied with organ extracts, etc., for organotherapy. They request the physicians to be moderate in the use of very expensive medicines of this kind and call for those only that are actually needed. They are enquiring which makes are desired, and whether it will not be possible for the central laboratory of pharmacy to supply them in time.

**Classical Training for Medicine.**—The German *Medicinische Gesselschaft*, the largest scientific association in Germany, has petitioned the government to require a classical training as heretofore, of applicants for a course of medicine. In four days seventy other medical societies officially signed the petition, and an effort is being made to induce the authorities to refrain from admitting graduates of the technical schools to the medical course without further preparation.

**Progress of the Plague.**—The last official plague returns—those for the week ending February 23—for all India, gave 6309 deaths, or 399 more than the previous week, 221 of this increase occurring in Bombay City, with a total of 1118 cases for that city for the week. Every portion of the city is reported affected. In Bengal, for the same period, the plague deaths numbered 4066, or an increase of 453 over the preceding

week. In Calcutta they numbered 287 as compared to 233 for the previous week. In Mysore State the deaths were only 527 or 91 less than the previous week. Vigilant steps have been taken for some time at Southampton, to detect plague on board vessels arriving from the Cape. A few days ago a transport reported a Lascar to be ill. He was removed to the hospital ship in the river and placed under observation. It now transpires that he is suffering from plague in a mild form. Every possible means is being taken to prevent the spread of the scourge. The transport in which he came home has been taken down the river, battened down, and thoroughly disinfected. Steps will be taken to insure the destruction of every rat in the ship. It is thought that the infection was conveyed by rats as the man was not ashore at Cape Town. The military authorities are co-operating with the port medical officer in adopting precautionary measures; a barracks has been set aside in a convenient locality for the reception of possible cases. Plague seems to be establishing itself in Cape Town. For the week ending March 16 there were 81 cases admitted to hospital, 29 deaths, 17 suspects and 402 "contacts." Inoculations against plague are being freely practiced. Some 2000 natives were inoculated on March 14. Owing to the increasing gravity of the epidemic the authorities contemplate confining the soldiers to barracks. The proportion of European cases is increasing. In one day there were 4 of these to 8 among colored persons.

## Association News.

**Preparations for the St. Paul Meeting.**—Those who desire to attend the meeting in St. Paul, need have no fear that the city will be overcrowded, or that there will not be sufficient good accommodations for all. The people of St. Paul are making extensive preparations to take care of the visitors, all will be provided for. A program of entertainment for the ladies is being arranged. St. Paul has quite a reputation as a convention city, and there is yet to be heard complaint of the management or lack of accommodation. St. Paul has a number of first-class hotels, several of which are situated in the business district, while others are on the hill in the residence portion of the city, and many of the citizens will be glad to open their houses to the city's guests. The women of St. Paul have already formed committees, made preliminary arrangements, and are preparing to help make this year's meeting of the AMERICAN MEDICAL ASSOCIATION a memorable one.

**A New York Special to St. Paul.**—Arrangements are being made for a special train from New York to the St. Paul Meeting, to leave New York City, Saturday, June 1. Parties who wish to use this train in making the journey will communicate with Dr. F. H. Wiggin, 55 W. Thirty-sixth street, New York City, for further information.

## Correspondence.

### La Grippe or Rabies.

ASHEVILLE, N. C., March 26, 1901.

*To the Editor:*—I have noticed in THE JOURNAL at different times, reports of rabies prevailing as an epidemic. It was reported as epidemic in Dawson during January, and as prevailing in Minnesota, at different points. During the past nine years I have had considerable clinical experience while watching the progress of a disease among the canines, which can be most easily mistaken for rabies. This affection prevailed here, and in other parts of the state, as an epidemic several times during the period above mentioned; besides, there have been many sporadic cases from time to time. I refer to la grippe in the dog. During one fall and winter I saw forty cases in our little city and suburbs. In a paper written for our local society, and published in the *Charlotte Medical Journal* (July, 1900), I attempted to give the results of my observations, in a comparative study of the disease in the human and canine subject. I feel that this is a matter of the gravest importance, that two forms of this disease are so like the two forms of rabies as to make it quite possible to confound them, at the cost of unnecessary alarm in the community where the disease prevails, and unnecessary suffering to the animals. Can it not be possible that where the clinical history and symptoms seem identical, that the same pathological changes may be found in the medulla? Or is it not possible that the micro-organism of la grippe may produce the same or similar changes? Two well-defined types of la grippe in the dog can not be distinguished from rabies unless the microscope can determine the difference. Two different causes may produce the same affect. Can not, therefore, two different micro-organisms produce the same pathologic changes? I believe that at Dawson and in other places they have been having an epidemic of la grippe among the dogs. Very respectfully,

A. M. BALLARD, M.D.

## Married.

N. MONROE DODSON, M.D., to Miss Agnes Bendick, both of Berlin, Wis., March 25.

CORA E. BROWN, M.D., Dawson Springs, Ky., to L. E. Lutz, at Paducah, Ky., March 20.

WILLIAM COMMODORE CAUBLE, M.D., Salem, Ind., to Miss Harriett Banks, of Hooker, Ind., March 31.

HOWARD R. WEIRICK, M.D., to Miss Dorothy Herrick Compton, St. Paul, Minn., at Duluth, Minn., March 21.

BYRON H. CAPLES, M.D., Waukesha, Wis., to Miss Grace H. Stelle, of Washington, D. C., at Milwaukee, March 23.

## Deaths and Obituaries.

**William Taliaferro Hord, M.D.,** medical director, U. S. navy, retired, a graduate of the University of Pennsylvania, Philadelphia, 1853, died at his home in Washington, D.C., from diabetic gangrene, April 1, aged 70. He was born in Kentucky and was appointed to the navy soon after his graduation. He served during the Crimean and Civil wars; became fleet surgeon in 1872 and was made medical inspector in 1879. He was three times a delegate from the navy to the AMERICAN MEDICAL ASSOCIATION, and was a vice-president of the International Medical Congress in 1887. He was retired in 1893.

**G. M. B. Maughs, M.D.,** Missouri Medical College, St. Louis, 1849, a pioneer practitioner of St. Louis, mayor of Kansas City in 1860, a surgeon and president of the Confederate Board of Examiners, a member of the St. Louis Medical Society for thirty years, and in 1879 president of the Missouri State Medical Society, died at a sanatorium in St. Louis, March 23, aged 80.

**John Henry Hobart Burge, M.D.,** New York University, 1848, died March 24, at his home in Brooklyn, N. Y., aged 77 years. Shortly after his graduation he established the first hospital in California, at San Francisco. This work completed, Dr. Burge returned to Brooklyn, where he practised for fifty years. He was a member of the AMERICAN MEDICAL ASSOCIATION.

**Stephen B. Bennett, M.D.,** Rush Medical College, Chicago, 1859, who had practiced in Fairview and Canton, Ill., for more than forty years, and was coroner of Fulton County in 1878, and an active promoter of the movement for a public hospital, died at his home in Canton, from pulmonary tuberculosis, March 1, aged 62.

**Charles N. Fowler, M.D.,** Western Reserve University, Cleveland, 1850, major and surgeon of volunteers in the Civil War and a prisoner in Libby prison, one of the most successful practitioners in Northeastern Ohio, died at his home in Youngstown, Ohio, March 19, aged 73.

**Ralph J. Hess, M.D.,** Cornell University, New York, 1900, died at North Brother Island, N. Y., March 24, from scarlet fever, aged 27. He was attached to the house staff of Bellevue Hospital and was removed to the Isolation Hospital from the Willard Parker Hospital.

**Mary S. West, M.D.**, Woman's Medical College of the New York infirmary, 1879, died suddenly from apoplexy, at her home in New York City, March 24, aged 61. She was born in England, and had practiced in New York for more than twenty years.

**S. R. McClanahan, M.D.**, University of Pennsylvania, Philadelphia, 1859, a prominent physician of Culpeper County, Va., and at one time a member of the state legislature, died at his home at Brandy Station, Va., March 19, from paralysis, aged 65.

**Augustus E. Hoeltge, M.D.**, Medical College of Ohio, Cincinnati, 1860, a member of the American Medical Association, a veteran of the Civil War, and a prominent physician of Cincinnati, died at his home in that city after a long illness, March 26.

**George M. Fisher, M.D.**, University of Maryland, Baltimore, 1862, who had practiced medicine at Denton, Md., for several years, died after a long illness at his home in that place, from lung disease, March 21, aged 67.

**John B. Busteed, M.D.**, College of Physicians and Surgeons, New York, 1892, died March 11, aged 31. He went to Corea as a medical missionary in 1893, but returned to Brooklyn, N. Y., in 1897, suffering from phthisis.

**James A. Roseberry, M.D.**, University of Cincinnati, 1882, who had practiced at Forrest for several years, died at his home in that place, from carcinoma of the intestines, after a long illness, March 24.

**Kelon H. Long, M.D.**, University of Louisville, 1893, a practitioner of Humboldt, Neb., who was forced to leave that place on account of his health a year ago, died at Jasper, Mo., March 23.

**Herbert K. Tefft, M.D.**, Bellevue Hospital Medical College, New York City, 1873, who had practiced for twenty-five years in Topeka, Kan., died at Los Angeles from Bright's disease, March 11.

**George W. C. Wren, M.D.**, the University and Bellevue Hospital Medical College, New York City, 1899, died March 23, at St. Vincent's Hospital, New York, from typhoid fever, aged 27.

**F. G. Mason, M.D.**, University of Nashville, Tenn., 1859, who had practiced for many years in Dyer County, died from paralysis at his home in Newbern, Tenn., March 19, aged 67.

**George W. Williams, M.D.**, Northwestern University Medical School, Chicago, 1873, died at the City Hospital, Aurora, Ill., from carcinoma of the stomach, March 23.

**Joseph H. Binney, M.D.**, Medical College of Indiana, Indianapolis, 1878, of Fullerton, Neb., died at his home in that place, March 26, after a prolonged illness, aged 54.

**A. G. Hollenbeck, M.D.**, University Medical College of Kansas City, 1894, division surgeon of the Memphis route, died at his home, Willow Springs, Mo., March 22.

**William J. Almon, M.D.**, University of Glasgow, Scotland, 1837, died recently at his home in Halifax, Nova Scotia, from the results of a fall. He was 82 years of age.

**Myron H. Parkhill, M.D.**, University of Buffalo, N. Y., 1886, coroner of Steuben County, died from pneumonia, at his home in Howard, N. Y., March 26, aged 35.

**Patrick A. Holohan, M.D.**, McGill University, Montreal, 1894, died from typhoid fever at his home in Great Barrington, Mass., March 19, aged 32.

**Matthew F. Ryan, M.D.**, Medical School of Maine, Brunswick, 1889, died March 18, at his home in Millinocket, Maine, after a lingering illness.

**Seth B. Singleton, M.D.**, Kentucky School of Medicine, Louisville, 1880, died March 17, at his home in Welsh, La., after a short illness.

**Francis M. Bledsoe, M.D.**, Jefferson Medical College, Philadelphia, 1859, died at his home in Georgetown, Ga., March 17, aged 70.

**William E. Scull**, University of the South, Sewanee, Tenn., died at the residence of his father in Lavernia, Texas, March 14.

**Jerome M. Payne, M.D.**, Kentucky School of Medicine, Louisville, 1881, died at his home in Bagley, Iowa, March 22, suddenly.

**James T. Halloway, M.D.**, University of Louisville, 1889, of Eupora, Miss., died at Mineral Wells, Texas, March 18, aged 41 years.

**A. T. Blackburn, M.D.**, Northwestern Medical School, Chicago, 1881, died at his home in Atkinson, Neb., March 18.

**Edward Clarence Frazer, M.D.**, University of Maryland, Baltimore, 1883, died in Philadelphia, March 19, aged 61.

**Leo Randall, M.D.**, New York University, 1890, died at his home in New York City, March 15, aged 37.

**Calvin M. Brewer, M.D.**, Baltimore Medical College, 1888, died suddenly at Clarkson, Texas, March 20.

**James O. Campbell, M.D.**, Denver Medical College, died at Winslow, Ari., March 20.

# Miscellany.

**New Theory in Regard to Antitoxins and Immunity.**—Apostolico suggests, in a communication to *Il Morgagni* (December, 1900), that the bacteria secrete the antitoxins themselves. He cites various established facts as arguments in favor of the theory that the bacteria secrete or generate both the toxins and antitoxins. At first the former predominate and the latter are in imperceptible quantities, but gradually the proportion is reversed and the antitoxins predominate as the bacteria become less and less virulent. He states that this production of antitoxin can be observed in cultures of certain molds.

**The Parasite of Cancer.**—Dr. Harvey R. Gaylord discussed the parasitic nature of cancer of variola before the professors, physicians and student body of the medical department of the University of Buffalo, N. Y., March 28. He referred to Busser who, in 1893, discovered a pathogenic organism belonging to the yeast family, and Cevellici, who isolated a yeast from the skin of a lemon and injected it into animals and to his surprise on examining specimens of the organs of the animal found that the yeast resembled the so-called organisms of cancer. The Doctor claims to have inoculated cancer into animals and to have transferred them from one animal to another. He said others have found organisms in cancer and explained them as protozoa. Sanvellin and all observers of alleged parasites in cancer have noted the great variability of these forms in the tissues. As a result of his preliminary work, he thinks he has discovered the reason for this, and said he owes to Busser the knowledge of the fact that all staining methods are unreliable for such a research. He therefore worked with the fresh methods, although at first it was very confusing. He has discovered in all the cases of cancer so far examined, that by fresh methods the organism can always be found. These bodies resemble fat in the fresh state. It was only when he applied the ether test and the osmic acid test that he discovered they were not particles of fat. He next found that he could crack their edges with a cover-glass and then learned that the same observation had been made by an observer in Christiania. There was no reason, however, to believe that these might not be unusual forms of fat, so he injected them into the abdominal cavities of animals, and most developed peritonitis, and large quantities of these bodies could be obtained from the peritoneal fluid. In the last few days he has observed the round form develop under the cover-glass. The bodies can be found in every cancer if properly sought for, and can be injected into animals and be recovered. They also change their form. San Felice succeeded in producing, by the inoculation of saccharomyces, local tumors followed by enlargement of lymph nodes. These lymph nodes were allowed to dry, and when pulverized and inoculated into successive animals, became more and more virulent, and finally produced death in two days. The inoculation of this virulent material produced in one animal true adenocarcinoma of the breast. From this, however, the organism could not be cultivated, but it could be found in the tissues, although in slightly modified form. It had been changed into

something that was very like the Russel fuchsin bodies. Cultivation of every possible kind has been tried in the State Laboratory for the Investigation of Cancer. Altogether 1200 cultures were made in sixty different culture-media. The result has been most variable. Only once did they find a yeast in pure culture. Only once was inoculation performed successfully. Advantage has been taken of the technique of San Felice in his recent observations, and now they there use aseptic material from dried lymph nodes for one inoculation. The work has been done only within the last three months (March 3, 1901) yet three times death has occurred within three weeks after inoculation. In certain of the cases they have found Russel's bodies present in the nodules which occurred in abdominal carcinoma. An exploratory incision was made, and a quantity of the serum from the abdominal cavity was given him for investigation. It was in this fluid that he first found these bodies, and observed that they did not increase. After the fluid had been kept in the thermostat for three weeks, he could still find the same bodies. They were then injected into the jugular vein of a guinea-pig, and three weeks and a half afterward on killing the animal, he found a primary adenocarcinoma of the lung. This experience was unique. The fluid had been carefully sedimented and that for inoculation taken from the top, so that it is not at all probable that cancer cells were actually introduced into the animal. Reference was made to an address delivered before the New York Academy of Medicine in 1900, in which Dr. Gaylord stated that the most important work on the etiology of cancer in recent years had come from the Italian schools. Roncali, in studying certain appearances that were supposed to be coccidia, recognized that they were yeasts, also Russel's fuchsin bodies, the character of which was supposed to be yeast, and Plimmer, who in 1100 out of 1200 cases found atypical bodies, the Plimmer cells which were said to be the etiologic consequence of the inoculations. Dr. Gaylord referred to the work of L. Pfeiffer, not the bacteriologist, but the Vorstand of the Impfinstitut in Weimar and a biologist. He credited Pfeiffer for the observation that cancer is due to an animal organism, a protozoon, and also credited him with having described in detail a protozoon as a cause for variola and allied conditions—varioloid, varioline, vaccinia, horse-pox and cow-pox—besides attributing a parasitic nature to scarlet fever, measles, etc. Recently Munk has been able to obtain these bodies described by Pfeiffer from variola and vaccinia, and has studied them in a hanging drop bouillon culture. Dr. Gaylord found a resemblance between the organism of variola and that of cancer, and believes both to be protozoan. Lately, Isen, of San Francisco, has also seen these bodies in cancer. Sjöbring also contributed to the parasitic theory. He believes that these bodies, which can be obtained from scrapings of cancer, are best observed, unstained, and, being granular in appearance, have been regarded as fat. They have a vibratory circular motion, not ameboid, and go through cycles or stages of development. They have ameboid motion, and may possibly possess flagella. As to their multiplication, it is by sporation, but whether by a direct cell division Dr. Gaylord did not state.

**Where and How Shall the Medical Student Get Information Concerning Medical Ethics?**—*The Medical World* for April says: "With all the everlasting hue and cry about medical ethics, one can not but wonder that there is so much loyalty existing, if he but know even a little of the actual condition of affairs. The medical student enters the medical school 'fresh from college'; or fresh from the farm; or fresh from his preceptor's office. He has never heard a word of medical ethics, and when he first hears the term, if he has the timber of a good doctor in him, he looks wise and remains silent while inwardly cursing his abject ignorance. So soon as he may, he looks up the term in every lexicon, dictionary, book, and periodical to which he has access, with absolutely no results in so far as information goes. That is, the good student does; the coming ignoramus or quack has not the energy, brains, or enthusiasm to do such labor. The good student has learned enough to attract his attention, and has done his full duty when he has studied all available references; but the very familiarity with which the subject is treated by his professors impels him to conceal what he supposes is his supreme ignorance, and he is afraid to ask what this term means. Probably he does not again hear it in his entire curriculum, and graduates without knowledge of this important branch of medical education. All he learns thereafter will be over a very rocky path. He meets those as ignorant as himself: those who deliberately steal from him all his hard-won prestige; the foul and slimy back-biter; the quack, as well as some versed in ethical lore. What wonder that he blunders? Who is to blame? We recall the case of a young man who had graduated from one of our best colleges, with honors: he had served under a preceptor whose diploma was endorsed by the leading medical institution in the United States; he entered the curriculum of the said college and passed it with high grades, and some prizes; he was chairman of his class; yet until a few weeks before graduation he had never heard of 'medical ethics.' At once after hearing it he looked it up faithfully, and found nothing. He first heard it in a casual reference during a lecture on therapeutics in which the professor promised to devote *one hour* to a consideration of the subject of 'Medical Ethics.' The student, though he has practised for a number of years, is yet waiting to hear that lecture. After laborious search, he found where he could obtain a copy of the Code; when he perused it his horizon widened, and in the twilight he saw numerous shadows of failure, insult, misunderstanding, abuse and heart sickness and disgust, all of which hight have been avoided or thwarted had he but known. When he obtained the copy of the Code he was a member of his county, state and the AMERICAN MEDICAL ASSOCIATION, and had written articles attracting attention in more than one continent. It is very easy to blame *him* for his ignorance; but were it not better to arraign the professors who should have given him a glimpse of light? These were the actual conditions in one of the leading medical teaching institutions in the United States. What they may have been in the more modest institutions we cannot tell. We have assurance that they are no whit better to-day. It is certain that if the medical students are not taught the vital principles of medical justice and equity, they can not practice them. When they meet their peers in ignorance, some one is injured; and probably the most honest man. We enter an emphatic plea for the teaching of the fundamental principles of medical ethics in every medical school; we urge every national, state, and county medical society to furnish every new member with a copy of the Code; we suggest that every doctor who has never seen it write to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Chicago, Ill., for a copy. If the schools have no time to mention it, they might at least present each graduate with a copy." [Codes will be furnished by THE JOURNAL at 5 cents a copy, postpaid.—ED.]

## Societies.

Tennessee State Medical Society, Nashville, April 9-11, 1901.
Florida Medical Association, Jacksonville, April 10, 1901.
Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.
Medical Association of the State of Alabama, Selma, April 16, 1901.
Medical Society of the State of California, Sacramento, April 16-18, 1901.
South Carolina Medical Association, Florence, April 17, 1901.
Medical Association of Georgia, Augusta, April 17, 1901.
Louisiana State Medical Society, New Orleans, April 18-20, 1901.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
Texas State Medical Association, Galveston, April 23, 1901.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.

**Baltimore County (Md.) Medical Association.**—At the meeting of this Association, at Arlington, March 21, resolutions in memory of the late George M. Bosley, Towson, were passed.

**Stark County (Ohio) Academy of Medicine.**—This organization, at its meeting in Canton, March 20, elected Dr. Robert A. Biechele, president; Dr. Esther A. Tyrrell, recording secretary and Dr. Frank E. Hart, corresponding secretary, all of Canton.

**Practitioners' Club, Louisville.**—At the annual meeting and banquet of this organization, held March 12, Dr. John J. Moren was elected president; Dr. Oscar E. Bloch, vice-president; Dr. William A. Keller, secretary, and Dr. James T. Windell, historian.

**Sacramento (Cal.) Society for Medical Improvement.**—The following officers have been elected by this Society, for the coming year: Dr. James A. McKee, president, and Dr. William H. Wentworth, secretary and treasurer.

**Florida Medical Association.**—The twenty-eighth annual meeting of this Association will be held in Jacksonville, April 10, under the presidency of Dr. William L. Hughlett, Cocoa. Dr. Jay H. Durkee, Jacksonville, is chairman of the committee of arrangements.

**Paducah (Ky.) Medical and Surgical Society.**—At the meeting March 20, a resolution was passed prohibiting any member of this Society from making a bid or contract to do the practice of any corporation, union, secret society or other organization.

**Ophthalmological and Otological Society of Washington, D. C.**—The thirty-sixth session of this Society was held on March 12, at the office of Dr. Henry A. Polkinhorn, who presented the paper of the evening on "The Use of Suprarenal Capsule in Ophthalmic Practice."

**Wayne County (Mich.) Medical Society.**—At the March 21 meeting of this Society at Detroit, its committee on medical legislation, composed of Drs. George A. Kirker, Leartus Connor and Robert H. Honner, all of Detroit, was instructed to go to Lansing, March 26, to oppose any amendment to the existing medical laws of the state.

**Tuberculosis Congress.**—The meeting of this Congress will take place in London, July 22. The work of the session will be divided into four sections, which will consider various phases of the subject; namely, state and municipal; medical, including climatology and sanatoria, pathological including bacteriology, and veterinary.

**Jefferson County (Ala.) Medical Society.**—A special meeting of this Society was called on March 25 to pay due respect to the late Dr. George C. Chapman, Birmingham, who had served for several years as its secretary. Committees were appointed to escort the remains to the train, to provide a suitable floral tribute and to draft appropriate resolutions.

**Cass County (N. D.) Medical Association.**—The first annual meeting of this Association was held at Fargo, March 25, and the following officers were elected: Dr. Edward M. Darrow, Fargo, president; Drs. Paul R. Sorkness, Fargo, Henry H. Critchfield, Hunter, E. C. Brauch, Jamestown, and George A. Carpenter, Fargo, vice-presidents; Dr. Cyrus N. Callender, Fargo, secretary and Dr. Edward B. Evans, Fargo, treasurer.

**Health Officers' Association of Texas.**—The health officers of the state met at Houston, March 21, and perfected a permanent organization. State, county and city health officers, mayors of incorporated cities and towns, sanitary officers of cities, and the governor are eligible to membership. Dr. James B. Massie, Houston, was elected president; Dr. Isaac J. Jones, Austin, vice-president, and Dr. John M. McCutchan, Temple, secretary and treasurer.

**Saratoga County Medical Association.**—This Association held a meeting for the perfection of its organization, March 14, and elected the following officers: Dr. Frank J. Sherman, Ballston Spa, president; Dr. George F. Comstock, Saratoga, vice-president; Dr. John F. Humphrey, Saratoga, secretary, and Dr. William E. Swan, Saratoga, treasurer. Delegates to the New York State Medical Association and The American Medical Association were also elected.

**American Surgical Association.**—The provisional program for the 1901 meeting of this body, which occurs May 7, 8 and 9, at Baltimore, under the presidency of Dr. Roswell Park, Buffalo, announces "Some Phases of the Cancer Question" as the subject of the president's address, and "Examination of the Blood in Relation to Surgery," as the chief subject for general discussion. Mr. A. W. Mayo Robson, F.R.C.S., of Leeds, England, will be present and read papers on "Pancreatitis," and "Treatment of Chronic Ulcer of the Stomach."

**Orleans Parish (La.) Medical Society.**—At the meeting of this Society, March 23, Dr. Edmond M. Dupaquier read a paper on "Lung Infarcts in the Pneumonia of Cardiapathy"; Dr. Louis G. Le Beuf reported a case of gangrenous infection of the ischio-rectal region, with dissection and isolation of nearly four inches of the rectal tube, terminating in recovery; and Dr. Thomas S. Dabney related a case of acute alcoholism in which 1/16 gr. of apomorphin hydrochlorate given hypodermically had produced prompt emesis, followed by profound and refreshing sleep. A marked distaste for alcoholics was observed on the following day.

## MEDICAL SOCIETY OF THE MISSOURI VALLEY.

*Thirteenth Semi-Annual Meeting, held in Omaha, March 21.*

### Pelvic and Hepatic Disease.

Dr. Inez C. Philbrick, Lincoln, Neb., read a paper entitled "Association in Women of Pelvic and Hepatic Disease." Her experience has impressed him with the constant presence of a hepatic factor in cases of chronic pelvic disease. He said the question constantly arises as to whether hepatic congestion, biliary catarrh, autointoxication and cholelithiasis bear the relation of effect to cause of pelvic disease. What, save an understanding of the physiologic factors involved, can render intelligible that symptom-complex, retroverted uterus, irritable bladder, constipation, hemorrhoids, gastric catarrh, cholelithiasis and neurasthenia? All investigators agree that sedentary habit, tight lacing, faulty posture and pregnancy are predisposing factors to cholelithiasis. They do not emphasize chronic pelvic disease as an etiologic factor. Sex is a factor. Different observers estimate that about 80 to 85 per cent. of gall-stone cases are found in women. Sedentary habit and an irrational dress, its constricting bands, its heavy skirts, its corset, capable of amputating a portion of the liver, favor and induce flexions of the uterus. These directly affect the portal circulation. Recurrent menstrual congestion and the more prolonged pelvic engorgement due to frequent pregnancies become permanent factors in causing chronic pelvic disease. Retroversion almost certainly causes constipation, interferes with hepatic circulation and impedes liver function. Autointoxication, neurasthenia and general vascular relaxation, including the portal circulation, follow. Pregnancy has been assigned as the cause of cholelithiasis, but wrongly; pregnancy has been the cause of chronic pelvic disease and it has been the cause of the cholelithiasis. In every one of her patients with prolonged pelvic disease, hepatic congestion and torpor has been present.

### Methyl Alcohol Amblyopia.

Dr. Harold Gifford reported another case of this condition, in W. B. S., aged 35, brought to him November 28 last, with a history of slight failing for two days prior, and total blindness present for several hours. Otherwise the man was in apparent perfect health. The right eye was absolutely normal, objectively, except for a dilated pupil which gave no sign of contraction on light stimulus. The left had a shrunken cataract and had been entirely blind for years. The patient could think of nothing to account for his blindness except malaise for a few days. The case seemed to be one of idiopathic retrobulbar neuritis. The Doctor gave a not altogether hopeless prognosis and ordered pilocarpin sweats and large doses of the iodids. Vision slowly and steadily increased and in two months was nearly 20/20. Meanwhile the optic disc had become distinctly atrophic and the retinal vessels were bordered by well-marked connective tissue sheaths. The manner of the return of sight during the first two weeks suggested methyl alcohol, but the patient was sure he had never used any, though he recalled drinking some cologne spirits just before his sight began to fail. A sample from the same jug proved it to be nearly pure methyl alcohol flavor. Thus was the causation proved.

### Clean Surgery in Obstetrics.

Dr. J. E. Summers, Jr., read a paper on "Clean Surgery versus Mutilating and Unscientific Obstetric Procedures as Practiced upon the Viable Unborn Infant." During his student days, in England and America, embryotomy was the operation of choice when forceps or version failed. Cesarean section was only allowable when the deformity did not admit of embryotomy. On the Continent, because of religious belief, Cesarean section always had the preference over craniotomy on the living child. The steadfastness of the teachings of the Roman Catholic church has forced the application of the principles of modern surgery into the obstetric art so that the killing of the unborn, viable child is becoming recognized as ethically and scientifically reprehensible. The induction of premature labor, in well-selected cases, is conservative in that it saves nearly all the mothers and about 60 per cent. of the children. Cesarean section in such cases would save both mother and child. Por-

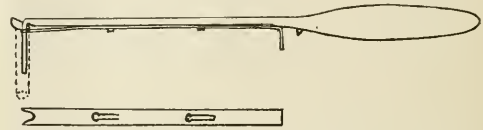
ro's operation and Cesarean section have reached a position so high that, in nonseptic cases, the maternal mortality should be practically zero and the infant mortality of necessity zero. In septic cases, the maternal mortality reaches 33 per cent. and the infant often succumbs. Improved technic has so broadened the field for successful operations by Cesarean section that it is called for when the true conjugate measures as much as 2.8 or even 3 inches. Reynolds, of Boston, who has had nineteen consecutive cases, says Cesarean section is so safe an operation that it may be used unhesitatingly in cases at term whenever an intrapelvic delivery will be fatal to the child, and may often be preferred to the induction of premature labor. Leopold, Zweifel and Gustav Braun together have done 222 Cesarean operations with a gross mortality of 7.2 per cent. The nonseptic cases gave a mortality below 4 per cent.

### Diseases of Accessory Sinuses of Nose.

DR. D. C. BRYANT, Omaha, Neb., presented a paper on "The Pathological Importance of Diseases of the Accessory Sinuses of the Nose." He thinks the general practitioner does not attach sufficient importance to the seriousness of the conditions which may occur in these sinuses. This is shown by the disastrous results seen in overlooked and neglected cases. Inflammatory forms are most common. The suppurative is the all-important one. We are all familiar with the havoc produced by a suppurative inflammation in the middle ear or the mastoid cells. Every one understands that such a destructive process must soon be checked or there will follow destruction of the sound-conducting-apparatus, or thrombosis of some of the venous channels and septic infection of the meninges of the brain. Every physician knows that many of these cases end in death, and yet few seem to realize that the same result can follow suppurative inflammation of the accessory sinuses of the nose. This failure on the part of the general practitioner was brought very forcible to his mind while seeing post-mortem examinations in Vienna. He saw two cases of suppurative meningitis following sphenoidal and ethmoidal disease unsuspected prior to post-mortem. Of the five sinuses, three have their natural openings near a common point in the nasal cavity, viz., the antrum of Highmore, the frontal sinus and the anterior ethmoid cells. The sphenoidal sinus and the posterior ethmoid cells have a nearly common point of outlet. This nearness of outlets makes it a very easy matter for the infection to travel from one sinus to another. The fact that there is often no pain at the seat of the disease, or even such pain as is present is located remotely, is very misleading. The discharge of pus is so scanty as to be easily overlooked by both patient and physician. When the smallest quantity of pus is found in the middle meatus, one can suspect disease of the antrum, frontal sinus or anterior ethmoid cells, when it is found in the superior meatus, or running down over the middle turbinate, one can suspect suppuration in the sphenoid, or the posterior ethmoid cells. The solid probe, the hollow probe, and the trocar and canula will be found of untold service. The only certain method of finding whether the suspected pus comes from the antrum of Highmore is to make an exploratory puncture preferably through the wall of the inferior meatus, and to wash out the cavity with warm saline solution. The frontal sinus, the ethmoid cells, and the sphenoid can be entered through their natural outlet, with a solid, and then with the hollow probe, irrigated with saline solution.

### Intubation Instrument.

DR. F. W DEAN, Council Bluffs, Iowa, presented this, saying that while there are already on the market several admirable instruments for intubating the larynx, he has been unable to find one that will not fail in occasional cases. "When the tube is on the O'Dwyer, Waxham or Frank introducers ready for introduction, the instrument adds from one-quarter to three-eighths of an inch to the length of the tube. Dr. F. E. Sampson has made an introducer which obviates this difficulty though its mechanism is rather complicated for an ideal instrument. An introducer that I have devised not only corrects the fault but is exceedingly simple in its construction. It is durable and easily cleaned. It consists of two parts which for convenience in describing I will term the stationary and sliding parts. The stationary part is a steel bar having about an inch and a quarter of one end rounded and reduced in size so that it will enter the smallest tube. One inch of the rounded portion is bent downward at a right angle to the bar. At the other end of the bar is the handle of the instrument. The lower surface of the bar is flat and merges into the handle at a short incline of about 8 degrees. There is a stop-pin upon the incline and a couple of headed rivets are fixed in the lower flat surface upon which the sliding part plays. The sliding part of the instrument is a strip of spring steel which slides on the under flat surface of the stationary part by means of two slots playing on the rivets. In its distal end is a V-shaped notch which fits under the enlarged end of the tube, holding



it firmly on the instrument. One-half inch of its proximal end is bent downward at a right angle to be used as a trigger. This trigger end rests upon the short incline of the stationary part, giving a frictional contact which prevents its sliding too easily. The distal ends of the slots are enlarged, enabling the two parts to be easily separated by raising the trigger end over the stop-pin."

### Facial Paralysis.

DR. J. M. AIKEN, Omaha, in a paper on this subject, made a strong plea for more attention on the part of the general practitioner to cases of facial paralysis. He urged a thorough study of the anatomy, thus enabling the physician to locate more definitely the real seat of origin and adapt the treatment to the conditions discovered.

### Plastic Operation for Pruritis Ani.

DR. H. T. HAMILTON, Omaha, described the plastic operation he has devised for the relief of this condition. He dissects out enough tissue to remove the terminal filaments affected. He secured very satisfactory results in the cases referred to in his paper.

### Ante-Partum Diagnosis.

DR. A. B. SUMMERS, Omaha, presented a paper on this subject emphasizing the necessity of great care in the examination of women during attendance in labor. Examination should be made as early as possible, such as measuring the pelvis if it seems necessary, examination of the urine as to the presence of albumin, and the quantity of urea excreted. The question of the advisability of inducing premature labor should also be kept in mind, and that of performing Cesarean section in case of deformed pelvis or placenta previa.

Other papers were read on the following subjects: "Chorea," Dr. E. A. King, Blockton, Iowa; "Primary Perineorrhaphy," Dr. C. H. Wallace, St. Joseph, Mo.: "Treatment of Tuberculosis," Dr. J. W. Kime, Ft. Dodge, Iowa; "Compensation and Failure of Compensation in Heart Disease," Dr. Millard Langfeld, Omaha: "Chalazial Tumors," Dr. M. F. Weymann, St. Joseph, Mo.

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## NEW YORK ACADEMY OF MEDICINE.

*Meeting of the Section of Otology, held March 13.*

Dr. James F. McKernon in the chair.

### Akouphone and Akoulalion.

MR. J. R. HUTCHINSON, on invitation, presented the above subject and said that in treating of deafness from the standpoint of a mechanic and engineer, he considers the ear merely as a piece of machinery, subdivided into its integral parts, which individually perform certain functions when acting in normal healthful conditions. For several centuries the attention of scientists has been turned toward the partial relief of deafness by the substitution of mechanical contrivances to perform the functions of the mechanical parts which have deteriorated, and he referred to early attempts in this line.

The speaker's estimate of the deaf people he has tested within the past four years, places those utterly unable to hear sounds by means of his strongest electrical apparatus at 5 per cent.; 20 per cent. of the deaf are not handled to a practical extent by these instruments. They may be able to hear sound, but the inability to distinguish between sounds is lacking and they seem beyond hope. The remaining 80 per cent., if handled in a practical manner, can be reached successfully. In speaking of these 80 per cent., he divided them into three classes: those who are totally deaf, or deaf-mutes; persons extremely hard of hearing; those slightly hard of hearing. To the first class belongs congenital deaf mutes, and also persons who are considered totally deaf but who could once hear. With the former, although they hear the sound of words, having never before experienced this sensation, they are not able to understand what sound is, and it is a very laborious task at first to get them to distinguish between sounds. Also the lack of desire on their part to hear is to be contended with, as, never having heard, they naturally do not appreciate what they are missing. This is possibly the hardest class to handle, and it is very rare that anything is ever done after they have reached maturity; for, having no time to devote to learning the meaning of all the different sounds, they naturally are reticent about undertaking a task that they consider of so great a magnitude. Children's minds, however, are in a receptive state, a course of instruction in the regular curriculum of our schools, which would enable a competent instructor to teach the children the meaning of sound, the difference between sounds, the sound of words connected with their meaning, would naturally cultivate a normal tone and perfect articulation, the children being able to hear their own voices in repetition after the teacher.

He considers it marvelous that so much had been and is being accomplished in this direction when it is considered that the pupil neither can hear the sound which he or she is trying to imitate, nor hear the sound of the voice in repetition. Although a deaf-mute has been thoroughly educated in lip-reading, and can speak himself, when he hears words spoken to him, he does not know what they mean. An analogous case would be that of a person who had always been blind. He knows a table, a book, or a chair, by the sense of touch, but if such a person should suddenly receive his sight, he would become totally confused, and it would take a long time and much effort on his part to learn to correlate the image of the thing with the name of that object and have a thorough understanding of these two. Also, if a person has been totally deaf for quite a length of time, not having heard the sound of articulate speech for so long a time, he naturally forgets what words sound like, and, although he has more of a foundation to build on than those of the congenital deaf-mute, still it is a matter of practice before he becomes familiar again with sound, even when presented with such tremendous magnification and precise articulation as is accomplished by the akouphone or the akoulalion. He knows a number of instances in which persons had been "totally deaf" for a number of years and had forgotten how to understand speech, yet, by means of these instruments, again became familiar with words by practicing talking to themselves. In fact this is the quickest and most satisfactory way of reaching such a case.

To the first class belong the akoulalion, the name being derived from the two Greek words akouo, I hear, and lalo, I speak, which is intended to convey the idea that by hearing they are taught to speak correctly. This instrument consists of two instruments known as the pupil's stand and the teacher's stand respectively.

The pupil's stand is provided with two ear-pieces which are mounted on an electric spring that clamps the ear-pieces against the ears. On each of these ear-pieces is mounted a pneumatic cushion, which may be removed if desired, to correspond with the nature of the deafness as explained later. On this base is likewise mounted three vertical rods upon which slides a small hard-rubber carriage having mounted upon it the receiving instrument into which the pupil speaks when he wishes to hear his own voice. Connected to the pupil's stand is the teacher's outfit, which likewise has a round base, having mounted upon it a somewhat similar set of vertical rods having a small carriage supporting a similar receiving instrument. The height of the receiving instrument in both cases may be adjusted to conform to the height of the pupil or teacher when using the instrument. To the teacher's outfit is attached a wire leading to the electric battery, which can be situated anywhere in close proximity to the instrument. The pupil's stand is likewise connected to the teacher's stand, by a three-conductor flexible cord. The phonograph attachment is also attached to the teacher's stand. This latter attachment can be adjusted to any phonograph, gramophone, or other talking instrument.

It is almost universally the case that one ear has slightly more hearing than the other, and for this reason it is necessary not only to adjust the amount of sound going to or being received by the ears of the deaf-mutes, but also to regulate the intensity of the sound delivered to each individual ear. This is a vitally important thing, and alone places the akoulalion far ahead of similar devices. By alternating instruction by simple, rhythmic music, an appreciation of music is cultivated along with that for articulate speech. The question naturally arises, what will be the eventual outcome of the course of instruction with the akoulalion? A person can not use so large an instrument in the transaction of every-day affairs, and naturally must be able to use a smaller instrument, which can be carried around with him? In answer to this, the speaker said that the akouphone, or small portable instrument, can be made just as powerful as the akoulalion, but the latter possesses many advantages in there being a tremendous increase in the articulation of the word and the application of the sound to both ears at once, and the ability of the pupil to hear and speak the words in immediate repetition after the teacher. So, having learned the meaning of the sounds, such a person can provide himself with a small portable akouphone, by means of which he can carry on an ordinary every-day intercourse. It is likewise a fact that the continued use of the akoulalion has improved the hearing of quite a large per cent. of the deaf. It is but natural to suppose that a function which is inactive, when exercised, will naturally have a tendency to awaken and perform its natural function more effectually, provided there is not some destruction of the nerve itself. He has known of many instances of persons being able to hear perfectly with the akouphone or the akoulalion who had no appreciation whatever of sounds by the ordinary tuning-fork, or the shrill Galton whistle. Likewise persons who by the tuning-fork tests have an appreciation of certain notes and a lack of appreciation for the lower or higher ones, hear all notes alike with the akoulalion.

The akoulalion is at its maximum efficiency when in the hands of competent instructors of the deaf, but the akoulalion can be used in the private home for the instruction of children during vacation, on lines mapped out by competent teachers.

Considering those extremely hard of hearing, he said that one who has been very deaf for some time has forgotten how to eliminate the sounds he does not wish to hear. For instance, when using the akouphone, which magnifies the sounds tremendously, if three or four people are talking in close proximity to the one who is addressing the deaf person, the latter hears a general confusion of sounds, and he is unable to eliminate the sound of the other persons and to concentrate his attention on what the party who is speaking to him says. For this class, the type C instrument is designed, and enables the person who is deaf to hear only that which the person he is addressing says. It is also possible for each of two or more persons to have a receiving instrument into which each member of the company speaks, and the deaf person can not only hear what each says to him, but can likewise hear the remarks of one of the persons to the other. The instrument gives a perfectly clear enunciation. The little receiving instruments are made of aluminum, are always clean and sanitary, and do not contain obnoxious odors. Furthermore, the lower a person speaks, the louder the akouphone delivers the sound to the deaf person. If the receiving instrument is shouted into, the excess of sound is entirely cut off, so that the deaf person is not inconvenienced in the least by having to ask the person to speak in a lower tone of voice, and no detrimental effect is possible

to the ear. There is a little black flexible cord running to each one of the receiving instruments. The deaf person has a small ear-piece about the size of a watch, which is either held to the ear in the palm of the hand, mounted upon a handle, or by a head-band which holds it in place. The ear-piece can be regulated to suit the case of deafness and intensity of sound, and is as necessary as it is to focus a field or opera-glass to correspond to the eyesight and distance of the object. A small, dry, pocket storage battery supplies the necessary electricity to operate the instrument, and this can be readily recharged by the aid of the outfit furnished, without inconvenience or knowledge of electricity on the part of the user.

After the deaf person has been using this style of instrument for some time, a normal condition is developed in that the hearing is accustomed to receiving sound applied to the outside. The use of any aural instrument, which protrudes into the ear, is not only a menace to the healthy condition of the ear, but likewise cultivates what might be termed "near-of-hearing." The same as would be the case if a person would habituate himself to holding a book two or three inches from the eye when reading. He would become near-sighted. So the ear, having the sounds projected upon the auditory apparatus by a tube extending into the ear, becomes so accustomed to hearing sound delivered in this manner that it is in many cases difficult to understand at first with the akouphone. The ear has to again become accustomed to hearing sound applied to the outside. In many cases this is the ultimate point that can be reached, but there is a tendency in many more cases for the hearing to be gradually developed to the extent of the patient being able to use an instrument which picks up surrounding sounds within a reasonable range, and transmits them to the ear of the person. Then again, the person has to learn to eliminate not only the echo in the room or hall, or bad acoustic properties, but also the sound of voices he does not wish to hear, in other words, turn the sound into an intelligent state of affairs. An analogous case is that of a telegraph operator, who is able to stand anywhere within hearing distance of a telegraph instrument, and in spite of the loud ticking of the instruments even closer to him than that which he wishes to read, is able to eliminate the sound of those other instruments and hear only what the instrument he is listening to says. But, if he leaves the telegraph office for a number of years and returns again, he is not able to do this at first. Not only that, but he is unable to follow any one instrument perfectly, for the reason that he has forgotten how to concentrate his attention on any one particular instrument. But after he has been in that office for some weeks, he can again accomplish the same results with ease as before. So it is with a deaf person. The akouphone and akoulalion are not practical for children under 7 years of age, persons having paralyzed nerves, persons of hysteric temperament, and people of extreme age.

Briefly stated, the akouphone is a portable instrument which a large per cent. of the deaf can carry around with them, hearing ordinary conversation, the theater or opera, etc., and again enjoying those blessings from which they have been ostracized. This is not accomplished immediately, but the continued use of the instrument will tend to this. There is an instrument to be used exclusively for the desk of the business man, in which his batteries are being charged when he is not using the instrument; for the dining-room table, so that the host can sit and listen to the general conversation going on around the table; for the library for similar use; and for the opera, theater or church there is the "opera-outfit." In fact, it supplies any demand which can be made upon an instrument for the deaf.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting held March 21.*

### Modern Treatment of Gonorrhea and Its Complications and Sequelae.

DR. GEORGE K. SWINBURNE discussed acute gonorrhea. He insisted that the diagnosis should be confirmed by microscopic examination of the pus, and that the microscope should be used as a guide to the treatment of the different stages. In searching for gonococci it should be remembered that a single injection of protargol will sometimes cause their disappearance for twenty-four hours. He is one of those who believe in the early use of urethral irrigations of a 1 to 4000 solution of permanganate of potassium at a temperature of 105 to 120 F. For the first few days the injections should be given twice daily; then once a day, and the interval gradually lengthened. The solutions should not be irritating. Ordinarily a .5 to 2 per cent. solution of protargol would be appropriate after the first few days of the disease. At the end of five weeks of such systematic and efficient treatment a test of the efficacy of the therapeutic measures adopted should be made by instructing the patient to drink beer freely for several days to see if it causes a return of the urethral discharge. As soon as the posterior urethra becomes involved, it should receive local treatment, sometimes by careful irrigation from the meatus, sometimes by deep instillations of protargol solution.

DR. JOHN VAN DER POEL, speaking of chronic gonorrhea, said that the ordinary urethral syringe is not usually sufficient; he prefers the fountain syringe. For an anterior urethritis, he uses a .5 to 1.5 per cent. solution of protargol, and for posterior urethritis a strength of .5 to 1 per cent. The strength should be gradually diminished and the interval of treatment lengthened. After all micro-organisms have disappeared, weak solutions of the acetate or sulphate of zinc or of the acetate of lead are beneficial. At times it is necessary to treat certain areas of the mucous membrane of the urethra, and for this purpose a few minims of a solution of nitrate of silver, .5 to 5 per cent. in strength, should be applied to the part, through the endoscope. A sudden increase of the discharge containing gonococci is usually indicative of a new focus having been broken open. It is a good general rule not to use dilating sounds until all micro-organisms have disappeared.

DR. J. PEDERSEN spoke of some of the complications of posterior urethritis. It should be the aim of all treatment to prevent, as far as possible, hyperemia of the genitals, and to do this the patient should rest as much as possible, preferably in the recumbent position; the diet should consist largely of milk, tobacco and alcohol being excluded, and an effort should be made to keep the urine sweet by the internal use of appropriate antiseptics. One of the best of these is salol in full doses. For the more severe cases of urethrocystitis, a dram or two of a solution of nitrate of silver, .5 to 1 gr. to the ounce, should be instilled through a catheter. Irrigation from the meatus in these cases is ordinarily too irritating, and dangerous because of the liability of forcing some of the fluid into the ureters. In the early stages of an acute general gonorrheal cystitis, forcible irrigation of the bladder is to be condemned. When the spermatic cord becomes involved during the course of a gonorrhea, direct treatment of the urethra should be stopped, the patient be kept in bed, and an ice-bag or an evaporating lotion applied to the part. If these measures are promptly taken and efficiently carried out, epididymitis may be averted. Where the latter complication occurs an icebag may be of service in the first twenty-four hours. Later on mercury and iodid of mercury should be used. A suspensory bandage is not sufficient, but the testicles should be well supported over the pubes, by a sling attached to a belt around the waist. Gonorrheal rheumatism is apt to occur at any stage. Immobilization, counter-irritation and cold are the measures to be used locally at first; subsequently, poultices, compression, massage and passive motion may find a place. The treatment of the urethritis should be active though conservative.

DR. W. A. HOLDEN considered gonorrheal conjunctivitis. He said that at the very onset a single application of a 2 per cent. solution of nitrate of silver or of a 50 per cent. solution of protargol may abort the attack. The constant application of ice-cloths and the frequent washing out of the affected eye with boric acid in saturated solution are most essential. The cornea should be inspected at least once daily, and hot applications substituted for the cold ones on the first sign of haziness of the cornea. Protargol or nitrate of silver solution should be applied to the everted lids.

DR. J. R. HAYDEN spoke of gonorrheal stricture of the urethra. He favors the use, in most cases, of appropriate irri-

gations and of gradual dilatation, up to No. 18, with bougies and above that size with the ordinary steel sounds. When this treatment fails, internal urethrotomy should be done, care being taken to hold the urethrotome exactly in the median line and to keep the urethra on the stretch. A caliber of 25 or 30 should be secured. On the first signs of urethral fever, all the urine should be drawn with sterile catheters and the urethra irrigated with antiseptic solutions, while antiseptics are given internally. For tough strictures of the deep urethra, external urethrotomy is indicated. The method known as rapid dilatation is never free from risk; that of continuous dilatation is proper in a few selected cases; electrolysis is only of service in a few soft strictures, and was mentioned only to be condemned.

Dr. Robert W. Taylor said he could not see the necessity for aborting gonorrhea, nor is he in favor of very active treatment in the early stages. Soaking the penis in hot boric acid solution, and making use of measures calculated to render the urine and the food unirritating are all that is required until the inflammatory symptoms have subsided, when injections of warm lead water are of service, as were also antiblenorrhagics given by the mouth. He prefers nitrate of silver to protargol, and would begin with irrigations of a strength of 1 to 32,000, gradually increasing the strength until, after five or six weeks, instillations of a 1 to 500 solution of nitrate of silver may be employed. In the long-standing cases, solutions of acetate of lead and of sulphate of zinc or copper are beneficial.

Dr. B. Lapowski said that the physician should endeavor to locate the gonococci in the urethra, and treat those portions. He asserted that the microscope could not always demonstrate by the Gram stain the presence of gonococci, and in order to determine absolutely whether or not it is possible for a person to marry, a culture must be made with the discharge.

Dr. Ramon Guitéras said that at times the lighting up of an old urethritis, by the breaking open of latent foci, will explain certain cases where the patient is positive that there has been no new exposure. He is thoroughly in favor of the permanganate irrigations, but insisted that the hydrostatic pressure should be most carefully regulated, and that the patient should be taught how to relax the compressor muscle at the right moment. While he feels positive that, since the treatment of gonorrhea by permanganate of potassium irrigations came into vogue, fewer cases of urethral stricture are seen, he admits that seminal vesiculitis is more common.

Dr. Charles Chetwood objected to the use of forced irrigation without a catheter in cases of acute urethritis. For the first six days of the disease only the anterior urethra should be treated; after that it is well to include the posterior urethra, as a prophylactic measure, even though this portion gives no distinct evidence of involvement.

Dr. Bischoff, speaking of the prophylaxis of gonorrhea, said that he thought prostitution could be regulated to an appreciable degree if the work were placed in the hands of our sanitary authorities rather than with the police. He detailed certain recent experiments to show that it is possible to abort a considerable proportion of cases of gonorrhea.

Dr. Hill praised picric acid as an agent for the treatment of chronic gonorrhea when the mucoid stage is present. It should be used in a 1 to 100 or 1 to 2000 solution, about sixty minims being employed for each instillation.

Dr. Ferd C. Valentine expressed his belief that there are different forms of the gonococci, and that each vaunted remedy is most efficient in combating the inroads of one of these special forms.

## DENVER AND ARAPAHOE MEDICAL SOCIETY.

*Meeting held March 2.*

President Dr. H. G. Wetherill in the chair.

### The Present Status of the Bottini Operation in the Treatment of Prostatic Hypertrophy.

Dr. Leonard Freeman read a paper on the above title, and said in part: No drug, serum nor glandular extract has yet been discovered which has decided curative properties. In estimating the practical value of the various operations, the following points are to be considered: 1, the percentage of recoveries; 2, the amount of danger; 3, the inconvenience and danger entailed; 4, will the operation be accepted by old men who are naturally timid in regard to surgical operations? Prostatectomy inspires dread and is attended by risk; castration is falling into disuse, and its mortality is high—16 per cent. in 152 cases. Vasectomy does not insure relief. Canalization of the gland, ligature of the internal iliac arteries, electrolysis, puncture with the electric cautery through the rectum, etc., are not sufficiently safe or reliable. The Bottini operation consists in burning through the prostate gland, one or more furrows, by means of a concealed knife, heated to white heat by electricity. The bladder is kept out of the way by dilating it with air. The following are the advantages claimed by the author for the operation: the large percentage of recoveries—85 per cent; the mortality being lowered 5 per cent; suffering and inconvenience slight. He observed that drinking of large quantities of water and copious injections before and after the operation contribute much to the safety and comfort of the patient. The operation is done in a few minutes; the pain is seldom great, and always bearable. The patient is permitted to leave his bed in a day or two. The patients, as a rule, do not object to the operation. There is no loss of blood, no open wound, no anesthetic is used, and in case of failure the first time the operation can be repeated with every prospect of ultimate success. His operations numbered 15, performed upon 12 patients, and 2 operations performed respectively by Drs. Williams and Warren. Six were absolutely cured, 1 died of pneumonia, 1 was a complete failure, and 1 a relapse. In 3 cases a second operation was successfully made. Experience, familiarity with the region involved and attention to details are essential to success. His later cases have been more successful than the earlier. He believes that in a majority a maximum of good can be done by its aid, with a minimum of risk, and that its shortcomings are more than counterbalanced by the advantages.

Dr. Hobart Warren gave a brief outline of the anatomy of the prostatic region illustrated by diagrams. He thinks that by the Bottini operation the prostatic plexus of veins is avoided, and thereby the risk of embolism is diminished. He does not think the patient should be allowed to go around in a day or two. A too deep cut may be avoided by careful measurement.

Dr. John S. Miller said the flow of blood along the groove of the instrument is considered by many operators to be a reliable sign that the cautery blade has cut deeply into the prostatic structure. The bleeding will not be so severe if the cutting is done slowly and the blade is not too hot. Unless the beak of the instrument is held firmly against the lobe to be incised, the blade simply makes a shallow cautery line, while the beak of the instrument instead of being stationary, pushes backward and at the same time makes a false registry upon the gauge; it is very clear why such an operation should be attended by failure.

Dr. W. P. Munn has never had an occasion when the Bottini operation had to be resorted to. He does not think it should supplant the older operation. He admits that the Bottini may have its definite field, but he is not prepared to say what it should be. He thinks prostatectomy is just as free from danger. He considers the Bottini operation as cutting in the dark—one can neither see nor feel what he is doing. He ascribes the greater number of recoveries to the use of recent urinary antiseptics, like urotropin, etc.

Dr. Leonard Freeman pointed out that the taking of an anesthetic for the older operations acts badly upon the kidneys, and the patient must be kept in bed for at least two weeks. As to the contention that the Bottini operation is "cutting in the dark," crushing of the stone and urethrotomy are certainly more dangerous, and yet no one objects to them on the score of their being "cutting in the dark."

### Fictitious Bad Effects from Vaccination.

Dr. Wm. P. Munn read a paper on the above subject. He recited the histories of three cases which came under his observation, in which various maladies occurring during the course of vaccination were ascribed to the virus. A girl, 11

years old, three weeks after vaccination, was taken with convulsions. Her temperature was high. She was unconscious for three weeks. It was a case of cerebrospinal fever, yet the parents and neighbors speak of it as having been caused by the virus. The other was a woman 35 years old, who was vaccinated by her husband, a dentist. She was taken sick when the scab was dry, with high temperature, and she lost sensation in both legs. She, too, recovered, and firmly believes the whole trouble to have been due to vaccination. In the third a death-certificate was made out by a homeopathic physician, attributing death to vaccination. Dr. Munn, who was at that time health commissioner of Denver, instituted an inquiry, and found that the secretion from the nose and throat of the dead child contained diphtheria bacilli, that another child in the house had diphtheria, and the physician's child also had it. Generalizing, Dr. Munn said that where 20,000 children are vaccinated within a short time, it is impossible to expect that all will escape the ordinary diseases of childhood, and coincident troubles will occur.

DR. E. P. HERSHEY related the history of a woman who had a papular eruption which came on one week after a vaccination. A careful examination revealed a sore throat and mucous patches. A history of exposure to syphilis, and rapid improvement under large doses of mercury, left no doubt in the minds of both physician and patient as to the nature.

## BUFFALO ACADEMY OF MEDICINE.

*Meeting of the Medical Section, held March 12.*

Dr. Sigmund Goldberg, chairman, pro tem., presiding.

### The Racial Factor in Hysteria.

DR. JULIUS ULLMAN read a paper on this topic. He cited the reports of Aruch, who studied the disease in dogs, and of Higur, who reported hysteria in a cat and canary bird. In the genus homo hysteria has been confined to no one time, latitude or race. The writer is of the opinion that racial characteristics are not so much the result of inherent qualities as of social conditions, and after classifying the physical and psychologic causes, took up the social conditions which increased this disease relatively among various races. Reference was made to the continued history of persecution among the Jews, their fertile mentality, his conditions of oppression, his exclusion from trades, segregation into ghettoes, burdening with taxes, and isolation, and the tendency this gives for consanguineous marriages and for simulation of hysteria. He also spoke of the increase of hysteria among the Latin and Slavonic races; among the latter it can be attributed to conditions of serfdom but little better than slavery. Witchcraft and demoniacal possessions were spoken of as built on a ground work of hysteria and superstition, for, as Fere says, the hysterical anesthesias held first place as the marks of the devil. The Salem witchcraft in New England was spoken of, and it is not surprising to the writer that, among the progenitors of the believers of witchcraft, that other delusionary belief of "Christian Science" should have had its inception. The history of the negro native to Africa was called to mind, and the forcible kidnapping and horrifying voyage to this country in the slave-trading ships was mentioned as a sufficient cause for a psychic insult, the result of which may still be seen in hysteric manifestations in the negro of this country. The history of the native American, among whom it was shown that hysteria could not have existed, was given, and the effects of civilization and assimilation on the increase of the disease among them was shown. The Mongol and Hindoo races, among whom hysteria is relatively less frequent, also received consideration.

It was therefore shown that hysteria exists among all peoples and in all countries, and the fact that certain races, as the Jew, the Slav, the Latin and possibly the negro are relatively more affected may be attributed to causes of environment rather than inherent qualities, for as Jacobs says, if all the Johns and Maries were to be shut up in ghetto for a couple of centuries, they would undoubtedly show peculiarities in habits and thought and would develop a peculiar psychology. Heredity plays a rôle only in that a child may learn to imitate certain traits from a hysterical parent.

In conclusion it was emphasized that hysterical symptoms may exist as epiphenomena and a background in organic diseases among susceptible races. Nor is it to be forgotten that though symptoms of hysteria are well marked, the patient may at the same time have organic diseases. Better therapeutic results will, therefore, be obtained in cases where hysteria is relatively more common by the administration of drugs, suggestion and mechanical means of treatment directed against a latent hysterical condition in addition to the treatment for the organic disease if it is present.

### Hysterical Aphonia.

DR. GEORGE F. COTT read a paper on this subject, giving the various theories thus far advanced as to this condition. He pointed out the fallacy of physicians in general maintaining that the vocal organs are absolutely under the will and control of the patient since the latter is in reality possibly hopeless until proper psychic equilibrium is re-established. It was emphasized that in hysterical aphonia both cords are always similarly affected. He, however, cited a curious condition where there was anchylosis of the left arytenoid articulation leaving the cord fixed near the median line, and at every effort made by the patient to produce a sound, the false cord could be seen closing upon its fellow on the opposite side, and a harsh sound as a loud whisper was produced in this way. This again shows the possible function of the false cord. The paper closed by citing several peculiar and most interesting cases.

### X-Rays in General Practice, with Lantern Slide Illustrations.

DR. A. W. BAYLISH gave an interesting talk, illustrated by forty slides, on the advantages of this procedure in the diagnosis of surgical and medical cases. Fractures, foreign bodies, deformities of joints, as also tubercular chests and other interesting cases were shown.

## ST. LOUIS MEDICAL SOCIETY OF MISSOURI.

*Meeting held March 23.*

DR. L. E. NEWMAN, President.

### The Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis.

DR. JOHN YOUNG BROWN read a paper on this subject. He thinks that as abdominal surgery has advanced, fewer cases of this character are seen, for the reason that the causes leading to widespread peritoneal involvement are now promptly recognized and as promptly relieved by surgery. He said that the condition known as general peritonitis yields to surgery, as is absolutely proven by the reports of many of our best operators, and he defines general peritonitis as widespread peritoneal inflammation, with bowel paresis, free filth pus and liquefied lymph, in the general peritoneal cavity, accompanied by rapid pulse, etc. The treatment is section, irrigation and drainage. His plan is to open the abdomen by a median incision. If the bowel distension is so great as to interfere with proper handling of the parts, the gas should be evacuated by bowel puncture in several places, care being taken to close the punctures with silk as soon as the purposes for which they were made are accomplished. This done, we should at once seek out the source of trouble—make such repairs of bowel as the local conditions warrant and then proceed to carefully cleanse the general cavity.

In regard to drainage, he does not believe the common practice of packing strips of gauze in different directions is a wise one. As Morris has pointed out, lymph is rapidly thrown out in the meshes of the gauze, and while it accomplishes its purposes as a drain, when it is removed raw and bleeding surfaces are left, frequently causing bowel adhesions and intestinal obstruction. A glass drainage-tube, placed at the most dependent point of the pelvis, and two or more small wick drains, placed in different directions, will accomplish all that can be done with gauze. The wicks, surrounded as they are with gutta-percha tissue, are free from the objections that plain gauze possesses. Through the glass tube we can, by means of the long syringe, manage to keep the cavity clean.

Dr. L. H. Laidley said that fear on the part of the surgeons of having a bad record in appendicitis had deprived many patients of their lives. The nomenclature should be revised in reporting cases, and general peritonitis from perforating appendicitis should not be called appendicitis. Present conditions and causes should be kept distinct. Some years ago he had reported a case of general peritonitis due to appendicitis. The patient had been operated on two years previously by another surgeon for appendicitis, and the subsequent peritonitis was due to breaking down of a plug of lymph. In his report he was criticised because he had not entered at the site of the appendix. But by median incision he was enabled to clear out the pus which filled the pelvic cavity and the patient recovered.

Dr. A. H. Meisenbach said that septic peritonitis was the opprobrium of abdominal surgery. It could be produced in two ways: 1, by rupture of the appendix; 2, by rupture of a walled-off appendiceal abscess. He considered four classes of appendicitis: 1, a simple inflammatory condition of the appendix; 2, abscesses walled off within the peritoneum; 3, free abscesses; 4, abscesses attached to the abdominal wall, and pointing externally. The first condition could always be successfully operated on. The second depends on the locality of incision. The fourth tends to recovery if there is not too much inflammation.

Dr. H. Jacobson believes in hunting out the appendix in almost all abscess cases, and flushing the abdominal cavity is better than packing gauze between the bowels. As in all cases of peritonitis, the toxemia causes more or less paresis, and the exudation present causes adhesions, which become more marked and dangerous to life if gauze strips are packed between the folds of the inflamed bowels.

Dr. R. M. Funkhouser has had few cases of the sort described in the paper, and thinks it safer to drain. He has made it a rule to flush the abdominal cavity with a weak solution of permanganate of potash, and has no cause to regret it. In some cases, packing with gauze has also seemed effective, though he would not pack high up. In operating for a localized peritonitis, he thinks there is no safer drain than a gauze wick surrounded by rubber tissue.

Dr. M. B. Clopton said that there seems to be two types of peritonitis following appendicitis. In one the exudate is a cloudy fluid containing streptococci, in the other, colon bacilli are found, adhesions are more numerous and the process slower. In the first condition irrigation would be effective, hardly in the second. Wiping off the intestines requires too much time. For irrigation, it is better to have the water under pressure. Complete drainage is hard to attain. The prognosis seems better where the inflammatory condition from the appendix is high up.

Dr. C. M. Nicholson said that all methods were unsatisfactory in some respects. He spoke of Fowler's latest method, of placing the patient at an angle of 45 degrees and opening at the most dependent portion. Fowler reported nine cases in his first paper and three in his second, all of which recovered. If any of these were cases of general peritonitis, there would seem to be something in the method. If localized, the term general peritonitis ought not be used: the conditions should be differentiated.

Dr. A. H. Meisenbach added that in cases where the abscess is attached to the abdominal wall, it is foolishness to hunt for the appendix; poking around may cause general infection of the peritoneal cavity. Nature takes care of the appendix in this class of cases, and he has never seen recurrence.

## PHILADELPHIA PEDIATRIC SOCIETY.

*Meeting held March 12.*

Dr. T. S. Westcott in the chair.

### Intestinal Sand.

Dr. J. A. Scott read a brief paper on this topic, making a short resumé of the literature, which includes but six or seven articles. La Baulbene in 1873 first reported a case in which sandy material, which proved to be vegetable material with silicious particles attached, passed per rectum. He calls this material *sable intestinale*. Sheridan Delapine, in 1880, reported four cases before the London Pathological Society, followed in more recent years by D. Thomas, Lamb, G. Shattuck, Dieulafoy, Matthew and Rieuchaud, R. S. Thomson and Alex. R. Ferguson, and Eichhorst. Dr. Scott's first case was a patient of Dr. J. M. Da Costa, a woman about 40, with no organic lesions, who passed gritty material with the stools. Examination showed it to be a light yellow or yellowish-red concretion, not unlike brick-dust in appearance, microscopically looking like uric acid, but careful examination by chemical methods showed the absence of uric acid. It was considered vegetable in origin. The second case was that of a child aged 3¼ years, for eight months subject to attacks of duodenal and iliac catarrh, with marked toxemic symptoms. In the beginning of these attacks, together with undigested curds and mucus, would be found a very firm, gritty, reddish or pinkish sand, which would disappear as the stools approached normal. After maceration in strong acids the sand would gradually soften, with but little effervescence, and gummy material, crystals looking like those of fatty acids, such as are seen in fat necrosis, and epithelial cells were found. The tendency for certain materials to remain for long periods in the intestine was mentioned. A specimen of biliary sand—cholesterin—was also shown.

Dr. A. A. Eshner stated that he regards the condition somewhat a rare one.

Dr. J. P. Crozer Griffith called attention to the habits of children in placing different objects in the mouth. These may be composed of sandy material, as mortar from the wall of a brick house, etc. In some cases, however, the condition may possibly result from the precipitation of the salts from the milk combined with the acids of the body.

### Anatomy of Childhood.

Dr. George McLellan, by invitation, delivered an address on this subject, illustrated by original photographs, preparations and lantern slides. The speaker outlined the changes which occurred in the skeleton during infancy, childhood, and adult life.

Dr. O. H. Allis called attention to the changes in the bony arches, and the differences in the relative position of the abdominal organs during infancy and adult life.

## PHILADELPHIA PATHOLOGICAL SOCIETY.

*Meeting held March 14.*

President, Dr. Frederick A. Packard, in the chair.

### Snake Venom.

Dr. Joseph McFarland made some remarks on snake venom, referring to the work of Fontana, Mitchell, Reichert and Calmette, and stating that the venom from serpents may be conveniently classified into that obtained from vipers and that from cobras. The venom of all serpents is alike in color, and the secretion corresponds to that from the parotid glands of man. The venom may be collected by catching the serpent around the head by means of a piece of leather fastened on the end of a stick, after which its mouth may be opened and the secretion pressed out. Venoms irritate the mucous membranes, and when injected under the skin they produce local necrosis, hemorrhagic extravasations, and more or less toxic symptoms. Animals succumb from the poison due to its action on the heart. Chemically the venom consists of globulins and peptones, the former of which may be precipitated by heat, leaving the peptones in solution. Globulins paralyze the respiratory centers. Calmette heated the venom, thus getting rid of the globulins, and injecting the peptones into animals, produeing a certain degree of immunity against snake bite. The speaker had experimented with rattlesnakes, copperheads, etc. The hog and the mangoose have a natural immunity. He has endeavored to render the horse immune against snake bite, and partially succeeded. He has also been able to obtain an antivenene which gave partial immunity to rabbits. As the venom of different snakes varies, it may be that one variety of antivenene may not be protective against the bite of certain kinds of serpents.

In his experiments he first used rattlesnake venom and

later that of the cobra. The first series of experiments was made with unheated venom, the second with unheated venom introduced under the skin, and the third by injecting the unheated venom immediately into the veins. The heated venoms produced little reaction, while the unheated killed rabbits in from a few minutes to two hours. The heated produced a partial immunity against the unheated. The secretion of the cobra, introduced under the skin of the horse, produced extensive swelling, followed by suppuration. He next injected venom into the veins and at no time was there any local reaction, but he obtained physiologic effects, such as increased rapidity of the heart's beat, and accelerated and shallow respirations. The serum from the horse which had received the injections was tested three different times, and no alteration from the normal could be found. After using unheated venoms, a reaction was obtained. The serum seems to have the greatest antitoxic power subsequent to the injection of large doses of venom. He has obtained an antivenene 2 c.c. of which will protect rabbits against an ordinary fatal bite.

DR. J. DUTTON STEELE asked as to the dose of antivenomous serum to be given in the case of man.

DR. FREDERICK PACKARD asked whether the peptones killed by the paralyzant effects on the heart.

DR. MCFARLAND, in reply to Dr. Steele, stated that about 10 c.c. of the serum should be injected. As to the question of Dr. Packard, the peptones seem to kill by action on the respiratory centers. The globulins act on the blood-vessels, allowing the extravasation of serum and blood-corpuscles. In his opinion whisky is contraindicated in all cases of rattlesnake bite. Strychnin would appear to be the best drug. As to local treatment, Calmette advises immediate ligation and cupping, or sucking out of the poison, after which a 10 per cent. solution of chlorid of lime should be injected into about ten different localities immediately surrounding the wound. Probably one reason that the supposed good effects result from the administration of whisky in snake bites of all kinds, except those of the rattlesnake, is that injuries of this kind are rarely fatal in this country.

### Carbohydrates of Urine in Diabetes Insipidus.

DR. DAVID L. EDSALL read a paper on the subject. After reviewing the literature regarding the estimation of carbohydrates in diabetic urine, he detailed a case. The patient was a man, 27 years of age, under the charge of Dr. Alfred Stengel. In June, 1900, he suffered from polyuria, emaciation and thirst. When admitted to the hospital he was suffering from typhoid fever. At this time there was no acetone, nor diacetic acid in the urine. After recovering from typhoid the condition of diabetes insipidus was watched carefully. He found no increase in the fermentable carbohydrates. Normally they should be about 2 grams daily. The nitrogen was also estimated to see whether the benzo-esters fluctuated with it, and he found that they fluctuated synchronously, depending somewhat on the amount of fluids taken. The patient was kept on a regulated and constant diet. His results proved that the diet plays a most important part in the excretion of unfermentable carbohydrates.

## Therapeutics.

### Venereal Papillomata.

A subscriber asks for a short statement of the best treatment of venereal warts. He has used nitric acid, cautery, carbonate of soda, caustic potash, and has ligat d them, and no improvement; they always return.

ANSWER.—As our inquirer seems to have employed unsuccessfully the usual methods of treatment, we give below other preparations which will probably permanently destroy the growths.

Lang gives the following treatment:

℞ Ferri sesquichloridi cryst.
Spts. vini dil., āā ..... ʒiiss 10

M. Sig.: To be painted on the pedunculated venereal papillomata.

He suggests, sometimes, the following, which is painful when applied, but quickly removes the warts:

℞ Liquoris potassæ causticæ (30 per cent.) ..... ʒii 8
Lythargyri ..... gr. iv 25

M. Sig.: To be applied carefully only to small and broad-based venereal papillomata, by means of a fine cotton tampon or a pointed piece of wood, or to be rubbed in until the base of the wart becomes covered with a scab on a level with the surrounding integument, or somewhat below it; the part is then to be covered with a gauze bandage.

℞ Acidi arsenosi.
Morph. muriatis, āā ..... gr. iv 25
Hydrarg. chloridi mitis ..... ʒss 2
Pulv. acaciæ ..... ʒiii 12

M. Sig.: To be applied to the venereal warts.

He also recommends resorcin in powder form, as follows:

℞ Resorcini ..... ʒii 8
Sacch. albi ..... gr. xv 1

M. Sig.: to be applied locally.

Or,

℞ Resorcini ..... ʒss-ʒiss 2-6
Aq. destil. ..... ʒiii 96

M. Sig.: Apply locally.

Very large papillomata which can not be made to disappear by means of local application, should be removed by surgical measures, as the sharp spoon or scissors, and the base cauterized with Paquelin cautery; local anesthesia will usually suffice for this operation.

### Treatment of Chancroid.

Sturgis, of New York, outlines the following treatment for chancroid:

First arrest the virulent and destructive character of the ulcer, either with the actual cautery or other caustics in severe cases, and by alterative applications in mild ones. For the severe cases, as destructive agents either the actual cautery or the galvano-cautery can be used; strong sulphuric acid; pure nitric acid; pure carbolic or chromic acid.

As dressings subsequently the following powders are in common use:

℞ Pulv. iodoformi ..... ʒiss 6
Lycopodii ..... ʒii 8

M. Sig.: Apply locally.

Or, as an astringent:

℞ Pulv. iodoformi.
Pulv. acid. tannici, āā ..... ʒii 8

M. Sig.: Use locally.

Or,

℞ Pulv. iodoformi ..... ʒi 4
Zinci sulphatis ..... gr. v 30
Pulv. ac. tannici ..... ʒi 4

M. Sig.: For local application.

If wet dressings are preferable to dry ones, then a carbolized solution of water of 1 per cent. strength; or a solution of zinc sulphate, about 5 grains to the ounce, can be used. Where the chancroids are concealed either in the urethra or behind a phimosis, a dressing containing the following lotion is recommended by Sturgis:

℞ Lig. plumbi subacetat.
Tinct. opii. āā ..... ʒi 32
Aquæ, q. s. ad ..... ʒviii 256

M. Sig.: Use locally as a dressing at night. The genitals should be bathed in hot water several times through the day.

### Treatment of Syphilis.

As distinguished from the treatment of chancroid, which, like gonorrhea, is only local in its effects, the initial sore of syphilis should never be cauterized nor excised; nor is it necessary that the mercurial treatment be begun with the appearance of the chancre, as it is powerless to check the infection. The treatment should be of the simplest kind, consisting of stimulating and protective dressings. As dry dress-

ings the following are recommended, of which the iodoform is much the best although disagreeable in odor:

℞ Pulv. iodoformi ..... 3iiss 10
Hydrarg. chloridi mitis..... 3iss 6
M. Sig.: Apply locally to the sore.

Or,

℞ Bismuthi subgallati ..... 3ii 8
Pulv. lycopodii ..... 3i 4
M. Sig.: Apply locally.

When the chancres present a destructive tendency then apply the following:

℞ Hydrargyri chloridi mitis..... 3ii 8
Sig.: Apply locally.

As a rule the tendency of the initial sore is toward healing and cicatrization unless unwisely treated, so that it is better to use the milder dressings locally, such as aristol, iodol, enrophen, nosophen, acetanilid or orthoform. As a wet dressing, if it is thought best to apply such, one of the following is probably preferable:

℞ Acidi carbol. ..... gr. ii-iv 12-25
Aquæ. ..... ʒiv 128
M. Sig.: Apply on lint two or three times a day.

Or,

℞ Sol. hydrarg. chloridi corros. (1:1000 or 1:300).
Sig.: Apply locally every three or four hours.

Or,

℞ Hydrogeni peroxidi ..... ʒss 16
Ag. destil ..... ʒiv 128
M. Sig.: Apply locally three or four times a day.

In treatment of the initial sore in women, Lang, in "Twentieth Century Pract.", recommends the following:

℞ Hydrarg. chloridi corros..... gr. ¾-iii 05-20
Spts. vini
Spts. etheris sulph. āā..... 3iiss 10
M. Sig.: To be painted on the affected part.

Or,

℞ Ung. hydrarg. ..... lxxv 5
Ol. theobromæ ..... 3iiss 10
M. Ft. Suppos. No. x. Sig.: One to be placed in the vagina. These may be borne by pregnant women.

TREATMENT OF MUCOUS PATCHES.

The patient should be instructed to keep the nose and mouth scrupulously clean by frequently rinsing the mouth and nasal cavities. He should avoid chewing tobacco and smoking in order to prevent relapse. Silver nitrate applied locally to the ulcers every few days gives very good results. As a gargle to cleanse the mouth the following is of service:

℞ Potassii chloratis..... gr. xl 2 66
Tinct. myrrhæ ..... 3iv 16
Aq. destil. ..... ʒiv 128
M. Sig.: Use as gargle two or three times a day.

TREATMENT OF PUSTULAR SYPHILIDS.

℞ Hydrarg. chloridi corros..... gr. iii 20
Alcoholis
Tinct. benzoini
Glycerini, āā ..... 3i 4
Aq. rosæ q. s. ad..... 3iii 96
M. Sig.: Apply locally.

PALMAR SYPHILIDS.

Ohmann-Dumesnil recommends the following:

℞ Acidi salicylici..... gr. xx 1 30
Ichthyoli ..... 3ss 2
Ung. aq. rosæ..... ʒi 32
Misce. Sig.: Apply night and morning.

After the lesions have disappeared, apply the following to ward off recurrences:

℞ Hydrarg. chloridi mitis..... gr. xv 1
Ung. aquæ rosæ..... ʒi 32
M. Sig.: Apply locally night and morning.

CONSTITUTIONAL TREATMENT.

It is generally stated that constitutional treatment should not be employed until the secondary stage has made its appearance, claiming in this way to avoid mistakes in diagnosis, as the administration of mercury might retard the outbreak of the secondary symptoms. Mercury is the preparation for the early constitutional treatment, which may be employed in the form of an inunction, in vapor form, given hypodermically or per os.

As an inunction, Shoemaker states that the efficacy of the ointment of mercury may be increased by combining with it some stimulating oil or green soap:

℞ Ung. hydrarg. nitratis
Saponis viridis, āā..... ʒiss 48
Olei eucalypti ..... 3ss 2
M. Sig.: Rub in well into the inner part of the thigh or arm, a piece the size of a marble once daily.

Or,

℞ Ung. hydrarg. ammon..... ʒii 64
Olei anthemidis ..... 3ss 2
M. Sig.: Apply locally.

Or,

℞ Ung. hydrarg. oleatis (10 per cent.)... ʒii 64
Olei cadini ..... 3ii 8
M. Sig.: Apply locally.

In severe cases of secondary syphilis, Dr. Dymnecki states that he derived benefit from the administration of quinin internally, associated with the inunction of mercury.

The place of applying the ointment must be changed. The points most favorable to the application are the inner aspects of the arms or thighs, the soles of the feet, before putting on the stockings in the morning.

HYPODERMICALLY.

℞ Tablets hydrarg. chlor. corros., āā..gr 1/25
Sig.: Inject once or twice daily, between the scapulae, or deep into the gluteal muscles.

BY FUMIGATION.

The patient is first advised to take a bath. He is then seated upon a chair with a perforated seat, beneath which is placed an alcohol lamp. A metal saucer containing from thirty grains to one dram of mild chlorid of mercury is placed over the lamp. The patient is then covered with a cloak or rubber cloth which fits snugly around the neck, and extending to the floor. The lamp is then lighted and a mercurial vapor is produced, which is deposited on the body. After the patient has been exposed to the fumes for fifteen or twenty minutes, he is placed in bed for several hours. This treatment may be repeated daily.

BY THE MOUTH.

℞ Hydrarg. iodidi flavi, āā..... gr. 1/5 012
Ft. pil. No. i. Sig.: One pill three times a day.

Or,

℞ Massæ hydrargyri..... gr. iii 20

Or,

Fiat pil. No. i. Sig.: One such pill three or four times a day, after eating.

Or,

℞ Hydrarg. chloridi corros..... gr. 1/40 0015
Sacch. lactis, q. s.

Fiat pil. No. i. Sig.: One such pill three times a day, after meals.

If the evacuations become too frequent or produce pain, small doses of pulverized opium may be given at the same time. Should the diarrhea still continue, the mercurials will have to be discontinued for a while.

Hutchinson states that mercury should be administered before the secondary symptoms have made their appearance, and that it is unwise to wait for these manifestations. He prefers the internal administration of mercury to either the inunction or the injection hypodermically. He uses the following:

℞ Hydrargyri cum creta..... gr. i
Pulveris opii..... gr. ¼ 015
M. Ft. capsula No. i. Sig.: One such three times a day for the first week, then four times a day, and later increased to five times a day.

THE ADMINISTRATION OF THE IODIDS.

It must be remembered that the iodids are of but little benefit except in the later stages of the disease. The best preparation is the potassium or the sodium salt:

℞ Potassii iodidi ..... ℥i 32
Aq. destil. ..... ℥i 32

M. Sig.: Begin with ten drops and gradually increase the dose to the point of tolerance. These patients as a rule will tolerate daily doses ranging from 60 to 150 grains.

IODALBACID IN TREATMENT OF SYPHILIS.

When potassium iodid is administered in large doses almost the entire amount can be detected in the urine. For instance, if it is administered in 50 or 60 grain doses, 30 or 40 grains of that amount will be excreted by the kidneys, as it is very rapidly absorbed from the mucous membrane of the stomach and excreted almost as rapidly by the kidneys unchanged. The remaining portion is oxidized and liberates free iodin, which is in part excreted and in part is combined with the albumin. In speaking of this Zuelzer, as noted in the *Med. Review*, speaks of *iodalbacid*, which is a combination of iodin (10 per cent.) and albumin. It is much more slowly absorbed than potassium iodid, more slowly oxidized and consequently more slowly excreted. He states that in very acute cases of tertiary syphilis, in which a rapid effect is desired, potassium iodid, if well borne, is preferable to this newer preparation. In all other cases, especially when a slow but protracted action is required, iodalbacid is superior to potassium iodid.

ANEMIA IN SYPHILIS.

℞ Ferri et quin. citratis ..... 3iiss 10
Ft. pil. No. xxx. Sig. One pill three times a day.

# Medicolegal.

**Fifteen Thousand Dollars for Personal Injuries.**—On the appeal of the Galveston, Harrisburg & San Antonio Railway Company vs. Eckles, the Court of Civil Appeals of Texas approves of allowing a switchman $15,000 damages for personal injuries. The evidence introduced by the latter, it says, established that he had been transformed, by the injuries inflicted on him, from a robust young man into a pitiable wreck in mind and body, and that for ten years he had suffered intensely. The jury returned a verdict for $30,000. From this $10,000 was voluntarily remitted. On the first hearing, though it was the third time that the case was before it, the court of civil appeals declared that it did not feel authorized to hold this verdict excessive as reduced by the remittitur. But, on rehearing, it decided to affirm the judgment of the court below conditioned on enough be remitted to make the verdict not exceed fifteen thousand dollars. More particularly, it appears that the man's head was mashed so that blood spurted out from his ears, and one of his eyes was forced from its socket and hung from his cheek; that unconsciousness resulted for two or three weeks; that he was in bed for many months; that his skull was fractured, and portions of it taken out; and, in short, that his physical and mental condition had been changed as before stated.

**Physical Examination of Insane Person.**—When one who is afflicted has been deprived of his liberty and property, and is seeking to regain their possession by establishing his present competency, Mr. Justice Fitzgerald holds, at a special term of the Supreme Court of New York, New York County, *In re* Newcomb, that the court should proceed with great care, to the end that he be not subjected to any harassing or oppressive conditions. Assuredly he should be spared annoyances calculated to exercise painful influences, or cause him undue excitement; and to subject him to examination by doctors who have committed themselves by previously expressed sworn statements to the effect that his malady is incurable, the judge says, would appear to be a hardship. Wherefore, in this case, a motion that certain physicians be allowed to make a physical and mental examination of an applicant for the discharge of a committee of his property was denied, objection having been made to one of the physicians that he was personally distasteful to the party seeking to establish his competency, and to others of them that they had committed themselves to the diagnosis that he was suffering from an incurable mental disease.

**Not Death During Intemperate Use of Intoxicants.**—One of the provisions in a policy of life insurance was that in case the person whose life was insured should become intemperate in the use of intoxicating liquors or opium, the company might, at its option, cancel the policy. Another was that should the insured die during or by reason of the violation of the foregoing provision, then the reserve value of the policy only should be paid. The insured drank a good deal, it appeared, but his death was from consumption, and he was unable for several months before his death to drink as much whisky as the physicians prescribed for him. Under these circumstances, the Court of Appeals of Kentucky holds, Union Central Life Insurance Company vs. Hughes' administrator, that, the insured having been an invalid for six months before he died, and his habits during that time good as to the use of intoxicating liquor, it could not be said that he died during a violation of the stipulation of the policy against the intemperate use of intoxicating liquors, and that the full amount of the policy was payable.

**The Defense of Insanity Broadly Considered.**—Under the Oklahoma statutes the test of responsibility for crime is fixed at the point where one has the mental capacity to know that the act is wrong, and if one has sufficient mental capacity to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequences of such act, he is responsible for the same. It is immaterial, the Supreme Court of Oklahoma says, in Maas vs. Territory, what standard scientific men may fix, or by what rules the medical profession determines that one is a lunatic or insane, he is in law insane or a lunatic, or of unsound mind, or temporarily or partially deprived of reason, to such an extent as will excuse him from punishment, only when he has not the capacity to know the wrongfulness of the particular act. But the knowledge of the wrongfulness of an act also embraces capacity to understand the nature and consequences of the same. Upon the question of the extent to which the duty of proving that he was incapable of knowing the wrongfulness of the act is upon the defendant the authorities differ. Two states, New Jersey and Delaware, follow the rule that he must prove his insanity beyond a reasonable doubt before he can be acquitted. Perhaps, on the other hand, two-thirds of the states follow the rule that the defendant must prove his insanity by a preponderance of the evidence. Among the states following this rule are Alabama, Arkansas, California, Connecticut, Georgia, Idaho, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, West Virginia, and Nevada, and this is the rule in England. But with the development of criminal law, and the advancement of civilization, the rules which once governed the defense of insanity, the court goes on to say, are being relaxed so as to give defendants the fullest opportunity to present the truth to the court and jury, that full justice may be done; and, while it is true that this defense is sometimes successfully manufactured and imposed upon courts and juries, the adjudicated cases show no greater abuse of this defense than of the defense of alibi or self-defense. The defense of insanity, when successfully made, appeals to the tenderest sentiments and mercies of the jury, but when feigned and detected it invites their utmost contempt; and, while juries are always ready to deal kindly with one who is so unfortunate as to be dethroned of his reason to such an extent that he can not distinguish between right and wrong, they are also, as a rule, quick to punish a guilty defendant who tries to escape the result of his act through fraud and deceit. Therefore, viewing this defense from every standpoint, the court sees no good reason why the defense of insanity should be singled out and governed by rules as to burden of proof different from those applicable to other cases, and it feels constrained to enunciate the rule as to the burden of proof, where the defense

is insanity, to be this: Every person is presumed to be sane, or of sound mind, and able to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequence of such act; and the burden is upon the defendant in the first instance to overcome this presumption by introducing sufficient evidence to raise a reasonable doubt as to his sanity. When this is done, then the state must prove the defendant's sanity beyond a reasonable doubt, in order to secure a conviction: and if, taking the evidence all together, the jury entertains a reasonable doubt as to the defendant's sanity, he should be acquitted. This rule is now the settled law of Illinois, Indiana, Kansas, Michigan, Mississippi, New Hampshire, New York and Nebraska.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## Philadelphia Medical Journal, March 23.

1 *Toxicology of Tellurium Compounds, with Some Notes on the Therapeutic Value of Tellurates. William J. Gies.
2 *Some Modern Gynecological Resources. Augustin H. Goelet.
3 Dejerine-Erb Type of Upper-arm Palsy Following Multiple Neuritis. D. J. McCarthy.
4 *A New Treatment for Tuberculous Glands of the Neck with Minimal Scarring, Involving a Method of Sterilizing a Tuberculous Region Through the Lymph Channels. G. Betton Massey.
5 Strangulated and Gangrenous Hernia. Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus—Enterostomy, Primary or Secondary Resection—Enterectomy, and End-to-End or Lateral Jointing in Gangrenous Hernia. (Continued.) Thomas H. Manley.

## New York Medical Journal, March 23.

6 *Some Retrospects and Prospects in Genito-urinary Surgery. Reginald Harrison.
7 *The Physical Examination of the Stomach. Mark L. Knapp.
8 *Infective Sigmoid Sinus Thrombosis. Clarence R. Dufour.
9 The Pathology of Intrauterine Death. (Continued.) Neil McPhatter.
10 *Emphysema of the Eyelid from Nasal Causes. Beaman Douglass.

## Medical News (N. Y.), March 23.

11 *Cerebrospinal Meningitis (Weichselbaum Jaeger) Treated by Repeated Lumbar Puncture. Henry Koplik.
12 *Drainage in Abdominal Surgery. J. W. Long.
13 *Vertigo: A Stomach Lesion. Martin A. H. Thelberg.
14 An Interesting Case of Splenic Anemia. Herbert Maxon King.

## Medical Record (N. Y.), March 23.

15 *1. A Case of Ambulatory Typhoid Fever with Intestinal Perforation. 2. A Case of Traumatic Rupture of the Intestine; Operation; Recoveries. Remarks Concerning Operation in Cases of Typhoid Fever with Intestinal Perforation A. A. Berg.
16 *Chronic Gonorrhea and Marriage. Ludwig Weiss.
17 *Excision of Aneurysm, with a Report of Two Cases of Femoral Aneurysm so Treated. George Ryerson Fowler.
18 *Conservatism in the Diagnosis and Treatment of Prostatic Hypertrophy. James R. Hayden.
19 Subphrenic Abscess as a Complication of Appendicitis. J. McF. Gaston, Jr.
20 *Surgical Treatment of Abdominal Dropsy Following Cirrhosis of the Liver. James T. Jelks.

## Boston Medical and Surgical Journal, March 21.

21 Puerperal Insanity. Arthur C. Jelly.
22 *Meat Ration in the Tropics. P. R. Egan.
23 *Bubonic Plague. Joseph J. Curry.
24 A Case of Retroperitoneal Lymphangiosarcoma; Operation; Recovery; No Recurrence After Two Years. T. B. Lund.
25 Vomiting of Pregnancy—Suspension of Pregnant Uterus—Extrauterine Pregnancy—Operation for Fibroids. Reported by J. Oswald Vogel

## Cincinnati Lancet-Clinic, March 23.

26 *Intestinal Vegetations. I. F. Tunison.
27 *Occupations Which Produce Rectal Diseases. Geo. J. Monroe.
28 A New Remedy for Hemorrhoids. E. V. Hall.

## St. Louis Medical Review, March 16.

29 *Middle-Ear Disease in its Relationship to the Cranial Cavity. Otto Stein. With Abstracts of Five Cases, Explanatory of Illustrations. (Continued.) Carl Barck.

## Medical Age (Detroit, Mich.), March 10.

30 *The Use and Abuse of the Galvanocautery in Nasal Surgery. C. D. Conkey.
31 Remarks on the Surgery of the Nineteenth Century. Hal C. Wyman.

## Virginia Medical Semi-Monthly (Richmond), Feb. 22.

32 Acute and Chronic Bright's Disease: Symptoms, Etiology, Treatment, etc. Frederick Horner.
33 Our Conduct During Labor. Elmer Sothoron.
34 Notes on Epidemic Influenza. G. W. Drake.
35 A Handy Device in the Treatment of Opium Narcosis. W. H. Lyne.
36 Safety Pin in the Larynx Removal by Tracheotomy. Walter A. Wells.
37 *Intestinal Indigestion (Dystrypsia Intestinalis), Nature and Concept. John C. Hemmeter.
38 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
39 *Have We a New Treatment for General Septic Infections? Van Telburg Hofman.
40 *Uterine Reflexes. J. N. Upshur.
41 Moot Questions in Abdominal Surgery. H. A. Royster.
42 Gonorrhea and Chancroid Their Modern Treatment. M. A. Auerbach.

## Fort Wayne Medical Journal-Magazine, February.

43 Law and Insanity. H. I. Smith.
44 Criminals from the Standpoint of a Physician. W. D. Calvin.

## Annals of Gynecology and Pediatry (Boston), March.

45 *A Plea for Enterostomy in Acute Intestinal Obstruction Emanuel J. Senn.
46 *Topical Applications in Gynecologic Practice: Their Use and Abuse. J. M. Andrews.
47 Angio-neurotic Oedema of a Rheumatic and Scorbutic Affection. S. Sellikovitch.
48 Laryngeal Habit Spasm with Report of a Case. Luther C. Peter.
49 *Case of "Head-Knocking" of Medicolegal Interest. Charles J. Aldrich.

## Clinical Review (Chicago), March.

50 Some Points in the Diagnosis of the More Common Gynecological Diseases. Thomas J. Watkins.
51 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
52 The Treatment of Bronchitis. J. M. Patton.

## Woman's Medical Journal (Toledo, Ohio), February.

53 *Physiology and Folklore of Pregnancy. Harriet C. B. Alexander.
54 Etiology of Puerperal Eclampsia. Jeannette C. Wallace.

## The Post-Graduate (N. Y.), March.

55 *The Cure of Procidentia Uteri. Bache Emmet.
56 Palpation of the Uterine Appendages. George Gray Ward, Jr.
57 Cesarean Section for Fibrocystic Uterine Tumor. George L. Brodhead.
58 Obstetrical Notes. R. Cronson.
59 Report of Clinics. (Cystic Ovary.) H. J. Boldt.
60 Report of Clinic. (Retroversion of Uterus, Endometritis, Chronic Appendicitis, etc.) Prof. Edebohls.

## Medical Fortnightly (St. Louis), March 11.

61 London Hospitals. Warren Brown.
62 Practical Hydrotherapy. Frank R. Fry.
63 Pernicious Malaria. Arthur R. Edwards.
64 *The Clinical Value of Purgative Mineral Waters. Edwin Rosenthal.

## American Practitioner and News (Louisville, Ky.), Feb. 15.

65 *Circumcision. Ernest G. Mark.
66 *A Few Notes on Naso-Pharyngeal Diseases Common to the Adult. S. G. Dabney.
67 *The Dangers of Glassware. J. S. Hoskins.

## Albany Medical Annals, March.

68 The Duty of the State Toward its Idiotic and Feeble-minded. John F. Fitzgerald.
69 The Value of Antitoxin in the Prophylaxis of Diphtheria. Henry L. K. Shaw.
70 Discussion of Paper of Dr. J. Collins Warren. Robert T. Morris.
71 Report of an External Urethrotomy: Wheelhouse Operation. J. W. Wiltse.
72 Hyperplasia of the Pituitary Body with Eburnation of the Skull. J. M. Mosher and George Blumer.

## Chicago Medical Recorder, March.

73 Resection of the Gasserian Ganglion. Carl Beck.
74 *Exophthalmic Goiter Successfully Treated with Collodion Dressings. Allen T. Haight.
75 New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. G. Kollischer.
76 Pylorectomy for Cancer. Arthur D. Bevan.
77 *Interstitial Gingivitis as a Prominent Obvious Early Symptom of Autointoxication and Drug Poisoning. Eugene S. Talbot.
78 A Case of Laryngeal Stenosis and a Case of Infantile Scurvy. I. A. Abt.
79 *Have We a Continued Fever Which is Neither Typhoid Nor Malarial? T. J. Happel.

## Western Medical Review (Lincoln, Neb.), March 15.

80 *Operative Management of Tubercular Hip-Joint Disease—A Critique. A. F. Jonas.

81 *Insanity in Women Associated with Pelvic Diseases. W. O. Henry.
82 *Topical Applications in Gynecological Practice; Their Use and Abuse. J. W. Andrews.
83 Hernia of the Bladder. Charles C. Allison.
84 Some Cases of Abdominal Section. (Strangulated Hernia, Appendicitis, etc.) A. B. Anderson.

Canadian Practitioner and Review (Toronto), March.

85 The Relation of Ovarian Disease to Insanity and its Treatment. A. T. Hobbs.
86 Asheville, N. C., as a Health Resort for Pulmonary Tuberculosis. J. Price-Brown.
87 Cancer of Uterus. C. Wagner.
88 Report of an Operation for Jacksonian Epilepsy. H. M. Thomas.

Oklahoma Medical Journal (Guthrie), March.

89 Fever—What Is It? How Shall We Treat It? C. B. Bradford.

Medical Bulletin (Philadelphia), March.

90 Urticaria. John V. Shoemaker.
91 *The Use of "Normal Salt Solution" in Typhoid Fever. George W. Pfromm.
92 *Heroin. W. Blair Stewart.
93 Neurasthenia and Insomnia. William Hooker Vail.

Peoria Medical Journal, March.

94 Report of Operations: Genital Prolapse in Women and its Cure; Removal of Gall-Bladder by the W. J. Mayo Method; Septic Infiltration of the Abdominal Walls Following an Attack of Appendicitis; Stenosis of the Pylorus Following Gastric Ulcer. J. F. Percy.
95 Medical Charities in Their Relation to the Public, to the Profession, and to the Individual Physician. Emil Amberg.

International Medical Magazine (N. Y.), March.

96 *Common Anomalies of the Colon. W. Wayne Babcock.
97 Leukemia and Pseudo-Leukemia. Charles H. Miner.
98 Certain Skin Diseases and Some of Their Complications. J. Frank Wallis.
99 Detection of Bile Pigment and Bile Acids. Determination of Uric Acid. A. Robin.
100 The Causes of Cough in Children. John Madison Taylor.
101 Acute Pharyngitis. E. B. Gleason.
102 The Routine Examination of Women Following Confinement. John Cooke Hirst.

Iowa Medical Journal (Des Moines), January 15.

103 Fractures of the Pelvis. J. N. Warren.

Denver Medical Times, March.

104 Address before Arapahoe County Medical Society. C. K. Fleming.
105 The Spectacle Diseases. James E. Free.
106 The Antiseptic Treatment of Gonorrhea. Louis Stern.
107 The Cecum and Appendix. Byron Robinson.

Journal of Medicine and Science (Portland, Maine), March.

108 *Nine Questions on Syphilis, with Answers from a Number of Authorities. B. B. Foster.
109 Eczema. G. A. Pudor.
110 Congenital Dislocation of the Shoulder, with Report of Two Cases. Daniel W. Marston.
111 Address at the Lincoln Club. E. E. Holt.
112 Electro-Therapeutics. (To be continued.) E. H. Judkins.

Canada Lancet, (Toronto), March.

113 Medical Ethics and What Pertains to a Physician's Reputation and Success. Herbert A. Bruce.
114 A Case of Puerperal Fever Treated with Antistreptococcus Serum—Recovery. A. H. Garratt.
115 Remarks on Medical Aspects of the War in South Africa. J. T. Fotheringham.
116 Cerebral Palsies of Children. Lusk and Parsons.
117 A Case of Laminectomy. G. A. Bingham.

Love's Medical Mirror (St. Louis, Mo.), February.

118 *Congenital Dislocation of the Shoulder with Report of Two Cases. Daniel W. Marston.
119 How to Write Well. Geo. F. Butler.
120 Topical Applications in Gynecological Practice—Their Use and Abuse. J. W. Andrews.
121 Defective Elimination and Buffalo Lithia Water as a Relief. I. N. Love.
122 *Salophen—A Summary. Edward C. Hill.

Medical Sentinel (Portland, Ore.), March.

123 Latest Investigations on Uric Diathesis. Otto S. Binswanger.
124 Face Presentation. J. S. Hammond.
126 Clinical Report of a Fatal Case of Hemorrhagic Smallpox. W. Gilbert Cole.

American Medical Compend (Toledo), March.

126 A Report of Two Cases of Appendicitis, with Unusual Complications. Wm. J. Gillette.
127 The Will, in Health and in Disease. Mary E. Law.
128 Gonorrheal Urethritis. H. E. Smead.
129 Hysteria. Anna G. Smith.
130 Therapeutics of the Various Derangements of Menstruation. D. E. Bowman.

New Orleans Medical and Surgical Journal, March.

131 *Cocain and Eucain in Local Anesthesia, as Applied by the Combined Infiltration and Regional Methods in Major Surgery of the Extremities, with Illustrative Cases. Burdett Atkinson Terrett.
132 *On Hypertrophy of the Left Ventricle in Plain Stenosis of the Mitral. Cosimo Noto.
133 *A Case of Labor with Triplets. T. B. Odom.

Medical Summary (Philadelphia), March.

134 Good Health. Geo. J. Monroe.
135 Boils—Abscesses. J. H. Yarnall.
136 Heroin Hydrochlorid in Grippe. William D. Blackwood.
137 Is the Cause of Malarial Disease Due to the Mosquito? J. F. Griffin.
138 Membranous Croup: A Comparison and a Lesson. F. J. Faughnan.
139 Hypodermatology. M. G. Price.
140 Treatment of Urethral Stricture by Electrolysis. H. B. Stanley.
141 Treatment of Jaundice. G. O. Smith.
142 Report of a Rare Case. (Skin Complications in Gout.) W. H. Bentley.
143 Perinephritic Abscess. C. E. Tucker.
144 Pneumonia and Its Treatment. J. W. P. Smithwick.

Texas Medical News (Austin), February.

145 Two Interesting Cases of Hernia, One of Them Strangulated, Operation with Recovery in Each Case. H. A. Barr.
146 The Evils Resulting from Tight Lacing. B. F. Calhoun.
147 A Fatal Hemophilia of a New-Born. E. A. Malsch.
148 A Simple Device in Draining the Bladder for Cystitis in Female. J. H. Reuss.
149 The Role of the Mosquito in Malarial Infection. Walter Shropshire.

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## AMERICAN.

1. **Tellurium Compounds.**—Gies' article is a review of the facts so far as known and published of the action of tellurium compounds on plants, animals, and man. The author has also made original experiments on dogs, in connection with Mr. L. D. Mead, and they found that nontoxic doses of tellurium, several times as great as the therapeutic dose, and in the forms of oxid, tellurite, tartrate, and tellurate, did not materially affect metabolism in dogs, brought to the state of metabolic equilibrium, even when dosage was continued for a week. The substance appeared to stimulate proteid catabolism only slightly. It increased somewhat the weight of the dry matter in the feces and slightly diminished the absorption of fat. The urine was unaffected, excepting that it became dark brown in color. Excessive doses retarded gastric digestion, and caused vomiting, anorexia and somnolence. They also caused inflammation and disintegration of the gastric and intestinal mucosa and intestinal hemorrhage. Introduced under the skin tellurium caused restlessness, tremor, weakening of reflexes, somnolence, diarrhea, paralysis, unconsciousness, stoppage of respiration and death in convulsions from asphyxia. Much of the tellurium was deposited in metallic form, but it was also distributed throughout the organs and tissues. It was found that tellurium compounds in small proportions diminished the secretion of gastric acid, but did not increase intestinal putrefaction or diminish the action of trypsin or pepsin outside the body. Zymolysis was almost unaffected in the presence of almost as much as 1.25 per cent. of the salts. Ptyalin was more easily affected, even by the faintly alkaline tellurate. Tellurium was eliminated in the metallic form in the feces; as methyl telluride in the breath, urine, feces and epidural secretion; in a soluble form in small quantities in the urine and bile. The return of the urine to normal color was rapid after discontinuance of the administration. Albumin and bile pigment, besides tellurium, were the abnormal constituents of urine found after hypodermic injections. Toxic quantities given by the mouth cause the appearance of coagulable proteid, but not bile pigment in the urine. The literature of its influence on man is reviewed and the peculiar odor which it gives to the breath specially noted. Its therapeutic value seems to be in its anhydrotic action chiefly. The alliaceous odor of the breath appears to be the chief objectionable feature from its therapeutic dose.

2. **Modern Gynecologic Instruments.**—Goelet's paper is a description of gynecologic instruments devised by him; the uterine dilator, tent cover, endoscope, and irrigator.

4. **Treatment of Tuberculous Glands.**—The treatment described is based on the destruction of bacilli by the cataphoric diffusion of nascent oxychlorid of mercury, developed in their midst by the electrolysis of metallic mercury on a small gold electrode. An opening is made through the skin and into the gland, and a sliver of amalgamated zinc is pushed in, non-insulated, and a weak galvanic current—one to three milliamperes—turned on gradually and maintained for a few minutes to cauterize the tract and keep it open for the treatment proper. When this is accomplished the zinc electrode is withdrawn and a gold electrode about the caliber of a No. 18 wire previously amalgamated with as much mercury as possible for a quarter of an inch from its point, the remainder of the instrument being insulated. From 2 to 10 milliamperes is now turned on and kept up for ten minutes or until all the mercury has been dissipated from the gold surface. After which a piece of absorbent cotton is placed over the opening and topped by a piece of plaster and the operation is repeated after two to three days. A drop of a 10 per cent. solution of cocain in the opening will deaden all pain. The purpose of the sinus thus formed is the drainage of the products of the dead bacilli and deposited chemicals, as well as to facilitate direct application. The chemical deposit will keep the wound antiseptic. Massey believes that the effect is not confined entirely to the gland operated on, but also involves other glands in connection with it. He reports two cases thus treated.

6. **Genito-Urinary Surgery.**—The principal subjects noticed by Harrison are litholapaxy, which he considers one of the greatest advances of the century just closed, prostatic hypertrophy and also kidney disorders. His remarks, in regard to prostatic conditions, that the form of hypertrophy may be very variable, and cites a case where pedunculated hypertrophy caused a rectal valve action. The effect of such on the production of calculi is specially mentioned, also the surgical treatment of the kidney in cases of albuminuria, and he intends to submit the matter to the British Medical Association under the form of two questions: 1. To what extent may kidney tension be responsible for permanent structural damage producing some forms of Bright's disease? 2. Under what circumstances, if any, is the removal of tension by surgical procedure expedient and justifiable? He thinks that there is perhaps a future for the surgery of this kind, and while he remarks on the possibility of toxic accidents, he believes that saturation of the urine with boric acid or other similar drugs before operation may easily serve to prevent them.

7. **Physical Examination of the Stomach.**—The methods of the physical examination of the stomach are described by Knapp, who includes under these specially percussion, inspection, palpation, and gastric distension and gastric transillumination.

8. **Infective Sigmoid Sinus Thrombosis.**—The symptoms, pathology and treatment of cerebral thrombosis from ear disease is described by Dufour, who pleads for the more careful lookout for symptoms pointing to this condition in cases of suppurative otitis media, and insists on the necessity of bearing in mind that the discharging ear is not a simple matter, but may at any time lead to serious and fatal complications.

10. **Emphysema of Eyelids.**—Douglass reports several cases showing that emphysema may occur in pathologic nasal conditions, all other causes being excluded, and asks whether it is a wound accident or results from pre-existing pathologic conditions. He considers that it is possible it may be the result of any wound; the surgeon can not be blamed for its occurrence. The reason why the upper lid is most affected is probably the fact that the wall of the orbit is as a rule perforated very near the middle, and that the air at once enters the space between the orbital periosteum and first fascia of the eyeball. It makes it way between the bony orbit and this fascia forward and backward, but finds less resistance forward than backward. The occurrence may be partially guarded against by avoiding the use of the curette as much as possible, and never amputating any part of the middle turbinate. While the condition has never been one of any seriousness, in his experience, it may be one from which great danger arises. Abscess, destruction of the eye, and possibly meningitis may follow from septic conditions in these operations.

11. **Cerebrospinal Meningitis.**—The varying views that have been held as to the part played by the diplococci of Weichselbaum, and that of Fraenkel, are noticed by Koplik, as also the epidemic and sporadic forms of the disease, and he analyzes the symptoms as reported in the literature and those of his own cases collectively. In this series lumbar puncture after the method of Quincke was performed at repeated intervals and the bacteriologic, microscopic and macroscopic details studied. All the diplococci obtained corresponded closely to Weichselbaum's description, and the same was found in all the cases. The puncture was carried on with all the details of antisepsis; most of the patients were operated on three times and one more frequently. There was no routine, but each case was studied by itself and treated according to its needs. The indications for puncture were continuous headache with somnolence, delirium, repeated chills with sharp rise of temperature, increase in the rigidity of opisthotonus, or increasing or continued coma. If the immediate effects were favorable, the procedure was repeated on any exacerbation of the symptoms, but if improvement continued the patient was not further disturbed. No ill effects of the method were observed. In one patient the affects were so remarkable that the patient requested that the procedure be repeated. In one case the primary lumbar puncture had no perceptible effect and the second one only a very temporary one; a dry tap followed and, after a few days, the fourth puncture, in which 10 c.c. of turbid fluid were withdrawn, was followed by gradual improvement. The operation, rather strangely, seems to have no marked effects on the pulse or respiration; only in some cases is the pulse temporarily diminished in frequency. This is important because, when respiration ceases before the fatal issue, the heart still acting, lumbar puncture will not apparently aid us in re-establishing the respiratory function. Reviewing the results it can be safely said that lumbar puncture has relieved tension chiefly in diminution of pain and reduction of those symptoms which may be traced to toxic or mechanical pressure. Withdrawal of an appreciable amount of any fluid, from the spinal canal, which contains bacteria and their toxic products ought to be beneficial in the long run. The operation, Koplik thinks, will certainly come more and more into favor and take its place as a curative method. The five cases are reported in detail.

12.—See abstract in The Journal, xxxv, p. 1425.

13. **Vertigo.**—Thelberg believes that this symptom is brought about either by one or all of the following three causes: 1. Direct reflex irritation of the gastric branches of the pneumogastric nerve, and thence via the lower cervical ganglion to the vasomotors of the vertebral arteries which supply the internal ear. 2. By toxemia from amulon, and other ptomains, nicotin, alcohol, reabsorption of bile, the toxins of the infectious diseases, etc. 3. By direct pressure upon the heart through distension of the stomach by gases resulting principally from so-called amylaceous indigestion and "hyperchylis." While he has not had the good luck to meet with a single case of purely Meniere's disease, he does not doubt that it may occur. His contention is that actual disease of this kind is less frequent than the vertigo from irritation of the centers controlling equilibrium from gastro-intestinal disorders.

15. **Typhoid Fever.**—After describing the cases, the subjects of this article, Berg offers the following conclusions: 1. The existence of typhoid fever does not contraindicate an operation; for typhoid patients bear operation almost as well as do otherwise healthy individuals. 2. The repair of ruptured typhoidal ulcer attended with extravasation should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration. 3. Operation in the preperforative stage is not to be considered, for a local peritonitis does not always signify an impending perforation, nor does perforation always imply extravasation. As we have no means of foretelling which ulcers will perforate, an operation undertaken to forestall such a perforation is like putting out a fire that has not commenced to burn. 4. Ex-

travasation can usually be early diagnosed if strict attention is paid to the recognition of the symptomatology.

16. **Gonorrhea and Marriage.**—The question whether gonorrhea is curable and whether marriage should be advised, is answered by Weiss, who takes the stand that permission to marry should be given only when, after repeated and careful examination of slide specimens, exhaustive bacteriologic and microscopic investigation of the threads and of secretions of the prostate and seminal vesicles, done under the strictest rules and by the aid of Gram's method, the presence of gonococci can not be demonstrated.

17. **Aneurysm Excision.**—Two cases of femoral aneurysm treated by excision are reported by Fowler. One made a good recovery and in the other pulmonary congestion commencing at the end of the second day carried the patient off. He thinks that excision or ablation of the aneurysm will be the operation of choice in cases where the diseased condition of the vessel is fairly circumscribed and there are no inflammatory or other complications. This will include the majority of the cases of aneurysm of the extremities, and aneurysm involving communication with the corresponding vein is a positive indication for the operation.

18. **Prostatic Hypertrophy.**—Hayden thinks that the palliative treatment in cases of prostatic hypertrophy should be tried before operation is attempted, and this treatment consists in keeping the urine at a normally acid reaction, giving rectal injections of hot salt solution, noting the condition of the residual urine, corresponding medication of the bladder and urethra, attention to hemorrhoids, stricture, etc. If after this treatment operation is required, he favors prostatectomy, and does not recommend castration, vasectomy, or ligation of the arteries.

20. **Talma-Morison Operation.**—Jelks reports cases of dropsy involving cirrhosis of the liver, treated by the Talma-Morison operation with success. He thinks every patient suffering from ascites as a result of cirrhosis of the liver should be subjected to this operation.

22. **Meat Ration in the Tropics.**—The varying views that have been uttered in regard to the army ration in the tropics are first noticed, and Egan finds, from the literature and his own observations, that well-to-do individuals in warm countries eat fully as much meat and crave it as much as in temperate climates. He thinks that the abstinence from sufficient amount of proteids is the cause of the prevalence of anemia of the poor classes in the tropics. Something should be said in regard to the difficulties of keeping meat fresh in hot climates, and eating it too soon after killing, which is perhaps responsible for some disease among soldiers.

23. **Bubonic Plague.**—The extent of the plague in Manila is described briefly by Curry. There have been found in that city 225 cases with 167 deaths, which equals a mortality of 74 per cent. The native death-rate was nearly 81 per cent., while that of the Chinese was not over 72 per cent. He is at a loss to account for the higher mortality among the natives. There were but two deaths among Americans, both employed in the same place and probably subject to the same infection. The plague bacillus did not appear in the blood until late in the disease, except in the rapid fulminating type. Blood cultures and agglutination tests are unsatisfactory, therefore, for early diagnosis. The bacilli do occur early in the glands, and the most satisfactory method of diagnosis is aspirating one of the recently swollen glands. The objection to this, that there might be danger of causing general infection by injury to the blood-vessels, is, he thinks, more theoretical than practical. The right femoral and inguinal glands are usually the first to enlarge, and there is the possibility of introduction of the plague through the prevalent dhobie itch, and as most people are right-handed the tendency to scratch on that side may possibly cause this predominence. Almost all cases show evidence of flea and mosquito bites, but Curry does not think it probable that the mosquito plays any great part in the spread of the disease.

26. **Intestinal Vegetations.**—Tunison describes a kind of growth which has passed from the intestines, apparently resembling some vegetable organism, which he suggests is possibly due to the use of fruit, though the case reported continued after complete abstinence from such food. The patient was treated with essence of pepsin, and essence of pancreas in frequent doses, with a complete and permanent cure. In the discussion in the Cincinnati Academy of Medicine, Dr. W. E. Shaw identified these forms with banana fibers. They are not noticed in the fresh fruit as they are there perfectly transparent, but the changes that take place in the bowels make them more visible.

27. **Occupations and Rectal Diseases.**—Monroe found that certain occupations are specially liable to produce rectal trouble, hemorrhoids, etc. Clerks in stores are frequent sufferers from hemorrhoids, which he believes are due to irregular habits of defecation, etc., and railway engineers are subject to the same liabilities from the same conditions, as are also commercial travelers.

29. See abstract in THE JOURNAL, XXXV, p. 1048.

30.—Ibid., XXXV, p. 52.

37. **Intestinal Indigestion (Dystrypsia Intestinalis.)**—Various types of this anomaly are enumerated by Hemmeter: 1. Those connected with pathologic anatomical alterations in the structures of the intestinal walls, lymphatics, blood-vessels, and nerves. 2. Absence of deficiency of intestinal digestive secretions, principally of bile and pancreatic juice and also succus entericus. He agrees with Rachford in his main conclusion that a small quantity of free HCl has little or no retarding influence, but that large quantities materially impair the diastatic action of pancreatic juices. The chemical processes in the duodenum are extremely complicated and easily disturbed. Secretion of bile, pancreatic and gastric juice may vary abnormally and throw out of balance the finely adjusted chemical transformations, giving rise to intestinal dyspepsia, which will only be elucidated by future chemical physiologic investigation. Other effects are described, with also the antizymotic influences of the bile secretion and disturbances in the secretion of pancreatic juices, succorrhea pancreatica, hypochylia, and achylia pancreatica, the alkalescence of the pancreatic juice, and the general effects produced by its suppression. 3. Intestinal indigestion due to qualitative and quantitative irregularity of diet which may be too excessive; unhealthfully mixed, the food may be partially fermented or putrefied. He thinks also that not enough attention is given to harm caused by drugs, some of which actually produce the trouble which they are intended to relieve. 4. Intestinal indigestion due to abnormal bacterial activity. 5. That due to abnormal gastric chemistry, and he insists on the importance of analysis of the gastric contents in cases of intestinal dyspepsia. 6. Neurasthenia intestinalis. 7. Intestinal indigestion due to irritants coming from the blood. 8. That due to worms. 9. That due to hyper or hypo peristalsis. The paper ends with a series of formulas used by the author in special symptoms in different forms of this condition.

38. **Cutting or Crushing Urinary Calculi.**—McGuire reviews the opinions of various authors in regard to the preferable operation for vesical calculi, and gives his views as to the advantages and disadvantages of each. He does not condemn the crushing operation, which he believes has its advantages in certain cases, but he thinks the operation is overdone in an attempt to substitute it for cutting operations in cases not suited to it. Lithotomy, he holds, should be the operation most frequently employed, and lithotrity reserved for a few carefully selected cases.

38. **Artificial Abscesses.**—Van Telburg-Hofman suggests the formation of artificial abscesses to relieve certain conditions. He reports cases of apparent general pyemia or septicemia in which this method was performed by the injection of spirits of turpentine under the skin, which seemed to be of decided benefit. He suggests its use in cases of puerperal fever where other methods fail.

40. **Uterine Reflexes.**—A possible danger of operating on the uterus is here suggested, and a case reported where there

seemed to be sudden collapse and heart failure, which Upshur thinks must be referred to reflex action from the uterus. Even the simplest operative procedure on the uterine cavity, he believes, may sometimes unexpectedly have fatal results.

45.—This article has appeared elsewhere. See The Journal of March 16, 93, p. 770.

46.—See abstract in The Journal of January 12, p. 128.

49. **Head-Knocking.**—Having been interested in the statement of Dr. Coolman, of the Children's Hospital of London, that head-knocking is a common symptom in young rhachitics, Aldrich has looked for it in this country, but noticed it only twice. The literature is very silent in regard to it. In one case reported the child was a marked rhachitic with rosary, flattening of the sides of the chest, enlarged epiphyses, dorsal pad and typical facies, and it seemed to delight in knocking its head against the cradle rail. The appearances were those of severe abuse, and he comments on the medicolegal importance of the subject. It should be distinguished from head-nodding and head-rotation usually associated with nystagmus, which is occasionally met with in young rhachitics and described by Romberg and Henoch. The symptom is a curious one; that the child should enjoy such abuse is hardly comprehensible.

53.—See abstract in The Journal of January 26, p. 273.

55. **Procidentia Uteri.**—After noticing the different operations, Emmet says that any method which does not forcibly antevert the uterus and prove capable of holding it there is an insufficient operation. He preferably places the suture on the posterior aspect of the organ just below the crown, to make this anteversion perfect and permanent. Only one other method short of hysterectomy is capable of giving the best results, and that is the one originally suggested by Sänger, of making an incision in the anterior fornix, pushing away the bladder and making the fundus fast to the vaginal wall. Schücking then devised his operation of vagino-fixation by passing a curved needle up the uterine canal through the anterior wall of the uterus and through the vagina, passing a suture and binding the parts together. This necessarily was confined to the lower portion of the wall and therefore insufficient. Mackenrodt carried out the idea better by separating the bladder and uterus extensively and bringing the fundus completely forward and then stitching the anterior aspect of the uterus to the vaginal wall. Kustner and Dührssen went a step further and opened the peritoneal cavity at its junction with the bladder, drawing down the adnexa for inspection. Werthcim and Vineberg drew down the round ligaments and made them fast to the vaginal wall, and Vineberg thinks this an admirable method in cases of prolapse in the first and second degrees, but believes it is contraindicated in complete procidentia where there is veritable hernia of all pelvic organs. Emmet is inclined to try it in such cases, counting much on the subsequent plastic work on the vaginal walls and perineum. Finally, hysterectomy is a last resort, the partial form from above being the better, since the stump of the cervix or vagina may be suspended by being sewed to the shortened broad ligaments.

64.—See abstract in The Journal, xxxv, p. 1050.

65. **Circumcision.**—Mark pleads for the more general practice of this operation, giving his reasons for the views expressed. He thinks that it can be best performed at about 3 years of age; there is rarely occasion for it earlier. He of late has removed a wedge-shaped piece from the frenum, to obliterate the folds which remain after ordinary operation has been performed, and this removes another lurking-place for infectious organisms.

66. **Nasopharyngeal Disorders of the Adult.**—Among those enumerated are overseeretion of the mucus, which may be due to obstruction within the nasal passages and relieved by operation. It may be caused by shrunken adenoid growths. The most hopeless cases are those where general hyperemia of the nasopharynx is the only cause to be detected. Another abnormality mentioned by Dabney is interference with deglutition, which he has found caused by postnasal soft polypi. The acute pain in swallowing may be due to ulceration of the upper surface of the soft palate, generally specific. The characteristic of this is that when at rest the pain is far less than that of tuberculosis or carcinoma. When nasal obstruction develops in the adult it is often due to postnasal polypi and a long train of consequences may follow, such as nausea, etc. Few operations give more brilliant results in the way of complete relief than the removal of one of these. Deafness, tinnitus, occasional pain and over-resonance of the patient's voice are also noted, as well as over-secretion of mucus necessitating frequent clearing of the throat and thus interfering with speech. He describes his method of examination, by using White's palate retractor, which he has found of the greatest service. Having cleansed the nasopharynx, a 5 or 10 per cent solution of cocain is applied to the posterior and upper surfaces of the soft palate, soaked in a little cotton on a probe. After a few minutes the retractor is pushed around the palate and the patient directed to take a deep breath with the lips—not the teeth—closed, and so doing the soft palate is relaxed and brought forward and the retractor may be fixed on the upper lip. The patient should be instructed to breathe naturally as the tongue is depressed. Posterior rhinoscopy will quickly reveal the presence of any growths, hyperemia or ulceration. In a few cases tying the palate forward with a catheter brought through the nose and out through the mouth has been found a more satisfactory method, but the retractor has generally been less uncomfortable and more convenient. Jarvis's snare is the instrument most useful to him in removal of polypi of the posterior nasal soft palate. In adenoid tissue in the adult the indication for its removal is more often over-secretion of mucus and disease of the ears than nasal obstruction, and complete removal is more necessary. The forceps and curette may there be used, but the former is more convenient. For syphilitic ulcer of the soft palate he uses nitrate of silver applied on a mop, 30 to 60 gr. to the ounce-solution, after cleansing.

67. **Dangerous Glassware.**—Hoskins calls attention to the dangers of swallowing fragments of glass from vessels containing food, e. g., preserve jars, etc. For a remedy he suggests the use of annealed-edge glassware, and suggests inspection for nicks, etc., in every case where these utensils are used.

74. **Exophthalmic Goiter.**—Haight believes that exophthalmic goiter is due to hyperthyroidization and measures instituted to reduce the goiter reduce the secretion and benefit the condition. His attention was called to the collodion treatment, several years ago, in treating a case of Hodgkin's disease. It acts as a sort of compressor, reducing size and secretory function and shutting off the blood-supply. He has employed it in six cases with enlargement of the thyroid, one of which he reports. The collodion must be perfectly fresh. Rapid evaporation can be secured by using 20 to 30 pounds of air-pressure and increasing the compression fully one-third. The patient's head should be put in an easy position, with relaxed muscles, and collodion be repeatedly applied to keep up the pressure at intervals of from two to five days.

77. **Interstitial Gingivitis.**—Talbot holds that, aside from local causes, intestinal gingivitis may be due to auto-intoxication or blood poisoning. The former occurs during pregnancy and in change of climate, as is shown by American soldiers in the tropics and engineers and workmen in the Jungfrau Railway, 2600 meters above the sea-level. The poison due to autointoxication of drugs circulates in the capillaries, setting up inflammation. This extends through the alveolar process and gums. Pus infection frequently takes place and pus passing into the stomach produces indigestion. Treatment consists in the patient taking eight or more glasses of pure water each day, using a stiff tooth-brush three times a day and the employment of proper mouth-washes. Tincture of iodin should be locally employed every other day, until the parts are restored to health.

79. **New Type of Continued Fever.**—Happel describes a type of fever met with in the South, which can not be placed either in the malaria, typhoid, or typhomalarial group. It may occur at any time of the year, is most common in late

summer, early fall or winter, and is rare in the spring. It may commence with a chill followed by a high temperature, subsiding to about 102 to 104, rising two or three times in twenty-four hours and finally becoming intermittent. At this time there may be profuse sweats, no delirium in any case and the dull listless look of typhoid is wanting as well as the anorexia. The tongue may have an almost normal appearance. There is no tendency to diarrhea; purgatives are often required. There is no abdominal tenderness, frequently an inverse ratio between the pulse and temperature, but as a rule the pulse is not far from normal. In cases where the rapid pulse is found with low temperature, the experienced practitioner feels that he needs to watch the case. In a few cases there is subnormal pulse and temperature, and these are apt to be lingering ones. The facial appearance is entirely different from typhoid, the digestion is only slightly impaired, and there are no special symptoms on the part of the liver and the spleen and negative symptoms in the respiratory system. One attack does not prevent another, but rather predisposes. Quinin only affects the cases unfavorably; most have a tendency to get well. The diazo reaction and the Widal test have failed. Happel concludes his article with a protest against too much dependence on laboratory methods at the expense of clinical study.

80.—See abstract in THE JOURNAL of January 12, p. 128.

81.—Ibid.

82.—Ibid.

91. **Normal Salt Solution in Typhoid.**—The uses of hydrotherapy in private practice are not so great as in hospitals, unless a skilled nurse is at hand, but it appears to Pfromm that if the kidneys are properly stimulated to get rid of the toxins much good may be done. He has, therefore, resorted to the use of normal salt solution by rectal injection, beginning early in the disease and as soon as the urine has become diminished, using 1 pint per rectum per day until the quantity of the urine is normal. He reports a case and emphasizes the following points: Beginning of treatment early and examination of urine daily, since it may become highly alkaline and produce inflammation or irritation, and the stimulation of the cardiovascular system and the diminished tendency to complications.

92. **Heroin.**—Stewart has used heroin in various conditions, and notes that alkalines and alkaline mixtures will precipitate heroin from solution, which should be remembered. If given during or immediately after meals, the free hydrochloric acid in the stomach will cause it to be more rapidly converted and assimilated. The doses, he thinks, have often been too large: 1/24 to 1/12 gr. for adults is usually sufficient and 1/250 to 1/50 for children under 5 years of age. Its results in neuralgia and muscular rheumatism have been negative, and in whooping-cough it seems to relieve the paroxysm, but does not affect the duration of the disease. He thinks the drug slows respiration, and makes it stronger and deeper, steadies and strengthens the heart-action, is sedative and slightly anodyne; it is not cumulative, does not tend to produce habit, is not a hypnotic, lessens night sweats and is antispasmodic to a considerable degree. It should not be put in the hands of patients as it is liable to be over used.

96. **Common Anomalies of the Colon.**—Those common anomalies of the colon, described by Babcock, are dilatation of the omega loop and descending colon, elongation and displacement of the sigmoid flexure, the sigmoid loop touching the lower border of the left kidney, exaggerated and displaced sigmoid, V-shaped course of the transverse colon in different degrees and otherwise anomalous course of the same.

108. **Syphilis.**—Nine questions were asked of a number of prominent surgeons: 1, as to the frequency of syphilis—cases, according to different observers, varies from 10 per cent (Lydston, Mathews and others) to 1/15 of 1 per cent. (Guitèras); 2, as regards specific treatment prior to secondary symptoms, the majority favor it, though some object; 3, as to the method of treatment of a local sore, in which excision is usually rejected and cleanliness with mild applications are advised; 4, the curability of syphilis, which is generally accepted, some considering it curable in 90 to 95 per cent.—one or two hold that it is always doubtful; 5, advice as regards marriage—the majority consider marriage permissible after a sufficient period of time and thorough treatment; 6, the immunity given by one attack, which is recognized generally as the rule; 7, the danger of transmission of syphilis to offspring by parents who have been properly treated—this is not considered a special danger by the majority, though some hold that it may occur; 8, whether inherited syphilis renders immune from primary disease, the replies varying, some answering positively in the affirmative, and others, equally so in the negative, while still others are doubtful; 9, the plan of treatment, of which the majority prefer mercurial medication first and the iodids in the later manifestations. Hot baths and electric treatment are insisted on by some of the respondents.

118. **Congenital Shoulder Dislocations.**—The causes and description of symptoms of this deformity are enumerated. The conclusions drawn by Marston are in substance as follows: 1. It is of the utmost importance to distinguish between dislocation and true obstetrical paralysis. 2. The treatment of the former is immediate reduction by manipulation, if possible, otherwise by operation. 3. Every infant should be carefully examined at birth, for then reduction is most easy. 4. From the fact that, in three of Dr. Phelps's cases, fracture of the glenoid cavity was found and in nearly all the history showed difficult labor, the author is led to believe that these cases are not of paralytic origin, but are due to traction of the axilla by the finger or vectis. Paralysis may be coincident but not a primary factor. 5. The prognosis of the operative treatment is excellent; the earlier the operation, the more hopeful. 6. Like congenital dislocation of the hip, these cases are little benefited by mechanical treatment.

122. **Salophen.**—From a study of the literature and personal experience, Hill is convinced of the intrinsic value of salophen in properly selected cases, viz., in those neuralgic and inflammatory states due to rheumatic poisoning. It is specially effective and preferable in young and weakly patients. The combination in a single definite chemical product of a safe and efficient antipyretic, antineuralgic and antirheumatic makes salophen of special service in many obscure painful states that can be diagnosed with certainty only by therapeutic tests.

131. **Local Anesthesia.**—Several cases of the use of eucain and cocain in local anesthesia are described by Terrett, who concludes his paper with the following summary: 1. Cocain and eucain are undeniably the most potent, efficacious and reliable local anesthetics now in general use. 2. The agents in a menstruum of simple sterile water at ordinary temperature, and when freshly prepared, give entire satisfaction, and, when injected in the proper manner, can be made to engender the most profound and complete anesthesia. 3. Cocain and eucain must infallibly supplant a general anesthetic, whenever this latter is contraindicated by some organic lesion, whereby its use would be a menace and directly endanger the patient's life. 4. The combined infiltration and regional method is of unquestionable value, and its practical usefulness confined especially to those parts where the nerve distribution is easily accessible—notably the extremities and ribs. 5. The entire absence of any untoward or unfavorable symptom, as a result of this procedure, argues most forcibly and cogently for its ulterior recognition and more general use.

132. **Mitral Stenosis.**—The various theories of hypertrophy of the left ventricle occurring in stenosis of the mitral valves are mentioned by Noto, who offers one of his own. He rejects those of the precedent mitral insufficiency, or the co-existence of aortic stenosis and the theory of Struempell that hypertrophy is the result of compensation due to hypertrophy of the left auricle and right ventricle. His own theory is as follows: When stenosis of the mitrals is beginning, the left ventricle must react in its contractions as well in force as in number, and therefore becomes hypertrophied. This is apt to occur in the first period of the disease in every case of mitral stenosis, but as this is a chronic affection it may last for years when complications do not interfere, and after a certain period the blood given to the left ventricle is not sufficient to nourish it for the

important work. There is a period of regression, and from hypertrophy there must come atrophy. Between the two extremes there is a condition when the ventricle is nearly at its normal size, hence we have in these cases the normal left ventricle not absolutely physiologic. This agrees with Erb's view as to general dystrophies, that hypertrophy constitutes the first period of the alteration and atrophy the later stage.

## FOREIGN.

### British Medical Journal, March 16.

**Causation of Carcinomatous and other New Growths.** J. George Adami.—The author's arguments are summarized as follows: "1. The catabolic activities of the cell are of two orders: those determining the relationship of the cell with the exterior, and those that are vegetative determining the continued existence and multiplication of the cell; the former excited by stimuli of various orders from without, the latter only indirectly so excited, being more directly called into play by conditions obtaining within the cell. 2. The controlling agency in at least the higher catabolic activities of the cell, both 'functional' and 'vegetative,' is the nucleus, and nuclear activity is accompanied by breaking down and discharge, or by rearrangement of the nuclear molecules. 3. The changes which occur in the nucleus during the active performance of the specific functions of the cell are of a character so different from those observed during the process of cell division that proliferation and active performance of specific function, the one precluding the other, are obviously to a large extent incompatible. The cell engaged in the active performance of function in response to external stimulation cannot simultaneously proliferate. 4. It follows, therefore, that active cell division, and cell proliferation occur only in conditions in which the cell cannot fully utilize the assimilated material (and the energy stored up in the assimilation of that material) in the performance of its specific functions. 5. Such conditions are to be met with where the tensions acting on the cell are reduced and certain energies which before were necessary to counteract opposing forces are freed and become thus capable of diversion from their purpose, or again, where stimulation from without results in increased assimilation and storage of nuclear and cell material which now from any condition can not be utilized in the performance of specific function. 6. In either case the cells will continue to proliferate so long as the primary modification of physical relationships or the primary stimulus continues to act, so long as there is adequate nutriment and so long as the tension exerted upon the cells do not become excessive. 7. Provided that these conditions are observed, the greater the amount of cell proliferation, the greater the tendency for certain at least of the newly formed cells to be projected from the relations proper to cells of the tissue giving them origin, the less will be the opportunity for such cells to carry on their primordial function; the greater the liability to proliferation. 8. The longer the cells are diverted from their proper extrinsic functions to proliferative activity, the greater the momentum acquired by them to continue performing the proliferative act until the functional activities become largely suspended and the 'habit of growth' is set up. 9. When this habit of growth is inaugurated, the cells continue to grow and multiply in the complete absence of those conditions which initiated their proliferation in the first place, and we obtain that purposeless functionless cell growth characteristic of the true tumor. 10. According to the stage of cell development in which this habit becomes impressed upon the cell, so do we have various grades of benign and malignant tumor-formation." From these points he deduces the following conclusions: "Whatever the origin, therefore, of the tumor proper, however it is started, what makes the tumor is the assumption by the primary cells of that tumor of the habit of growth in place of the habit of work, and according to the extent of this replacement, so do we get the various grades of tumor formation from the most benign to the most malignant." The application of this theory to the possible microbic origin of malignant tumors is the subject of some remarks. It applies itself to such an origin in the following way: According to the theory, microbes and their products may be one of the causes originally localizing cell proliferation in the first place, provided that they bring about stimulation rather than irritation, or such mild irritation that the cells are stimulated to increase the metabolism, which does not go on to exhaustion and breaking down of their protoplasm, and provided also that the microbes and their products act sufficiently long to set up the habit of growth. It is quite conceivable that such microbes might continue to exist in tumors they originated, exerting a cumulative effect. The more the cells departed from the type the greater the effect of these microbes and their products in producing rapid proliferation and malignant tissue. This continuance in persistence of microbic action, however, is not to be regarded as essential, and the fact that we doubt as to whether the bodies found in the tumors are real parasites and the failure of their reproduction of similar growths, point to the view that if microbes originate malignant tumors they do not necessarily continue in them in the living state. It is quite possible that certain specific forms of microbic growth originate certain forms of tumor growth and, like other pathogenic microbes, they may tend to attack such tissues under special conditions. If it be proven that malignant growths are specially common in certain localities, then such microbic origin becomes eminently probable. Adami does not see any immediate prospect of arresting the development of existing carcinoma by the discovery of the microbe. The most that we can expect is discovery and employment of means to arrest or destroy the continuous local cells that have taken on this functionless growth and, on the other hand, to study the habits of the germs outside of the body to exterminate them, as we are talking of doing with mosquitoes in malarial regions. The greatest benefit to the patient and the greatest triumph will be, for some years to come, the successful recognition and removal of malignant tumors at the earliest possible date, and of benign tumors before they take on the malignant growth.

**Occurrence of Pyrexia in Carcinoma and Other Diseases of the Liver, and in Cases of Gallstone.** C. O. Hawthorne.—The difficulties of the recognition of carcinomatous growths from other conditions of the liver are discussed by Hawthorne, at some length, and he concludes that the combination of jaundice and intermittent and hepatic enlargement may need careful consideration before deciding for gall-stones on the one hand or malignant disease on the other. In abscess of the liver various febrile symptoms are to be expected, but are not always present. Similar febrile attacks with jaundice and pain have been observed in other diseases than carcinoma, gall-stones, and abscess, and it seems also that cirrhosis of the liver, even of the atrophic or multilobular type, may cause considerable and indefinitely prolonged pyrexia in some way unexplained.

**Digestion Leucocytosis in Carcinoma of the Stomach.** Carstairs Douglas.—The author has investigated the leucocyte count in connection with the diagnosis of carcinoma, and finds that digestion leucocytosis is a very poor criterion to rely on in the diagnosis of the gastric affection, since it is only positive in about 54 per cent. The latest monograph on the disease by Osler and Macrae, agrees with his results in finding that reliance can not be placed on this method. It seems probable, he thinks, that the true statement of the case is as Marchetti recently put it, that digestion leucocytosis essentially depends on the digestive and absorptive powers of the stomach, and that it may or may not occur in carcinoma of that organ according to the degree of impairment of its function. He considers the presence of the phenomenon of more value in excluding carcinoma than its absence in proving its existence.

### The Lancet, March 16.

**Treatment of Tubercular Peritonitis.** I. Burney Yeo.—Three cases of tuberculous peritonitis are reported by Yeo, all in the acute form and in young persons, where the principal treatment consisted in rubbing in of iodin ointment in the abdominal surfaces, and the administration by the mouth of pills of iodoform and creosote. The success was remarkable, but he thinks that the same treatment might fail in chronic cases of the dry adhesive type and in older persons. His idea as to the action of iodoform is that it probably enters the

blood and, if regularly applied, is eliminated in the secretions; including in the secretions the serous cavities, and as these do not pass ont of the body as the secretions of the kidney, they must in time become charged with iodin compounds and act as an antitoxin to tubercle toxins or a bactericide to the bacillus. We have proof of the rapidity with which iodin is absorbed by the skin, by the quickness with which it appears in the urine. The idea of iodin being an antitoxin to tubercle is not a new one, and he mentions two Italian physicians who have reported cases of tubercular peritonitis cured by the injection of a solution of iodin, and a case of tubercular meningitis reported by Nilsson, cured by rubbing iodin ointment, strength 1 in 10, on the shaved scalp three or four times a day. He suggests, in conclusion, that we should bear in mind that antitoxins are not limited to animal products, and should not neglect the study of those which may be found in the mineral and vegetable world. They are not all serums or animal extracts. The oldest and surest ones we possess are mercury and quinin, and their effects are better known, and more certain and reliable than any at present known to us.

Annales de Gyn. et D'Obstetrique (Paris), January.

**Connection Between the Mental and Functional Development of the American Girl.** G. J. Engelmann.—The essential factors that influence the establishment of puberty are nervous stimuli and mental development, according to Engelmann. He has collected records of the age at the first menstruation in 12,000 cases. His statistics are gathered from all parts of the United States, but his own observations were made mostly in the Southwest, those in New York by Emmet and in Boston by Chadwick, supplemented by data published by the Association of Collegiate Alumnæ and others. Nervous stimuli and mental activity are more intense in proportion to age, at least, in America, and consequently the first menstruation occurs earlier in American girls and earliest of all among college girls. The average age at the time of the first menstruation in this class is 13.52 years (2060 cases); in students in normal schools, 13.8 years (1342); in clerks 14 years (800); in the better classes, 14.23 years (3027); and in working girls, 14.27 years (4818). The figures for England show a higher age in each class, although the difference is slight; but in Germany the average for working girls is 16.8 years; for the middle classes, 15.5 years, and for the better classes 14.1 years, according to Krieger's statistics. In France, De Boismont found the average for the laboring classes 14.84 years; for the middle classes, 14.5 years, and for the better classes, 13.6 years. The average in Denmark and Russia approximates that of Germany for the laboring class, but in the better classes the average was 14.25 and 14.5 years respectively, in 6371 cases collected.

**Blood Letting in Nurslings.** M. Delestre.—Bacteriologic study of the blood of moribund nurslings revealed the streptococcus in 8 of the 22 positive tests on the 32 infants, and the staphylococcus and the colon bacillus each 5 times. Nineteen of the children weighed less than 2000 gm., and in these he found the streptococcus in 6 and the colon bacillus in 5. He was impressed with the fact that the withdrawing of the blood—2 c.c.—for the test was followed by a marked improvement in each case, and this experience suggested that venesection combined with infusion of salt solution might be useful in severe cases of infection in nurslings. He now reports that these premises have proved correct and that he has witnessed actual resurrections from this measure in these severe septicemias, especially in prematurely-born children, weighing from 1800 to 2000 gm. He draws 2 or 3 c.c. at a time, or even as much as 15 to 20 c.c., immediately substituting 20 to 30 c.c. of artificial serum. The effect is evidently a stimulating of the blood and lymph-forming organs, and the insufficiency of these organs is probably the reason why infections become generalized in these little beings with such facility. He remarks that his success with this lavage of the blood during the last year, at the Enfants-Assistés hospital, has been "veritably astonishing." Relative improvement was invariably attained even in the patients who succumbed later.

February.

**Wedge Excision for Displacements of the Uterus.** Mauclaire.—Certain forms of displacement are best treated by a longitudinal, superficial wedge-shaped excision of the uterine tissue, tapering to a point above and below, the excised portion resembling a natural segment of an orange. The organ thus operated on, front and back, takes and maintains its normal position, although supplementary measures may be necessary as indicated by the adjoining ligaments, etc.

Annales des Mal. de l'Oreille, Etc. (Paris), January.

**Chromic Acid for Malignant Tumors of the Upper Air-Passages.** H. du Fougeray.—Cauterizing with a .5 per cent. solution of chromic acid, at first every other day, has proved a valuable measure in Fougeray's experience with epitheliomata in the pharynx. He reports three cases thus treated. In one observed two years ago, the fungus growth in the pharynx appeared three years after excision of a malignant tumor of the breast. He first curetted and then cauterized with the chromic acid. Three months later not a trace of the epithelioma was left and the patient has since been in good health.

**Fibrosarcoma in the Sphenoidal Sinus.** G. Ferreri.—If pus be found in the narrow summit of the nasal fossa and the roof of the nasopharynx, if a projecting tumor be visible and if the probe introduced through the middle turbinate bone reach the bone to a depth of 8 cm. from the nose, there is reason to assume a lesion in the sphenoidal sinus. Sphenoidal sinusitis should be diagnosed and operated on as promptly as possible to forestall intracranial complications, which are inevitably fatal. In a case described, this fatal termination was postponed for 1½ years by the extirpation of the tumor, which has been gradually developing for three years.

**Treatment of Chronic Otorrhea Through the Eustachian Tube.** P. J. Mink.—The prolongation of the axis of the Eustachian tube passes along the entire length of the upper portion of the tympanum and antrum, without obstruction. Mink calls attention also to the fact that a strong current of air introduced into the antrum along this route, dislodges pathologic products more successfully than is accomplished by fluid and that it penetrates to the remotest crevices. The products can then be further loosened and sterilized with peroxid of hydrogen. In case the ulceration has not invaded the bone, astringent and modifying treatment is sufficient, but if the bone is involved, acid is necessary to dissolve the necrosed particles. As long as any remain, hyperemia persists in the adjoining parts and all attempts to suppress the inflammation fail. Trichloracetic acid is especially useful for this purpose on account of its solvent action on lime salts.

February.

**Nail in Bronchus.** J. Garel.—A nail more than two inches long remained in the right bronchus of a young child for two months, without causing very serious disturbance. The parents suspected its presence and had a radiogram taken and sent to Garel. He diagnosed the case without seeing the patient, and when the latter arrived, easily extracted the foreign body with a magnet.

Annales des Mal. des Org. Gen.-Urin. (Paris), January.

**Operative Cure of Renal Tuberculosis.** P. Delbet.—The case described has been watched with interest as it was first reported as having been cured by nephrotomy alone. The patient was a man of 62 and at the operation five liters of fluid were evacuated and 300 c.c. of debris removed by curettage. The patient was apparently cured except for a small fistula, but fifteen months later symptoms recurred, necessitating nephrectomy from which he recovered in a month, and now, a year later, is apparently in perfect health.

Bulletin de l'Academie de Med. (Paris), March 5.

**Chaulmoogra Oil in Leprosy.**—Hallopeau remarked in regard to the alleged complete cure of a case of leprosy by chaulmoogra oil, reported by Tourtoulis-Bey, that the oil as received in the West is frequently adulterated with butter, fat and linseed, castor, sesame and cocoanut oils. Consequently control tests are not reliable. In the case reported the patient

was injected with 5 gm. of the oil, under the skin of the arm or leg, about twenty times a month for five years, with occasional suspension. He has thus received 2720 gm. of sterilized oil. The injections were not particularly painful and the swelling at the spot always vanished within twenty-four hours. In his personal experience Hallopeau has witnessed a number of cases so improved by the oil, administered by the mouth, that they are practically cured. One of Besnier's patients, whose case was so typical that a cast of the lesions is preserved in the Saint-Louis museum, is now improved to such an extent that he has resumed his usual life, and no one would suspect that he had had leprosy. Another severe case was exhibited at the International Medical Congress, in which the cure has seemed permanent during the eighteen months since the chaulmoogra oil was administered in large doses. Even when the disease continues under this treatment it assumes a much milder form. Hallopeau is now experimenting with its administration by the rectum emulsified with milk. Du Castel's experience with four patients has been less favorable. He stated that the subcutaneous injection of 5 gm. is a painful procedure and in sensitive patients may entail inflammatory infiltration. In one case the injection induced fat-embolism of the lungs and in another a tendency to syncope. The tuberculo-ulcerative forms appear as a rule to react more favorably to this treatment than the nervous variety.

**Medication to Reduce Arterial Pressure.** Huchard.—Vaso-dilating, pressure-reducing medication is extremely important, not only in diseases of the heart and vascular system, but in other morbid conditions in which high arterial pressure is a menace. Among these are the premonitory stage of arteriosclerosis or "presclerosis," in which the high arterial pressure is the cause and not always the effect of the sclerosis; in confirmed arteriosclerosis; in coronary angina pectoris and in pain in the heart from distension of the organ owing to peripheral vaso-constriction; in uricemia, as uric acid has a peripheral vaso-constricting action which explains the frequency of visceral congestions; in gout, which is to the arteries what rheumatism is to the heart; in tobacco intoxication, which entails vaso-constriction and consecutive arterial hypertension; in interstitial nephritis, one of the affections which increase the arterial tension to the highest point, whence the frequency of rupture of the blood-vessels and cerebral hemorrhages occur; in local syncope of the extremities; in Stokes-Adams' disease; in aneurysm and finally in the condition resulting from an excessive meat diet. The latter is one of the most frequent causes of arteriosclerosis and arterial cardiopathy. Owing to its richness in vaso-constricting toxins, the alimentary regime of our day is a constant or repeated alimentary poisoning. This is not the end of the list but it is enough to show the numerous indications and applications of "hypotensive" medication In these important heart affections, superposed on an arterial cardiopathy, which commence with an intoxication and lead to an almost permanent condition of vasoconstriction, treatment should not be addressed to the central heart which is already more or less affected in its contractile power, but to the entire arterial system. Contraction of the arteries should be prevented in order to relieve and facilitate the work of the heart. Arterial hypertension is a direct menace in case of an aneurysm, as it hinders coagulation. The suprarenal capsules secrete a substance that has a marked vaso-constricting action. Huchard has witnessed a sudden increase in the size of an aneurysm, with threatened rupture, in a patient who had been taking suprarenal extract for two weeks. In treating an aneurysm the coagulation of the blood is not the only aim, the sac itself should be influenced and the distention, which is maintained by arterial hypertension should be reduced by appropriate measures, including a milk-vegetable diet and vaso-dilating and pressure-reducing medication. When the case requires the immediate lowering of the arterial tension, as in angina pectoris, this can be accomplished by the inhalation of amyl nitrite. Propyl and butyl nitrites possess the same properties but have not yet been sufficiently tested. Sweet spirits of niter deserve more general use as a vaso-dilating and diuretic measure. Potassium nitrate has also a vaso-dilating and pressure-reducing action, besides a diuretic effect. It probably becomes transformed into a nitrite in the organism and almost all the nitrites are diuretics as they substitute vaso-dilation for constriction, which is the dominant mechanism of diuretic medication. Glycerin trinitrate has a similar action, but its effect is less prompt, and lasts one and a half hours, and it diminishes rapidly after the maximum is past. It causes severe headache in certain patients. These inconveniences are obviated with tetranitrate of erythrol or tetranitrol, which maintains the arterial pressure nearly at the physiologic point without intermission. Huchard's experience with it during the last four years fully confirms the recommendations by Lauder Brunton and other writers. The effect is felt in fifteen to thirty minutes and continues for three to five hours in most cases, although occasionally it subsides in one and a half to two hours. Huchard prescribes one to three, or six to eight, 1 cg. tablets during the twenty-four hours, beginning with three or four drops of a 1 per cent. alcohol solution of trinitrin in urgent cases. He has administered it to 120 patients and found symptoms of intolerance extremely rare, even the frontal headache noted with glycerin trinitrate. The hexanitrate of mannitol, he adds, is another member of this group that will repay study.

Bulletin de la Soc. de Pharmacie de Bordeaux, February.

**Improved Starch Paper for the Iodin Test.** G. Denigès.—Iodin is being used more and more as a test of the functional and metabolic processes going on in the organism. For instance, the absorbing power of the stomach is determined by ingestion—fasting—of 10 cg. of potassium iodid in a gelatin capsule. The saliva gives the iodin reaction in ten minutes under normal conditions. A number of German writers recently called attention to the value of iodipin as a test of the motility of the stomach, etc. This substance is a stable combination of oil of sesame and iodin. It is not affected by the buccal or gastric secretions, but is decomposed in the small intestine in the presence of bile. Fifteen minutes after eating a roll and drinking a cup of tea, 3.5 gm. of a 10 per cent. solution of iodipin are ingested in a little water. The appearance of the iodin in the saliva indicates the moment when the chyme is passing out of the stomach. This occurs in fifteen minutes under normal conditions. In icterus from retention, if no bile reaches the intestines, the iodin reaction does not occur at all, and it is much delayed in case of stenosis of the pylorus, atony of the stomach, etc. The permeability of the kidneys can also be determined by the iodin reaction in the urine during the twenty-four hours after subcutaneous injection of 4 cg. of potassium iodid. Still another means of utilizing the iodin reaction for diagnostic purposes is to examine the cerebrospinal fluid by lumbar puncture after ingestion of 4 gm. of potassium iodid by the mouth, in case of suspected meningitis. If the meninges are normal, the iodin does not pass through them. The ordinary starch paper used in the tests rapidly deteriorates, and may lead to erroneous deductions when not perfectly fresh. Denigès makes a paper which keeps indefinitely, with no precautions, while it is so sensitive that it reveals the presence of even .001 mg. in a single drop of the solution. One gm. of starch is dissolved in 10 c.c. of cold distilled water and 40 c.c. of boiling water added. The mixture is then boiled for a minute or two, stirring constantly. When cooled, .5 gm. of sodium nitrite is stirred in and writing paper is painted with this mixture on both sides, drying each side separately. A strip of this paper, 1 cm. wide, is moistened with the fluid to be tested and held at an angle, the moistened side up. One drop of a 10 per cent. solution of sulphuric acid is then deposited at the top of the paper with a glass rod, and as the drop works its way down, the characteristic coloration appears.

Presse Medicale (Paris), February 27.

**Generalized Pneumococcus Peritonitis in Children.** F. Brun.—Benign, encysted pneumococcus peritonitis is speedily cured by spontaneous or operative evacuation of the pus pocket, which is usually located near the umbilicus. Besides this benign variety Brun has had occasion to observe six cases in which the disease assumed a septic, generalized form, rapidly fatal. At the autopsy pseudomembranes were found numerous

in the abdomen and elsewhere, with greenish pus on the posterior surface of the stomach and spleen: the mesentery was dotted with ganglia. There was no trace of pneumonia. The pneumococcus was found pure in the pus. Two of the patients were girls about 5 years of age, another was a boy of 10; all were healthy children. One was operated on the second day of the disease, which was diagnosed peritonitis from appendicitis. In another, the disease commenced with pain, fever, headache, and white patches on the tonsils. These symptoms improved by the end of five days, but merely to be substituted by pain and tympanites, vomiting, imperceptible pulse, oppression, dark rings around the eyes and dull gaze. The abdomen was opened as for appendicitis and pus escaped, which was not traceable to the appendix. All the loops of intestine were scattered with pseudomembranes. Each patient died in three to seven hours after the operation.

March 2.

**The Antituberculosis Dispensary at Liege.** E. Malvoz.—A model tuberculosis dispensary has been constructed at Liége, by the efforts of a society composed of all classes of people. The work has been in progress for more than a year and the results have been unexpectedly gratifying. The dispensary is open three days a week. Three physicians examine the applicants, and another makes the bacteriologic tests. The physicians do not treat the patients—they merely examine them from time to time and keep a detailed record of each case. An official is connected with the dispensary, an ex-working man, whose duty is to learn the circumstances of the patients, their occupation and all the details of their surroundings at home and at work, winning the confidence of the patients and their families, and educating them in hygienic measures. They are supplied with bedding, etc., as needed, and two quarts of Pasteurized milk a day. Arrangements have been made with farmers to board some of the most promising patients, and philanthropists have become interested in certain patients and assumed this expense for them, about sixty cents a day for each one. The tuberculous poor have learned to appreciate the work of the society and respond faithfully to its efforts, knowing that disregard of the prophylactic measures recommended means the withdrawal of the milk and other assistance. The work is carried on in a spirit of mutual helpfulness, with scrupulous avoidance of red tape. The society has now a hundred cases in its charge and has spent about $600 for reclining chairs, bedding, etc. When surroundings are hopelessly unsanitary, a healthy home is found for the family at the same price, in an out-lying part of town, and is offered them rent free for the first two or three months, which usually proves a sufficient inducement to move, the society paying the deficit in the rent. Branch societies have recently been organized in the two nearest large towns, principally by the efforts of physicians, and the province is now erecting the first public sanitarium in Belgium, which will accommodate 500 inmates.

**Therapeutic Indications for Kefir.** L. Hallion.—In Russia a course of kefir is considered extremely beneficial for the treatment of pulmonary phthisis, as it affords a nourishing article of food, digested and assimilated with extreme ease, and even a specific action on the disease is ascribed to it. In other affections it will be found useful whenever a milk diet is indicated, substituting, or combined with the milk. It is particularly valuable in case of defective digestion, in biliary and renal lithiasis, in chronic rheumatism and affections retarding nutrition, anemia, chlorosis, convalescence from acute diseases, etc. Hallion considers it contraindicated in heart disease, stasis of the portal system, rhachitis and obesity. Besides possessing the physiologic properties of milk, with superior digestibility, it also contains micro-organisms and diastases to counteract bacteria and pathogenic toxins. The therapeutic indications have been established on this basis, and have been confirmed by experience.

March 9.

**Improved Nitric Acid Test for Albuminuria.** Ehrmann.—The conical graduated glass has a tube held over it by a standard. The tube is shaped like a long narrow funnel and just touches the bottom of the glass. The nitric acid is poured into this tube without interruption to the flow, thus avoiding air bubbles. As the acid emerges at the bottom the reaction of the albumin is much more even and regular than by any other means and the amount of the precipitate, when all has been deposited, affords a quantitative measure of the albumin, each division representing 5 eg. of albumin to the liter of urine. The standard is arranged to suspend a large funnel tube over a conical glass holding 50 c.c. on one side and, on the other, a small tube over a glass holding but 10 c.c., to correspond to a small or large amount of urine at one's disposal. The entire test requires absolute stillness. The tubes and glasses must be kept perfectly still after the acid has been poured in; the slightest touch impairs the accuracy of the reaction, even the removal of the pipette in the usual method of using the nitric acid test. The glasses were graduated by observing the depth of the precipitate that corresponded to a certain weight of albumin representing 5 eg. to the liter of urine, and fractioned in proportion.

Revue de Chirurgie (Paris), March.

**Unilateral Exclusion in Case of Rebellious Fistula of the Intestine.** X. Delore and M. Patel.—Two cases are described. The first was a pyostercoral fistula in the right iliac fossa consecutive to tubercular appendicitis. Except for cervical adenitis in childhood, the patient, a woman of 40, had been healthy until six months before when vague pain was experienced in the right iliac fossa, with occasional vomiting. After four months a large abscess spontaneously opened in the region, with four orifices. These fistulæ evacuated pus and fecal matter and the patient became cachectic. The cecum was found free, but the appendix was adherent to a number of loops of the small intestine. The latter was severed about a yard above the appendix and the distal end closed and replaced in the abdominal cavity. The proximal stump was implanted in the ascending colon. This unilateral exclusion did not arrest the cachexia which continued to a fatal termination four weeks later. The autopsy showed the anastomosis perfect, and the peritoneum sound, but the appendix was in a purulent focus. It was partially destroyed and one of the loops of the small intestine had several perforations communicating with the abscess cavity. In the second case the stercoral fistula was caused by a tubercular affection of the ileum and appendix. The cecum and lower portion of the ascending colon were severed from the small intestine and the distal stump closed. The lower segment of the ileum was inserted in the small intestine and the patient made an uneventful recovery with gradual disappearance of the fistula. These cases are typical of what may be anticipated in operations of this nature on the small or on the large intestine. When the small intestine is involved no better results are obtained than with entero-anastomosis, that is, fecal matters accumulate in the lower portion and the fistula persists. But the results are positive and frequently cure, when the operation is on the large intestine. If the fistula involve the cecum, the ileum should be implanted in the sigmoid flexure. But if located at the terminal portion of the intestine without involvement of the cecum, it can be implanted in the ascending colon. The circulation of fecal matters is definitely suppressed, the same as with bilateral exclusion. A purulent fistula has less reason for continuing than in the latter case, and the chances of infection from propagation are less. Unilateral exclusion may even be employed in case of a non-fistulous tubercular affection of the cecum, not only as a cure but as a preventive of a stercoral fistula. The disadvantages of the small intestine for unilateral exclusion are the greater amount of peristalsis liable to induce retrograde movement of the feces, the more copious secretions and consequently the greater fluidity of the intestinal contents.

Semaine Medicale (Paris), March 6.

**Severe Vomiting in Pregnancy.** Ch. Achard.—Between the simple and the uncontrollable vomiting of pregnancy there is a third, intermediate class in which the vomiting is severe, frequent and distressing, but not absolutely uncontrollable. In a case described, the vomiting appeared at the third month, accompanied by symptoms of hyperchlorhydria, and was re-

lieved as the latter yielded to treatment with alkalies: a teaspoonful of equal parts of sodium bicarbonate and magnesia whenever the pains appeared, and a strict milk diet. In two other cases this treatment proved ineffectual and was suspended, but the vomiting was cured by lavage of the stomach. At first the lavage increased the vomiting spasms, but as it continued the stomach quieted down, and after a daily repetition for a few times, the vomiting was completely arrested. . these patients had a tendency to hysteria and neuropathy, and Achard suggests that hysteria may be a prominent factor in the vomiting of pregnancy. Other factors may be an excessive excitability on the part of the vomiting center, and some special excitation capable of affecting this center by the reflex route. The starting point of his causal excitation varies with the case and is by no means restricted to the uterus and adjacent organs. The stomach is particularly liable to be its seat.

Berliner Klin. Wochenschrift, February 18 and 25.

**Serum Test for Differentiation of Human and Animal Blood.** A. Wassermann and A. Schuetze.—These scientists and Uhlenhuth conducted, independently, simultaneous researches in this line and reached the same conclusions. Their announcements were published in two of our Berlin exchanges with only a day's interval between them. Uhlenhuth's discovery was mentioned editorially in The Journal of March 9, p. 673, and this communication from Wassermann more emphatically confirms the value of the new test. The rabbits were prepared by subcutaneous injection of 10 c.c. of human blood serum, free from cells, repeated every other day for five or six times. The animals bore the injections well, and, six days after the last, they were bled to death from an incision in the carotid, the blood being cooled on ice. By adding .5 c.c. of this serum to a specimen of human blood diluted with salt solution or distilled water, the fluid becomes turbid and a precipitate is deposited, more abundant at 37 C. than at room temperature. The blood of 23 different kinds of animals was tested and the reaction found absolutely specific for each. The only exception is monkey's blood, which reacts feebly to the prepared human blood serum. In two dozen tests with blood from all these animals, distributed on various substances and left unprotected for three months, the results were as decisive as with fresh blood. A flake of the brown, dried blood, a trifle larger than a dime, was dissolved in 5 or 6 c.c. of salt solution and the fluid filtered until perfectly clear, when .5 c.c. of the prepared serum was added and the vessel kept in the autoclave at 37 C. In twenty minutes the tube containing the human blood became turbid, while all the others remained clear. In fifteen minutes more, a flaky precipitate was deposited in the human blood tube, while the monkey tube alone showed signs of cloudiness. Serum for treating the rabbits can be obtained from the hospitals, but in greater abundance at the maternities, from placentas squeezed to extract the blood. The reaction is more pronounced the fresher the rabbit serum, but it was obtained even with serum fourteen days old. A prepared serum of this kind could be supplied from a central station. Tests are now in progress with goats instead of rabbits and with the fluid from effusions, ascites, etc.

**Adenomyoma Obliterating the Cervix.** L. Landau. Mesonephric adenomyomata have been found at various parts of the internal genitalia, but Landau states that this is the first case on record in which one was located in the cervix. It completely obliterated the outlet, and the patient, a robust woman of 40, had never menstruated, although the molimen was marked every month. The tumor was solid, of the size and shape of an apple and accumulations of blood were found in the obstructed uterus and tubes, in the omentum and ovaries and beneath the peritoneum. Somewhat similar cases of gynatresia have been reported in Finland, operated on at the age of 40 and 46 years, and one by Rossa at 35.

**Sterilization of Silk Catheters.** Mankiewicz.—The sterilization of silk catheters, by boiling them for five minutes in a saturated solution of ammonium sulphate, is considered by Mankiewicz as a great advance in this line. All the bacteria and cocci are destroyed in two minutes, while the catheters are not injured in the least by the repeated process. They are placed first in the cold solution and heated with it.

Muenchener Med. Wochenschrift, March 5.

**Influence of Salt Solution on the Morphology of Coagulation.** E. Schwalbe.—Isotonic salt solution has no influence on the process of coagulation, but a hyperisotonic, 2 to 3 per cent. solution, alters the shape of the red corpuscles, rapidly increases the number of blood-plates and has a marked effect in accelerating coagulation. These facts, observed by Schwalbe, suggest that the blood-plates must be derived from the red corpuscles. The alterations in the shape of the corpuscles and the development of blood-plates coincident with the accelerated coagulation also suggest an evident connection between these processes. The assumption seems plausible that coagulation is the result of the liberation of a ferment from the red corpuscles undergoing destruction from the hyperisotonic salt solution, and that the changes in the red corpuscles are the morphologic expression of coagulation.

**Drumstick Finger.** A. Dennig.—In only one of the ten cases of drumstick finger noted by Dennig, was it possible, by radiography, to detect any involvement of the bone. He concludes that in the majority of cases the enlargement is due to congestion and hypertrophy of the soft parts of the tip of the finger involved. In rare cases there may be an ossifying periostitis of the terminal phalanx. The affection is consecutive to an infection or toxic process, a congenital heart affection, disease of the nervous system or a malignant tumor. In one of Dennig's cases the only cause that could be incriminated was severe gastrectasis.

**Ulcus ex Digestione in the Esophagus.** K. Ortmann.—Schaffer has reported finding patches of typical stomach epithelium in the pavement epithelium of the esophagus. This helps to explain the process known as *ulcus ex digestione* in the esophagus. Ortmann describes two cases with no preceding corrosion from caustics or syphilis. The first was a healthy man of 42, who began to spit and vomit blood, with pains in the thorax, discomfort and pain during and after meals, localized at the lower portion of the sternum. After four years symptoms of stenosis of the esophagus appeared, with constant vomiting, most severe about 2 or 3 a. m. The esophagus became enlarged above the stenosis. After repeated sounding, the stenosis was dilated and the symptoms relieved. In the second case, a man of 28 with a record of cerebral inflammation at 2 years of age, nervous fever at 12 and inflammation of the lower lobe of the right lung at 22, but otherwise healthy, drank some very sour wine and immediately afterward experienced violent cramp in the stomach and chest. This was followed by frequent local oppression and vomiting during and after every meal, and again on retiring. The vomiting was not accompanied by pain after the first few days, but increased in amount. He never vomited blood. Stenosis of the esophagus with enlargement above occurred as in the first case, and the introduction of the sound alleviated the stenosis and cured the symptoms in the same way. The troubles had lasted six years in the first and seven in the second case. The increase of 8 and 9 pounds in weight indicates that the stenosis could not have been of a malignant character, but in a previously reported case Ortmann observed that a carcinoma developed later at the site of the stenosis. The pains were regularly experienced at the ensiform process whenever the patient swallowed and after the ingestion of food, and the slow gradual development of the stricture indicated the ulcerative nature of the process.

St. Petersburg Med. Wochenschrift, March 2 and 9.

**Diagnostic Value of Pulse Tracings.** J. Gruenberg.—The tracings of the sphygmograph do not always afford reliable information in general hospital practice for various reasons, but in private practice they may be found of invaluable assistance in diagnosing obscure cases. The tracings are particularly instructive in the incipient stage of arteriosclerosis before an anatomic cause for the variations in the pulse exists. Gruenberg pleads for more general study of the pulse with instruments, as digital investigation alone is frequently misleading.

# Queries and Minor Notes.

### PHYSICIANS AND THE AUTOMOBILE.

ROCHESTER, MINN., March 25, 1901.

*To the Editor:*—A recent request for information as to what is the best automobile for physicians' use urges me to give my experience. I have taken a great interest in the horseless carriage during the past few years, making several trips east to investigate them at exhibitions, and using a steam buggy duriug the past season with considerable pleasure.

The electric carriages are the easiest managed, the cleanest and least noisy. They have great objections in their weight, which causes them to pound over rough pavements, also in their short range of mileage, and in requiring special facilities for charging, which will limit their use to the city physician.

The gasoline carriages have more or less nupleasant vibration, and the higher power vehicles are clumsy in construction. The horse power has been gradually increased from three to nine to enable them to go through mud and climb the hills. Their main trouble is in the electric sparking device, which will be understood by those physicians who keep their medical batteries in order. In Europe, gasoline automobiles are in the lead, while in this country they are in a rapid transition stage of both engine and power transmission. The firms which appear to have the best outfits have none running, but the models, though many are under construction.

The steam buggy is the cheapest, lightest nnd most elegant for the amount of power developed. It requires the most attention from the operator, in spite of the many automatic additions. It slips and slides about in the mud in a most disagreeable manner, while in cold weather there is trouble from the freezing of the pipes and the necessity of keeping the harn warm. Reports from eleven steam vehicle operators, given in a recent edition of the *Automobile*, gave an average of over $100 for repairs in 2000 miles for each buggy.

The small wheels used in most automobiles require good roads for comfortable riding. At this time, my opinion is that steam is the most sure power, yet the rapid advance in gasoline engines will undoubtedly make them the most convenient in another year.

Automobiles at present are more or less of a pleasure vehicle for good roads, their perfection not being such as to warrant the physician who purchases one in selling his horse.

C. H. MAYO, M.D.

### DRUGGISTS AS PHYSICIANS.

The secretary of a medical society writes as follows: "The —— Society, having adopted the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION, has received an application for membership from a regular practitioner in this city who likewise owns and operates a drug store in his own name. Kindly advise me as to his eligibility."

ANS.—There is nothing in the Code of Ethics which prohibits a physician from acting as a pharmacist and puttiog up not only his own, but the prescriptions of other physicians. It is a question of taste whether the two professioos should be combined. A physician who operates a drug store after the manner of many druggists, dispensiug and commeoding secret nostrums, put up by himself or others, or who in any way, by sale or otherwise, promotes the use of patent or secret medicines, violates the letter and principles of the Code.

### IF I SHOULD DIE TO-NIGHT.

CHICAGO, March 25, 1901.

*To the Editor:*—F. N. M., in THE JOURNAL of March 23, p. 851, asked where he could find the poem beginning: "If I should die to-night." The parody referred to is the poem on the first page of "Ben King's Verse" (Forbes & Co., 1900). The poem which inspired the parody was written by Arabella E. Smith, and can be found on page 309 of "The Humbler Poets" (A. C. McClurg & Co.). The parody is suggestive, and can be appreciated by men of experience in loaning money and collecting bills. The other poem is a gem and should be read and remembered. H. S.

MUNCIE, IND., March 23, 1901.

*To the Editor:*—"If I Should Die To-night," etc., is publish ed in "The Doctor's Window," a volume of poems "By the Doctor, for the Doctor and About the Doctor." (C. W. Moulton, Buffalo, N. Y.) In that volume it is entitled: "The Latest Reconstructive Nerve-Tonic and Restorative." It was printed in the *Medical Standard*, Chicago, Februrry, 1900, p. 106. G. W. H. K.

[Answers have also been received from W. H. G., Philadelphia; F. B. F., Springfield, Ill.; N. L. J., Williamsport, Pa.; D. R., Atlanta, Ga.; W. T. M., Blue Mound, Ill., and E. W. B., St. Louis, Mo.—ED.]

### SCHOTT TREATMENT.

NUTLEY, N. J., March 16, 1901.

*To the Editor:*—Has there been published in THE JOURNAL a description of the baths and resistance treatment of the Schott brothers and Dr. Beyley Horn, of London, or where could I find such information? J. C.

ANS.—Papers on the subject, by C. N. B. Camac, appeared in THE JOURNAL for Aug. 28, 1897, by Dr. Ellsworth Smith, in the issue of Jan. 28, 1898, and by C. L. Greene, Oct. 15, 1898.

### ADDRESSES OF SECRETARIES.

BALTIMORE, MD., March 25, 1901.

*To the Editor:*—Kindly give me the name and address of the secretaries of the state boards of medical examiners of North Carolina and Pennsylvania, and oblige. SUBSCRIBER.

ANS.—They arc Dr. J. Howell Way, Waynesville, N. C., and James W. Latta, Esq., Department of Interior Affairs, Harrisburg, Pa.

### ORIGINAL EXPERIMENTER WITH INDIVIDUAL COMMUNION CUP.

NEW YORK CITY, March 22, 1901.

*To the Editor:*—For the information of L. P. D., who is desirous of obtaining the name and address of the original experimenter in the individual communion cup agitation, please state that it was Dr. M. O. Terry, of Utica, N. Y., who was the first physician to publicly suggest the desirability of a change. This he did in a paper read before the Oneida County Medical Society, in January, 1887. ALBERT S. ASHMEAD, M.D.

# Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, aud Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volnme 1, March, 1901. Surgery of the Head, Neck, and Chest—Infectious Diseases, Including Acute Rheumatism, Croupous Pnemonia and Influenza—Diseases of Children—Pathology—Laryngology and Rhinology—Otology. Cloth. Pp. 440. Price, $2.50. Philadelphia and New York: Lea Brothers & Co. 1901.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at its Twenty-fourth Annual Meeting held in Washington, D. C., May 1, 2 and 3, 1900, in Connection with the Fifth Triennial Session of the Congress of American Physicians and Surgeons. Official Report of the Proceedings. By Frank Hugh Montgomery, M.D. Cloth. Pp. 235. Chicago: P. F. Pettibone & Co. 1901.

INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. By Louis Fischer, M.D., Attending Physician to the Childreo's Service of the New York German Poliklinik. Containing 52 Illustrations, with 23 Charts and Tables, Mostly Original. Cloth. Pp. 359. Price, $1.50 net. Philadelphia and Chicago: F. A. Davis Co. 1901.

DIET AND FOOD, Considered in Relation to Strength and Power of Endurance, Training nud Athletics. By Alexander Haig, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital. Third Edition. With Five Illustrations. Cloth. Pp. 112. Price, $1.00. Philadelphia: P. Blakiston's Son & Co. 1901.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital, Out-Patient Depnrtment. Assisted by Frederick J. Cotton, M.D. Second edition, Revised. With 611 Illustrations. Cloth. Pp. 457. Price, $4.50 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College. With 175 Illustrations, 23 of them in Colors. Second Edition. Cloth, Pp. 646. Price, $4.00 net. Philadelphia: W. B. Saunders & Co. 1900.

A MANUAL OF PRACTICAL HYGIENE for Students, Physicians, and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with 12 Plates and 105 Engravings. Cloth. Pp. 729. Price, $4.25 net. Philadelphia and New York: Lea Brothers & Co. 1901.

NEWFOUNDLAND IN 1900. A Treatise of the Geography, Natural Resources and History of the Island, Embracing an Account of Recent and Present Large Material Movements. By Rev. M. Harvey, LL.D., F.R.C.S. Finely Illnstrated with Maps and Half-tone Engravings. Cloth. Pp. 187. New York: The South Publishing Co. 1900.

A TEXT-BOOK OF OPHTHALMOLOGY. By John W. Wright, A.M., M.D., Professor of Ophthalmology and Clinical Ophthalmology in the Ohio Medical University. Second Edition, Thoroughly Revised. With 117 Illustrations. Cloth. Pp. 378. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1900.

CHLOROFORM: A Manual for Students and Practitioners. By Edward Lawrie, M.B., Edin., M.R.C.S. Eng., Lieutenant-Colonel I. M. S. Cloth. Pp. 120. Price, $1.75 London: J. & A. Churchill. 1901.

MANUALE DI CHIRURGIA OPERATORIA. Del Dottori R. Strecchi e A. Gardini. Con 118 Incisioni. Cloth. Pp. 64. Milano: Ulrico Hoepli. 1901.

RETINOSCOPY (Or Shadow Test) in the Determination of Refraction at One Meter Distance, with the Plane Mirror. By James Thorington, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Gradnates in Medicine. Fourth Edition, Revised and Enlarged. 51 Illnstrations, 12 of Which are Colored. Cloth. Pp. 89. Price $1.00. Philadelphia: P. Blakiston's Son & Co. 1901.

PULMONARY CONSUMPTION, PNEUMONIA, and Allied Diseases of the Lungs; Their Etiology, Pathology and Treatment, with a Chapter on Physical Diagnosis. By Thomas J. Mays, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic. Illustrated. Cloth. Pp. 539. Price, $3.00. New York: E. B. Treat & Co. 1901.

WHAT A MAN OF FORTY-FIVE OUGHT TO KNOW. By Sylvanus Stall, D.D., Author of "What a Young Boy Ought to Know." Cloth. Pp. 284. Price, $1.00. Philadelphia and London: Vir Publishing Company.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION. For the Year 1900. Volume XVI. Cloth. Pp. 210. Philadelphia: Printed for the Association. 1900.

COINCIDENT TYPHOID AND MALARIAL INFECTION. Report of a Case and Review of the Literature, with a Discussion of the So-called Typhomalarial Fever. By Irving Phillips Lyon, M.D., (Johns Hopkins), Buffalo, N. Y. Paper. Pp. 30. From the Johns Hopkins Hospital Reports.

SIX MONTHS ABROAD ON THREE HUNDRED DOLLARS. An Account of a Tour Taken by a Gentleman and His Wife in Germany, Belgium, Egypt, Palestine, Syria, Turkey, Greece, Italy, Switzerland, France, England and Scotland. Paper. Pp. 43. Price, $0.50. Carrollton, Mo.: E. H. Kellar. 1901.

TUBERCULOSIS as a Disease of the Masses, and How to Combat it. Prize Essay by S. A. Knopf, M.D., New York. Paper. Pp. 86. Price, $0.25. New York: M. Firestack. 1901.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. During January. Paper. Pp. 42. Price per copy, $0.15. Philadelphia: Published by the Society.

THE CIRCULATION IN THE NERVOUS SYSTEM. By Herman Gasser, M.D. Paper. Pp. 156. Price, $1.00. Platteville, Wis.: Journal Publishing Co. 1901.

THE STUDENTS' MANUAL OF VENEREAL DISEASES. By F. R. Sturgis, M.D., Sometime Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York. Seventh Edition. Revised and in Part Rewritten by F. R. Sturgis, M.D., and Follen Cabot, M.D., Instructor in Genito-urinary and Venereal Diseases in the Cornell University Medical College. Cloth. Pp. 216. Price, $1.25. Philadelphia: P. Blakiston's Son & Co. 1901.

MANUAL OF THE DISEASES OF CHILDREN. By John Madison Taylor, A.M., M.D., Professor of Diseases of Children, Philadelphia Polyclinic, and William H. Wells, M.D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic. Second Edition, Thoroughly Revised and Enlarged. Illustrated. Cloth. Pp. 859. Price, $4.50. Philadelphia: P. Blakiston's Son & Co. 1901.

A LABORATORY GUIDE IN ELEMENTARY BACTERIOLOGY. By William Dodge Frost, Instructor in Bacteriology, University of Wisconsin. Illustrated. Cloth. Pp. 205. Price, $1.60. Madison, Wis.: Published by the Author. 1901.

A TREATISE ON APPENDICITIS. By George Ryerson Fowler, M.D., Professor of Surgery in the New York Polyclinic. Second Edition. Revised and Enlarged. Cloth. Pp. 235. Price, $2.50. Philadelphia and London: J. B. Lippincott Co. 1900.

## New Patents.

Patents of interest to physicians, etc., March 5 and 12:

669,336. Local application of electric treatment to the human body. Herman Behrendt, Worms, Germany

669,361. Obtaining albumen. Georg Deycke, Constantinople, Turkey.

669,217. Invalid bed. John Hanson, Hansonville, Minn.

669,087. Device for applying hot air to parts of the body. John C. Hoyt, Richmond, Mo.

669,098. Inhaler. Timothy T. Overshiner, Marion, Ind.

669,100. Physicians' electric lamp. Purdy M. Randall, New York City.

669,450. Device for handling invalids. Cornelius Stephens, Reno, Mich.

669,271. Making phosphoric acid. Frank P. Van Denbergh, Buffalo, N. Y.

669,910. Irrigating vaginal syringe. Joseph P. Ball, Hesston, Kan.

669,583. Breast pump. Joseph H. Hoover, Waterloo, Iowa.

669,756. Bed-pan. Mary MacAdam, Lynn, Mass.

669,757. Vaporizer. Thomas A. Mack, New York City.

669,846. Apparatus for exercising and developing the fingers. Jean Morat, Lyons, France.

669,716. Topical remedy. Robert Wallace, Louisville, Ky.

34,202. Design, atomizer and inhaler. Charles M. Blackman, New York City.

34,201. Design, medicinal tube. Louis F. Cushing, Gray, Maine.

# The Public Service.

## Promotions and Appointments of Army Medical Officers, Regulars and Volunteers.

The following promotions and appointments in the Medical Department, U. S. A., and appointments to positions as surgeons and assistant surgeons, U. S. Vols., consequent on the passage of the army reorganization bill on February 2, last, have been reported up to March 15, 1901:

PROMOTIONS IN U. S.

To be assistant-surgeons general, with the rank of colonel—Lieut.-Cols. Justus M. Brown and Charles Smart, Feb. 2; Peter J. Cleary, Feb. 4.

To be deputy surgeons general, with the rank of lieutenant-colonel—Majors Joseph B. Girard, Feb. 2; Ezra Woodruff, Feb. 2; John D. Hall, Feb. 2; Philip F. Harvey, Feb. 2; Charles R. Byrne, Feb. 4.

Assistant-surgeons to be surgeons, with the rank of major—Captains Adrian S. Polhemus, William C. Borden, Edgar A. Mearns, Guy L. Edie, William D. Crosby, William L. Knoedler, Charles M. Gandy, Charles B. Ewing, Walter D. McCall, Jefferson R. Kean, Henry L. Raymond, Francis J. Ives, William P. Kendall, Edward R. Morris, Feb. 2; Henry S. T. Harris, Feb. 4.

APPOINTMENTS IN U. S. A.

To be assistant-surgeons with rank of first lieutenant—Arthur W. Morse, of Illinois, Feb. 4; Frank C. Baker, of the District of Columbia, Feb. 4; Henry S. Kiersted, of Pennsylvania, Feb. 4; Allie W. Williams, of Georgia, Feb. 4; John J. Reilly, of New York, Feb. 4; Jerome S. Chaffee, of New York, Feb. 4; John D. Yost, of Massachusetts, Feb. 11; Charles R. Reynolds, of New York, Feb. 11; Paul C. Hutton, of North Carolina, Feb. 11; Frederick A. Dale, of Pennsylvania, Feb. 11; William M. Roberts, of Maryland, Feb. 11; Charles W. Farr, of New York, Feb. 11; James P. Edwards of Pennsylvania, March 6; Jay R. Shook, of Pennsylvania, March 6; William E. Vose, of Maryland, March 6; Frank T. Woodbury, of Pennsylvania, March 6.

APPOINTMENTS, U. S. VOLUNTEERS.

To be surgeons with rank of major from Feb. 7—Acting Assistant Surgeons Joseph Milton Heller, Arlington Pond. Majors Henry D. Thomason, surgeon; Samuel O. L. Potter, surgeon; Acting Assistant-Surgeon Robert H. Zanner; Captain William Bowen, assistant-surgeon, 27th Infantry, U. S. Vols.; Major Joseph N. Henry, surgeon 31st Infantry, U. S. Vols.; Acting Assistant-Surgeon Walter Whitney.

To rank from March 11—Majors Herbert W. Cardwell, Henry F. Hoyt, Samuel T. Armstrong, George H. Penrose, William F. de Niedeman, Ira C. Brown, Frederick J. Combe, Franklin A. Meacham, Charles M. Drake, Thomas C. Chalmers, 28th Infantry; John R. McDill, 30th Infantry; John R. Hereford, 32d Infantry; Luther B. Grandy, 35th Infantry, Seaton Norman, 39th Infantry. Captains Shadworth O. Beasley, 11th Cavalry; James C. Miner, 29th Infantry, Frederick Hadra, 30th Infantry; John A. Metzger, 35th Infantry; Thomas B. Anderson, 37th Infantry; Charles L. Furbush, 44th Infantry; Robert P. Robins, 47th Infantry, William H. Cook, 32d Infantry.

To be assistant-surgeons, with rank of captain from Feb. 7—Acting Assistant-Surgeons Clark L. Wertenbaker, Frank A. E. Disney, Charles H. Andrews, Robert M. Enders, Sr., Matthew Leepere, Charles Anderson, James S. Kennedy, Frank P. Kenyon of Kentucky, Guy G. Bailey, George A. McHenry, Edward F. Horr, Shannon Richmond, Elmer S. Tenney, Samuel D. Huntington, Captain James J. Erwin, 30th Infantry; Acting Assistant-Surgeons James F. Presnell, Frederick H. Sparrenberger, Irvin E. Bennett, James H. McCall, Thomas C. Stunkard, Harold W. Cowper, Dwight B. Taylor.

From Feb. 9—Acting Assistant-Surgeon Harry A. Littlefield, Frederick W. Cox of South Dakota, Gerry S. Driver.

From Feb. 11—Acting Assistant-Surgeons Justus M. Wheate, Francis M. McCallum.

From Feb. 12—Captain Isaac W. Brewer, 36th Infantry; Ernest H. Wheeler, of Maine.

From Feb. 14—Acting Assistant-Surgeons George W. Daywalt, Frederick C. Jackson.

From Feb. 18—Acting Assistant-Surgeons James J. Edmonson, Joseph C. Reifsnyder, Joseph J. Curry of Massachusetts, James K. Stockard, George R. Plummer, William R. Van Tuyl, John S. Fogg.

From Feb. 20—Acting Assistant-Surgeon William F. James.

From March 11—First Lieutenants George P. Peed, 28th Infantry; W. Dudley, asst.-surgeon 32d Infantry; John Carlin, 35th Infantry; George S. Wallace, 42d Infantry; Laurel B. Sandall, 43d Infantry; Acting-Assistant-Surgeons Timothy F. Goulding, Charles F. de Prey, Bruce Foulkes, Henry W. Eliot, H. Eugene Stafford, Waller H. Dade, Fred F. Sprague, Rene Vandam, Fred M. Barney, William G. Miller, John C. Orr, Arthur D. Prentice, Elwin W. Ames, William A. Tukey, George H. Jones, Frederick H. Morehart, Harry S. Moore, Verdo B. Gregory, Clarence H. Long, Henry H. Rutherford, George A. Zeller, Walter C. Chidester, Palmer H. Lyon, Edwin C. Shattuck, Frederick D. Branch, Ira Ayer, Albert L. Miller, Charles G. Eicher, John J. Repetti, Gilbert I. Cullen, Raymond E. Whelan, Cyrus D. Lloyd, William B. McPherson, Wilson Murray, Thomas H. Landor, Charles A. Cattermole, Robert Boyd, John S. Hill, Donald P. McCord, John T. H. Slayter, Henry Pick, James B. Pascoe, Charles H. Stearns, Oscar W. Woods, Arthur Jordan, Perceval S. Rossiter, Thomas W. Bath, Vernon K. Earthman, Carl R. Hexamer, George L. Painter, Starling S. Wilcox, William W. Calhoun, Allen D. McLean, Robert A. Anderson, William O. Davies, Frank DuBois, Samuel K. Carson, George E. Means, Jerome B. Thomas, Paul T. Dessez, John F. Miner, Edwin P. Hayward, Vernon J. Hooper, Najeeb N. Saleeby, Eduardo C. Poey, W. Edson Apple, Herman J. Schlageter, George K. Sims, Lewis T. Griffith, Charles B. Nichols, William D. Shelby, Alva S. Pinto, William R. Davis, First Lieut. Loren B. T. Johnson, 36th Infantry; Acting Assistant-Surgeons Charles W. Hack, Frank D. Pease, Thomas C. Longino, Compton Wilson, Charles R. Gill, Charles E. MacDonald, Francis Persell, William T. Tanner, Ira A. Allen.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 14 to 20, 1901, inclusive:

G. Parker Dillon, acting asst.-surgeon, from Grand Rapids, Mich., to duty at Fort Sheridan, Ill.

William F. Lewis, major and surgeon, Vols., from the Division of the Philippines to duty at Fort Leavenworth, Kan, relieving Major Adrian Polhemus, surgeon, U. S. A.

George A. McHenry, captain and asst.-surgeon, Vols., recently appointed and now at Santiago, Cuba, to proceed to San Francisco, Cal., en route to Manila, P. I., for assignment in the Division of the Philippines.

Edward R. Morris, captain and asst.-surgeon, U. S. A., relieved from further duty as examiner of recruits in the city of Detroit, Mich.

George R. Plummer, captain and asst.-surgeon, Vols., recently appointed, relieved from duty in the Department of Cuba, and to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Adrian Polhemus, major and surgeon, U. S. A., from Fort Leavenworth, Kan., to San Francisco, Cal., en route for service in the Division of the Philippines.

Josiah W. Richards, acting asst.-surgeon, from the transport *Buford* to proceed from San Francisco, Cal., to Fort Mott, N. J., for duty at that port.

Najib Taky-ud-Deen, acting asst. surgeon, from Washington, D. C., to duty at Columbus Barracks, Ohio.

Blair D. Taylor, major and surgeon, U. S. A., member of a board at Honolulu, H. I., to examine officers of the army for promotion.

Fred R. Underwood, acting asst.-surgeon, from London, Ohio to duty at Fort Leavenworth, Kan.

Walter Whitney, major and surgeon, Vols., from Fort Walla Walla, Wash., to San Francisco, Cal., en route for service in the Division of the Philippines.

Adrian D. Williams, acting asst.-surgeon, from Fort Adams R. I., to duty with the 1st Battalion, 11th U. S. Infantry, en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Charles F. Williams, acting asst.-surgeon, relieved from temporary duty at Fort Screvens, Ga., and assigned to duty at Fort McPherson, Ga., where he will become a member of an examining board, relieving A. A. Surgeon Francis A. Halliday.

Charles E. Woodruff, captain and asst.-surgeon, U. S. A., member of a board at Fort Riley, Kan., for the examination of officers of the army for promotion, relieving Major Adrian Polhemus, surgeon, U. S. A.

## Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 23, 1901:

Medical Director J. B. Parker, detached as president of medical examining boards, Washington, and ordered to Naval Home, Philadelphia.

Medical Director R. A. Marmion, detached from Naval Home, and to duty at the Washington Navy Yard, as president of the examining board.

P. A. Surgeon J. M. Moore, detached from the Port Royal Naval Station, and ordered to the *Franklin*, April 2.

P. A. Surgeon E. S. Bogert, detached from the *Massachusetts*, and ordered home to wait orders.

Asst.-Surgeon H. C. Shiffert, detached from the *Franklin*, and ordered to the *Solace*, April 1, and to the Asiatic Station.

Asst.-Surgeon J. C. Thompson, ordered to the Port Royal Station.

Asst.-Surgeon F. Thompson, detached from *Nashville*, and to *Solace*.

Asst.-Surgeon N. E. Hass, ordered to Naval Hospital, New York.

Asst.-Surgeon W. B. Grove, from Naval Hospital, New York, to Naval Hospital, Norfolk, Va.

Surgeon J. F. Bransford, retired in accordance with act of congress, approved Feb. 5, 1901.

Asst.-Surgeon S. S. Rodmaо, detached from Naval Hospital, Mare Island, and to the *Adams*.

Asst.-Surgeon R. T. Orvis, detached from the *Adams*, and ordered to Naval Hospital, Mare Island.

Medical Director E. S. Bogert, retired, detached from recruiting rendezvous, New York, and home.

Surgeon R. L. Law, retired, ordered to recruiting rendezvous, Buffalo, N. Y.

Surgeon M. H. Crawford, detached from recruiting rendezvous, Buffalo, N. Y., and to Marine Recruiting Rendezvous, New York City.

Surgeon P. Leach, detached from the *Oregon*, and to the *Monocacy*.

P. A. Surgeon S. G. Evans, from the *Kentucky* to the *Concord*

P. A. Surgeon A. Farenholt, from the *Concord* to the *Oregon*.

Asst.-Surgeon W. E. G. High, from the *Oregon* to the *Kentucky*.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended March 21, 1901:

Surgeon Preston H. Bailhache, relieved from duty at the bureau and directed to proceed to Stapleton, N. Y., and assume command of the service, relieving Surgeon G. W. Stoner, March 8, 1901.

Surgeon G. M. Stoner, upon being relieved by Surgeon Preston H. Bailhache, to proceed to Immigration Depot, New York City, and assume command of the service, relieving Surgeon L. L. Williams, March 8, 1901.

Surgeon H. R. Carter, upon being relieved by P. A. Surgeon G. B. Young, to proceed to Baltimore, Md., and assume command of the service, relieving P. A. Surgeon B. W. Brown, March 8, 1901.

Surgeon A. H. Glennan, granted leave of absence for eleven days from March 6, March 8, 1901.

Surgeon L. L. Williams, upon being relieved by Surgeon G. W. Stoner, to proceed to Washington, D. C., and report at bureau for duty, March 8, 1901.

P. A. Surgeon G. B. Young, upon being relieved by Asst. Surgeon C. H. Lavinder, to proceed to Louisville, Ky., and assume command of the service, relieving Surgeon H. R. Carter, March 8, 1901.

P. A. Surgeon B. W. Brown, upon being relieved by Surgeon H. R. Carter, to proceed to Evansville, Ind., and assume command of the service, relieving P. A. Surgeon J. H. Oakley, March 8, 1901.

P. A. Surgeon J. A. Nydegger, relieved from duty at Chicago, Ill., and directed to assume command of the Cape Charles quarantine station, relieving Asst.-Surgeon C. W. Wille, March 11, 1901.

Official list of changes date January 17, 1901, amended so that leave of absence granted P. A. Surgeon Nydegger for thirty days shall read: Leave of absence on account of sickness. March 13, 1901.

Asst. Surgeon H. S. Mathewson, to proceed to Washington, D. C., for examination for promotion. March 8, 1901.

P. A. Surgeon J. H. Oakley, upon being relieved by P. A. Surgeon B. W. Brown, to proceed to Cairo, Ill., and assume command of the service, relieving Asst. Surgeon J. M. Holt. March 8, 1901.

Asst.-Surgeon C. H. Lavinder, to proceed to Delamare Breakwater and assume command of the service, relieving P. A. Surgeon G. B. Young. March 8, 1901.

Asst.-Surgeon M. H. Foster, granted leave of absence for twenty days from April 1. March 11, 1901.

Asst.-Surgeon W. W. King, to proceed to San Juan, P. R., for special temporary duty. March 8, 1901.

Asst.-Surgeon J. M. Holt, upon being relieved by P. A. Surgeon J. H. Oakley, to report to him for duty. March 11, 1901.

Asst.-Surgeon F. E. Trotter, granted leave of absence for twenty-six days from April 9. March 11, 1901.

Asst.-Surgeon C. W. Wille, upon being relieved by P. A. Surgeon J. A. Nydegger, to report to him for duty. March 11, 1901.

A. A. Surgeon D. E. Dudley, relieved from duty at Havana, Cuba, and assigned to duty in the office of the U. S. Consul at Vera Cruz, Mexico. March 1, 1901.

A. A. Surgeon S. H. Hodgson, relieved from duty at Vera Cruz, Mexico, and assigned to duty in the office of the U. S. Consul at Progreso, Mexico.

A. A. Surgeon A. B., McDowell, granted leave of absence for ten days. March 9, 1901.

Surgeon C. T. Peckham, granted leave of absence on account of sickness, for 20 days from March 9. March 19, 1901.

Surgeon R. M., Woodward, detailed as inspector of unserviceable property in the Hygienic Laboratory, Washington, D. C. March 21, 1901.

P. A. Surgeon J. A. Nydegger, to proceed to Norfolk, Portsmouth and Newport News, Va., on special temporary duty. March 19, 1901

P. A. Surgeon C. H. Gardner, granted leave of absence for three days from April 4. March 16, 1901.

Asst.-Surgeon J. M. Holt, bureau order of March 8, 1901, directing Asst.-Surgeon Holt to report to P. A. Surgeon J. H. Oakley for duty, amended, and Asst.-Surgeon Holt directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters. March 20, 1901.

A. A. Surgeon W. S. Walkley, granted leave of absence for two days. March 19, 1901.

Hospital Steward C. G. Carlton, to proceed to Mobile, Ala., and report to medical officer in command for temporary duty. March 15, 1901.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on or about March 19, 1901, to examine Asst.-Surgeon H. S. Mathewson to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the Board: Surgeon P. H. Bailhache, chairman; Surgeon G. T. Vaughan; P. A. Surgeon H. D. Geddings, recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 23, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

District of Columbia: Washington, March 2-16, 10 cases.
Florida: Jacksonville, March 9-16, 4 cases.
Illinois: Chicago, March 9-16, 8 cases.
Indiana: Terre Haute, Feb. 4-11, 2 cases.
Kansas: Wichita, March 8-16, 15 cases.
Kentucky: Lexington, March 8-16, 1 case.
Louisiana: New Orleans, March 8-16, 14 cases, 4 deaths.
Maryland: Baltimore, March 8-16, 1 case.
Michigan: Bay City, March 8-16, 2 cases; Detroit, March 8-16, 4 cases; West Bay City, March 1-16, 1 case.
Minnesota: Minneapolis, March 2-16, 11 cases; Winona, March 8-16, 26 cases.
Nebraska: Omaha, March 2-9, 5 cases.
New Hampshire: Manchester, March 8-16, 3 cases.
New York: Elmira, March 2-9, 1 case; New York, March 8-16, 27 cases, 6 deaths.
Ohio: Cleveland, March 8-16, 46 cases; Toledo, March 2-16, 3 cases.
Pennsylvania: March 8-16, Erie, 1 case; McKeesport, 3 cases; Pittsburg, 2 cases; Steelton, 5 cases.
Tennessee: March 8-16, Memphis, 20 cases; Nashville, 14 cases.
Utah: Salt Lake City, March 2-16, 97 cases.
Porto Rico: Feb. 8-March 5, Aguas Buenas, 2 cases; Bayamon, 2 cases; Cagnas, 2 cases; Ciales, 2 cases; Morovis, 2 cases Ponce, 98 cases, 1 death; Quebradillas, 4 cases; Rio Piedars, 1 case; San Juan, 7 cases.
Philippines: Manila, Jan. 29-Feb. 9, 11 cases.

SMALLPOX—FOREIGN.

Brazil: Pernambuco, Jan. 17-31, 25 deaths; Rio de Janeiro, Feb. 16-28, 36 deaths.
Canada: Ontario—March 2, Bracebridge, 2 cases; Georgian Bay, prevalent; Orillia, 1 case; Penetanguishine, 1 case; Toronto, 1 cases.
Egypt: Cairo, Feb. 11-25, 3 deaths.
France: Paris, Feb. 8-March 2, 21 deaths.
Great Britain: London, Feb. 23-March 2, 1 case; Glasgow, March 1-8, 46 cases, 12 deaths.
India: Bombay, Feb. 12-19, 7 deaths; Madras, Feb. 9-15, 5 deaths.
Mexico: Tuxpam, Feb. 25-March 4, 1 death.
Russia: Moscow, Feb. 14-23, 4 cases; St. Petersburg, Feb. 16-23, 3 cases; Moscow, Feb. 16-23, 12 cases.
Spain: Barcelona, Jan. 1, March 2, 253 deaths; Corunna, Feb. 23-March 2, 1 death; Valencia, Feb. 8-24, 1 case.

YELLOW FEVER.

Cuba: Havana, March 4-11, 1 case.

CHOLERA.

India: Bombay, Feb. 12-19, 3 deaths; Madras, Feb. 9-16, 12 deaths.
Straits Settlements: Singapore, Jan. 26-Feb. 2, 10 deaths.

PLAGUE.

Africa: Cape Town, Feb. 16-26, 44 cases, 6 deaths.
India: Bombay, Feb. 12-19, 897 deaths.
Philippines: Manila, Jan. 19-Feb. 9, 7 cases, 4 deaths.
Straits Settlements: Singapore, Jan. 26-Feb. 2, 1 death

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## Address.

### REFLECTIONS UPON THE PRESENT STATUS OF CLINICAL MEDICINE.*


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PHILADELPHIA.


The pleasure and satisfaction with which I accepted the invitation of your president, to deliver the address on this occasion, I am free to admit were somewhat tempered by the knowledge that I was expected to say something. The selection of a subject that might be at the same time appropriate and interesting has been to me a matter of considerable concern. More especially has this been the case as the advent of the new century brings with it the temptation to review the achievements of medicine during the past one hundred years and to prognosticate the promises of the future. The changes wrought in medicine during the nineteenth century have been so revolutionary, the achievements so marvelous, the discoveries so numerous, the inventions so ingenious and of such far-reaching consequences to the individual and to humanity, that a discussion of them seems most pertinent and inviting. I have, however, been restrained from acceding to this temptation because I fully appreciate that it would be futile, in the time at my disposal, to attempt a survey even in a most cursory manner, of a field so extensive, and because I am well aware that such reviews will be made by other pens more able than mine. I have, nevertheless, thought that it might not be unprofitable to call your attention to some reflections upon the present status of clinical medicine and upon the relation of science to medicine at the dawn of the twentieth century. Such reflections must necessarily be cursory and fragmentary, rather than complete and exhaustive; they must serve to recall that which is probably more or less well known, rather than adduce new facts or novel theories. It is hoped, however, that they may be somewhat indicative of the changes in the art and science of medicine during the past, reflective of the trend of medical opinion at the present time, and possibly suggestive of the achievements to be expected in the future.

#### MEDICINE A SCIENCE OR AN ART.

From time to time it has been much debated whether medicine is a science or an art. It seems to me, however, that the abstract question admits of but a single answer. Aristotle defined medicine as the art of healing—and surely medicine broadly speaking is the art of healing disease. Such, however, have been the developments of medicine during recent years, that to the more practical art of healing disease has been added the likewise practical, but more ideal, art of preventing disease. The modern conception of medicine, therefore, is the art of preventing and healing disease. It concerns itself not so much with abstract problems and speculation, as with concrete instances of disease, with disease as it occurs in the individual; in prophylaxis, however, its scope is broadened so as to include whole communities and nations. It is an art that all may cultivate, though each may not become equally proficient in its practice. Its acquisition depends in large part upon the character and personal qualities of the individual, upon the possession of an observant and properly trained mind and upon experience. These, however, avail the physician but little unless he be well-grounded in the sciences upon which medicine depends for its very existence; the art without the science leads inevitably to charlatanism. Thus medicine, like other arts—such as engineering, navigation, etc.—is founded upon science, upon the sciences of physiology, chemistry, pathology, bacteriology, and pharmacology, as well as upon certain well-defined principles of physic.

#### NEED OF KNOWLEDGE OF PATHOLOGY.

It is by no means my intention to discuss all the questions that obtrude themselves for consideration. The majority of us become general practitioners of medicine and surgery, and that which concerns us especially is the acquisition of the ability to recognize and differentiate disease, and hence to be able to institute the appropriate treatment. In passing, I may say that he who diagnoses well, treats well, and that the acquisition of the ability to do both is best facilitated by a thorough knowledge of the fundamental sciences of medicine. The importance of the principles of physic, and of chemistry, physiology, and pharmacology has been so long recognized as to require no reiteration from me. I can not, however, refrain from directing attention to the importance of science in general, and the sciences of pathology and bacteriology in particular, in the recent wonderful advances of medicine.

To my surgical confrères, I need but mention the value of a thorough knowledge of physics and mechanics in the appreciation of the factors at work in the causation and repair of luxations, fractures, deformities of the limbs and vertebras, hernias, foreign bodies and calculi in the several cavities of the body, etc. A knowledge of physiology and chemistry, of fundamental importance in the study of medicine, is of no less value in the understanding of many problems in internal medicine—such for instance, as many of the disorders of metabolism and of nutrition, of atrophy and hypertrophy and degeneration; derangements of the functions of many of the organs of the body that are now known to have an internal secretion; the manifestations and appropriate treatment of many of the poisons, be they metabolic or physiologic, chemic or bacterial, etc.

* Inaugural address delivered at the opening of the session of the Medical Department of the University of Vermont, Jan. 3, 1901.

But he who will be a good diagnostician and a rational therapist must understand disease—he must know pathology. By this I do not mean that he must be acquainted merely with the macroscopic and microscopic appearances of diseased tissues and organs; such limited information avails but little in the practical application of our knowledge at the bedside. But I do mean that, in addition, he must be conversant with the natural history of disease and with the nature of diseased processes; he must be able to distinguish cause from effect; he must understand the reactions of the body to various morbific agencies, such as heat and cold, chemic and mechanic irritants, parasites and their deleterious products; he must appreciate the manner of the production of morbid physiology or the symptoms of disease; he must endeavor to fathom as far as possible the means provided by Nature to ward off, neutralize, and counteract the various morbific agencies and their deleterious products; he must study the phenomena of natural and acquired immunity to certain diseases; he must recognize that senility and finally death are natural events in the course of all forms of life, and that the retrograde alterations and degenerations that accompany and characterize old age are not necessarily manifestations of disease. Senility itself is an elastic term and is not always to be measured by the number of years that a man has lived. In the homely saying that a man is as old as his arteries, there is a goodly portion of truth. We recognize, however, that certain tissue metamorphoses that accompany and are expected in old age are distinctly pathologic when encountered, as they sometimes are, in earlier life. It is the physician confident in the possession of the knowledge as here outlined who is capable of recognizing and discriminating between diseased processes in actual practice; who is able to detect the earliest manifestations of the insidious onset of certain chronic diseases and by appropriate treatment to ward off the acute and alarming symptoms of some of them; who in the presence of disease assists Nature when there exists no specific for the malady in question, and who rationally administers it when there is one; who is able to prognosticate the outcome; and who does not retard the efforts of Nature by the indiscriminate and injudicious use of drugs and other remedial measures that are not indicated.

### RISE OF DOGMATIC MEDICINE.

That a thorough knowledge of pathology is essential to correct diagnosis is sufficiently evident from the egregious blunders made by eminent physicians before the dawn of modern pathology and by others at the present time who are unacquainted with the subject. In days gone by there was much wise talk of impurities of the blood; of humors and of temperaments; of animal and vital spirits, etc. What we now know to be merely symptoms of diverse diseases were in those days mistaken for the disease itself. Thus a patient was said to suffer with a rheum, a palsy, a dropsy, or a fever. Ascites was held to be the cause of cirrhosis of the liver, fever of the excavations of the lungs in phthisis, asthma of dilatation of the heart, anarsarca of albuminuria, etc. The same erroneous views are evident in the designations applied to certain diseases, and which persist to the present time. Thus apoplexy means a stroke or striking down; pleurisy, stitches in the side; podagra, a seizure in the foot or a foot-ache; etc. Even when an examination of the body was made after death, the patient was often reported to have succumbed to such disorders as a "decline," and the like. When such were the ideas of disease, it is not surprising that certain systems of medicine arose and flourished for a time. Of these I might mention the "depletory," the "corroborant," the "iatro-mechanical," the "iatro-chemical;" that founded on the doctrine of signatures, in conformity with which the Paracelsian physician prescribed an infusion of yellow flowers and saffron for jaundice, an infusion of roses and bloodstone for hemorrhage, the spotted leaves of pulmonaria for tuberculous lungs, etc; that practiced by the astrologers who in accordance with the horoscope of the patients, prescribed various metals and plants; the Brunonian according to which disease resulted from either a deficiency or an excess of excitement; and finally that which still persists, homeopathy, "of which the theoretical absurdity is somewhat concealed by the more obvious nonsense of infinitesimal doses." (Pye-Smith.) It is not to be wondered at that the times when systems of medicine founded upon dogma flourished were not far removed from the days of exorcisms, incantations, witchery, etc.

### END OF DOGMA IN MEDICINE.

With the dawn of modern pathology, however, when diseased processes, as other departments of science, began to be studied and patiently investigated for their sake alone; when there came to the prosecution of the investigations the genius of Meckel and Rokitansky in Germany and Austria; Laennec, Bayle, and Cruveilhier in France; Baillie, Abercrombie, and Bright in England; and later Cohnheim and Pasteur, the still living and distinguished Koch, the much revered Virchow, and a host of others in all parts of the world, the times of dogmatic medicine came to an end, the systems of medicine were buried in irrevocable oblivion, and exact diagnosis and rational therapy became a possibility. It was in consequence of the pioneer work of these men that empirical methods were replaced by those of science; to them the honor that, as regards medicine, the nineteenth century will be known as the age of cultivation of the scientific spirit. It is to the original investigations and patient research inaugurated and stimulated by these men, the seeking after new discoveries, the constant endeavor to add to our store of facts, that the wonderful achievements of medicine during the latter part of the past century are attributable.

### BACTERIOLOGY IN MEDICINE.

The results of this cultivation of the scientific spirit are obvious in all departments of medicine, but nowhere more conspicuously than in the field of etiology. For years, while certain branches of medicine, more particularly surgery, were progressing, thanks to the introduction of anesthetics and what, in honor to the man, may be termed Listerism, clinical medicine seemed at a standstill. This was due to several reasons, but especially to our lack of knowledge of the etiology of disease. We were awaiting the new science of bacteriology—that science which during the past twenty years has added so much to our store of knowledge and been of such incalculable benefit to humanity. As a consequence of careful and minute investigations, patient research, and the replacement of empiricism by science, we now have satisfactory scientific evidence of the bacteriologic origin of many previously obscure diseases, of which the following may be mentioned: anthrax, tuberculosis, relapsing fever, leprosy, actinomycosis, glanders, gonorrhea, typhoid fever, Malta fever, diphtheria, cholera, lupus, tetanus, influenza, plague, erysipelas, dysentery, pneumonia, cerebrospinal menin-

gitis, the various septic infections, certain epidemics of meat poisoning, etc. We have been enabled to trace many hitherto inexplicable diseases—veritable scourges of mankind and the lower animals—to minute organisms; we have isolated and recognized the micro-organisms themselves and differentiated them from others which they resemble; of many of them we have already determined the life history; in many cases we have determined the manner whereby they gain access to the human body; we have ascertained how they exert their deleterious effects; in some cases also we have discovered the methods by which these effects may be neutralized and prevented. There is, however, much virgin soil yet to be tilled: more particularly have we yet many problems referring to the chemic and toxic products of these bacteria to solve. While the clinical evidence of the infectious nature of some other diseases is beyond dispute, their bacteriologic origin is still undetermined. Thus we await the demonstration of the bacterial nature of such diseases as smallpox, syphilis, soft chancre, measles, mumps, scarlet fever, typhus fever, yellow fever, rabies, pertussis, rheumatism, arthritis deformans, etc. The origin of certain of these diseases has already been ascribed to certain bacteria, but the evidence is yet inconclusive. There can, however, be no reasonable doubt that ere long the specific causative bacteria will be isolated, and this is all the more likely when we remember that although Villemin demonstrated conclusively the infectious nature of tuberculosis, by systematic inoculations in 1865, the specific bacterium was not isolated by Koch until 1882.

But it was not alone the lowest forms of vegetable life that were found to exert such a malign influence on human life. While these minute vegetable organisms were being isolated and studied, it was also ascertained that some of the lowest forms of animal life were equally portentous for evil. Thus the filaria was demonstrated as the cause of one of the hitherto obscure diseases of the tropics, and malaria was found to be due to a protozoon. And both of these organisms were found to infest the blood of their victim. Then the dependence of dysentery upon the ameba was ascertained and it was also demonstrated that this organism gaining access to the portal circulation is carried to the liver, where it gives rise to abscess formation. Thus was conclusively shown the dependence upon the same organism of two conditions so closely related clinically. It is, however, interesting in this connection to note the recent investigations of Shiga and Flexner, both of whom have been studying a bacillus that seems to be the cause of many cases of tropical dysentery. The most noteworthy investigations of recent date, however, are those that conclusively demonstrate the rôle of the mosquito in the propagation of malaria, and the still more recent experiments that seem to show that the same animal is concerned in the spread of yellow fever.

We must remember that although bacteria are essential to the production of certain diseases, the mere presence of bacteria is not competent to provoke the disease. The general economy is an extremely important factor that has to be reckoned with. The healthy body offers a greater or less resistance to the development of certain diseases, and this resistance differs in different individuals and in the same individual at different times. Thus the infections of various diseases, such as tuberculosis, diphtheria, scarlet fever, smallpox, rabies, etc., exerts a varying influence for evil depending upon whether the patient is naturally immune to the disease, or has been vaccinated, or has had the disease, or has received a dose of prophylactic serum. While there are many problems still to be unraveled, we are nevertheless beginning to understand something of the significance of hereditary predisposition and immunity; we are learning also the significance of shock, checked secretions, an initial chill, etc. We know that we are constantly surrounded by the specific germs of various diseases; in some instances these germs are introduced into and are harbored by the body. But such is the resistance of the healthy human organism to the deleterious tendencies of the micro-organisms that it is not until the bodily vigor is reduced or altered by exposure, indiscretions, fatigue, etc., that the bacteria are enabled to overcome the activities of the body that restrain them and, gaining access to the tissues, produce their evil effects. It is likely that the occurrence of this is sometimes manifested by a chill, etc.

It behooves us now to consider the bearing of these scientific investigations upon the practical aspects of medicine—upon the diagnosis, treatment, and prevention of disease. Of what value to us as practitioners of medicine have they become? Of what value to the individual and to the community at large has been the tracing a number of diseases to the activities of minute organisms?

### DIAGNOSIS SCIENTIFIC.

The special object of the investigation of the etiology of disease is that disease in the individual may be recognized and cured if possible, and that the spread of the disease may be prevented. The diagnosis of disease is and always will remain an art, but it is becoming more and more scientific. It may be said that strictly speaking diagnosis is altogether a product of the nineteenth century. Prior to that time it was merely a matter of guess-work and was never definite. At the commencement of the nineteenth century, however, Louis inaugurated his methods of careful clinical investigations, and these amplified and extended have remained the guide of clinicians ever since. To Avenbrugger, Laennec, Skoda, and Corvisart we owe the perfection of methods of physical exploration, the common property of all physicians at the present time. It was, however, during the last quarter of the past century that the diagnosis of disease progressed by leaps and bounds. This was due entirely to the cultivation of the scientific spirit and the consequent employment of laboratory methods. Prior to this time, the careful clinical observation that had long been in vogue, the patient scrutiny devoted to the manifestations of disease, had led to the establishment of a nosology to which it is doubtful if any noteworthy additions would have been made but for the employment of laboratory methods.

In approaching a patient our aim should always be to make our diagnosis definite and exact. That this desideratum be attained our investigations must be thorough. We must inquire carefully and minutely into the influences of nativity, heredity, environment, habits of the patient, etc. We must secure an accurate account of the mode of onset and the manner of the evolution of the disease, and our examinations of the patient must be thorough, complete, and frequently repeated. In this connection I wish particularly to urge the importance of the cultivation of your powers of observation. It is well known that many of the physicians of bygone days owed their pre-eminence in the profession in large measure to the acuteness of their powers of observation and to the care and attention that they paid to little things—things that are likely to escape the observation of others less attentive. The

same may be said of us at the present time; the more careful and painstaking we are the more likely we are to attain success. On the extreme value of methods of physical exploration, I need not dwell here.

The necessity for careful bedside observation has been recognized from time immemorial; it must always remain our mainstay. At the bedside we must prove or disprove our theories, and there the results of laboratory investigation must stand the test of practical utility. We must never permit our theories to displace the results of our careful bedside observation and experience; these must constitute our guide in practice. In this connection, however, I am reminded of the aphorism of Hippocrates: "Experience is fallacious and judgment difficult." In an endeavor, therefore, to assist, correct, modify and supply the deficiencies of the purely clinical method, I wish to ask your serious attention to the importance and utility of what have come to be known as laboratory methods of diagnosis. The one is not to supplant the other; but both are to be employed in conjunction. I would have you adopt the wise middle course; be neither carried away by the extravagant claims of those who would seem to have us place exclusive reliance upon the results of laboratory investigations, nor yet so narrow-minded as those who, in their ignorance and indolence, refuse to admit the utility of the laboratory.

In that the laboratory to-day is indispensable, permit me to refer briefly to certain aspects of laboratory diagnosis. I am confident that no one to-day alive to the duties and responsibilities of his trust as a physician is unprovided with a microscope and a few chemical reagents and neglects to examine carefully, both chemically and microscopically, the urine—shall I say of all his patients? Surely a patient has a right to expect that his nausea, his headache, his dimness of vision, his dyspnea, if due to a renal lesion, shall be recognized as such; and that if his attack of typhoid fever be complicated by nephritis that the latter shall be ascertained and properly treated. There are a few simple methods of analysis of the gastric contents that are readily mastered by any one having the inclination. And who will deny that a patient with carcinoma of the stomach or a benign stenosis of the pylorus and consequent dilatation of the stomach has not a right to expect that the condition shall be recognized at the earliest possible moment, to the end that he may enjoy the benefits of early and appropriate treatment? Then the examination of the blood is of extreme importance in the recognition of very many diseases—diseases not alone of the blood and blood-forming organs, but also of the most diverse disorders of the various organs and tissues. I will not state that it is essential to the recognition of all cases of chlorosis, but it is always confirmatory of the diagnosis and in many instances the diagnosis can not be made with certainty without it. How many young women to-day are being dosed with bitter tonics for a supposed gastric catarrh, or with aperients for constipation, or with various coal-tar products for headache, or with various preparations designed for the relief of amenorrhea, or with digitalis for supposed heart disease, when in reality they are suffering only with chlorosis, which an examination of the blood would disclose and the administration of iron would promptly cure? Again, my experience leads me irresistibly to the conclusion that diseases such as leukemia are never recognized except by those who make a practice of examining the blood. I have seen a number of patients believed by other physicians to be suffering with typhoid fever, when in reality they were ill with pneumonia, appendicitis with periappendicular suppuration, malignant endocarditis, acute lymphatic leukemia, and the like. The improbability of the presence of typhoid fever would have been evident immediately upon the examination of the blood, and as a matter of fact in some cases this was the first clue that led to the establishment of the correct diagnosis. I can not too strongly insist on the importance of the presence or absence of leukocytosis in the diagnosis and differential diagnosis of very many conditions, but time and space forbid multiplication of instances.

### BACTERIOLOGIC METHODS IN CLINICAL MEDICINE.

Of the importance of bacteriologic methods in clinical medicine I need say but little. It would seem like resowing what I am sure must already be an extremely fertile land. I may mention, however, the Gruber-Widal test in the diagnosis of typhoid fever. This is one of the most highly prized adjuvants to our clinical armamentarium within recent years. It is of extreme importance in the recognition of typhoid fever, and is of especial value in doubtful cases, as it was in the cases to which I have just made allusion. But not only in typhoid fever is the test of signal value, but by means of the agglutination and immobilization of the specific bacteria, we are enabled to recognize Malta fever, relapsing fever, cholera, anthrax, tuberculosis, dysentery, plague, etc.

Need I mention the importance of an examination of the sputum in suspected cases of pulmonary tuberculosis? Need I refer to the importance of an early and exact diagnosis—importance alike to the patient, the family, and the community wherein he dwells? Here I might mention what I feel sure will be one of the developments in the near future. We will speak of a pneumococcic, staphylococcic, streptococcic, a Friedlaender bacillus, or an influenza bacillus, infection of the lungs, meninges, etc., as the case may be, rather than of a pneumonia, meningitis, etc. When we are able to recognize clinically the differences in these infections, we may perchance have at our disposal better therapeutic measures—specific remedies. Then will arise the necessity for the examination of the sputum in all cases of pulmonary disease, of the cerebrospinal fluid in all cases of involvement of the cerebrospinal coverings, etc. In passing it is worth while noting that some of the pulmonary complications of typhoid fever have already been traced to the typhoid bacillus.

Of the importance of a bacteriologic examination of the secretions of the throat in all cases of disease of the throat, more especially in cases suspected to be diphtheria, I will say nothing; this is too well and universally recognized to require reiteration on my part. Equally important is an examination of the urethral, vaginal, and uterine discharges, for the gonococcus; of the lochial discharges and uterine scrapings in postpartem infections, for the staphylococcus, streptococcus, etc.; of the urine and feces, for the tubercle bacillus, typhoid bacillus, cholera bacillus, and other organisms, etc. I may mention that in consequence of recent investigations it has been found that the urine as well as the feces contains the typhoid bacillus in a large percentage of cases of typhoid fever. This fact has been made use of in some cases for the purposes of diagnosis, but the especial practical inference is that the urine must be disinfected in all cases of the disease. Were I to mention other laboratory procedures of value in diagnosis, I might cite the bacteriologic examination

of the blood in certain cases, the use of the tuberculin test, the mallein test, radiography, and to these I might add the ophthalmoscope, the laryngoscope, the sphygmograph, etc.

Such laboratory methods of diagnosis should be made use of in all cases in which they are likely to prove of the slightest utility. This strictly interpreted means practically all cases. In hospital work they should be employed as a matter of routine. The necessity of the times, however, is the more universal adoption by the general practitioner of these various aids in clinical diagnosis. This is indicated alike in the interests of the physician, the patient, and the general community. It is to the interest of the physician that he may establish the correct diagnosis at the earliest possible moment, institute the appropriate therapy, and enjoy the mental satisfaction pertaining to work well done; to the patient, that he may reap the personal benefit of the early diagnosis and appropriate treatment; to the community, that in the case of certain infectious diseases the sick man may not prove a source of general infection. I am aware that these procedures add to the already heavy burden of the general practitioner, but they may be mastered by any one having the inclination. In the city as well as in the country a corner of the office may be made to do duty for a laboratory. If the practitioner be too busy to attend to the work himself, he ought to be able to find some one capable of doing it for him. Surely the patient in the country as well as in the city has a right to expect an intelligent interpretation of his symptoms, and in some cases this is not possible without the aid of laboratory methods. Thanks to an enlightened public spirit, in many parts of the country such examinations are made for the physician by the laboratory of the city, county, or state board of health. Thus there is really no excuse for their omission. What I do insist upon, however, is that the physician, be he in the country or the city, in case he feels neither competent nor inclined to make these examinations himself, should at least know when they should be made; and knowing that they should be employed in a certain case, he should see to it that they are made by some one who is competent. There was a time when there was no stethoscope, no microscope, and no clinical thermometer, and doubtless the physicians of those times felt their increasing burdens as each was added to their necessary armamentarium. Each, however, has abundantly proved its necessity, and the same will some day be said of the so-called laboratory methods of diagnosis.

Heretofore diagnosis has concerned itself solely with the detection, proper grouping, and discrimination of symptoms. Now, however, we are commencing to penetrate deeper; we are endeavoring to fathom, and in some cases we have already ascertained, the ultimate causes and nature of diseased processes. Until within a short time our studies were largely confined to the changes occurring in the tissues in disease; now we are learning something of the causes and the manner of the production of these changes. Upon the discovery of bacteria as the causative factors of some diseases, it was considered that they wrought their alterations by inducing asphyxia and consequent necrosis of the tissues by mechanic occlusion of the blood-vessels; later it was thought that they induced changes in the tissues by appropriating to themselves pabulum designed for the nutriment of the tissues. It is still probable that in some cases these are correct interpretations of the phenomena; but we know, however, that in the majority of cases bacteria produce their injurious effects by reason of the poisons they elaborate. Concerning the exact nature of these poisons we still await positive information; and here is a fertile field for investigation. Some of these poisons, however, have already been determined to be allied to the alkaloids; others resemble modified proteids, and have in consequence been spoken of as toxalbumins; of the nature of others, we know little or nothing.

### SELECTIVE ACTION OF TOXINS.

The definite scientific demonstration of the toxic nature of many infectious diseases has resulted in the shedding of diffuse light upon many hitherto obscure problems. I wish here to refer briefly to but one interesting aspect of the question—the selective action of these toxins. It has been demonstrated that the general symptoms of many diseases may be reproduced with extreme accuracy by the introduction into the body of toxins of bacteria—of the toxins freed from the bacteria, or of the toxins in a mixture with dead bacteria. In the selective action of these toxins we find a rational explanation of many of the phenomena of the different diseases. Thus the toxins of the diphtheria, tetanus, and influenza bacilli have a special affinity for the nervous system. That of diphtheria, however, is especially prone to attack the peripheral neuron, especially that supplying the muscles of the throat, internal muscles of the eye, and the heart; that of tetanus implicates especially the higher nerve centers; that of influenza exerts its influence more especially upon the meninges with resultant evidences of cerebrospinal meningitis. Analogy is found in the special affinity of other poisons for various tissues and organs. Thus tobacco exerts its action especially on the heart; alcohol is especially prone to produce paralysis of the extensor muscles of the leg; lead most frequently causes paralysis of the extensor muscles of the wrist and fingers; arsenic is a common cause of peripheral neuritis; and the venom of serpents seems to possess a special faculty for producing hemorrhagic nephritis. Further analogy is found in the special affinity of certain tissues, such as muscle, nerve, elastic tissue, etc., for different stains.

### INTERNAL SECRETIONS.

I must here mention, also briefly, another result of the cultivation of the scientific spirit in medicine—the establishment of the doctrine of internal secretions. There are in the body certain tissues called glands, of which the functions until recently were absolutely unknown. Recently it has been shown that many of these possess internal secretions which exert powerful influence not alone in the development of the body and the preservation of health, but the perversion or cessation of which is extremely potent in the causation of disease. The organs to which, with more or less reason, we at present attribute an internal secretion are the thyroid, thymus, adrenal, pituitary, pineal, spleen, pancreas, testicle, ovary, mammary gland and bone-marrow. It will be observed that some of these are possessed of a duct and have an external secretion, whereas others have no duct and have no external secretion. In consequence of strictly scientific investigations we now know that several hitherto obscure symptom-complexes are due to perversion or cessation of the function of one or the other of these organs. One of the most brilliant pages of the history of recent medicine is that which records the investigations concerning the thyroid gland. To the perversion or cessation of the function of this organ we now know is due the disease myxedema. This is a condition first noted by Gull, but

later accurately described by Ord, who, attributing it to disorder of the thyroid, gave it the name by which it is now known. Subsequently the condition was produced accidentally by Kocher, by the extirpation of the gland, and later experimentally in the lower animals by the same means. Finally Murray suggested the internal administration of the gland for the cure of the condition with results brilliant beyond expectation. The same excellent results have since been achieved in the treatment of sporadic cretinism, and we know, in addition, that the extract of the gland is an excellent remedy in the treatment of many cases of obesity. To the perversion or cessation of the function of the adrenal is due Addison's disease, and to that of the pancreas certain cases of diabetes. Though we may hope for it in the future, we have as yet no means of successfully combating either of these diseases. Regarding the functions of the other organs mentioned, we have as yet no definite information. It has been thought, however, that the internal secretion of the testicle and ovary are answerable for the production and maintenance of the masculine and feminine characteristics respectively; that the pituitary and pineal glands are concerned in the development and preservation of symmetry of the body, and that the perversion of their function results in certain forms of giantism and acromegalous disease; and, finally, that the thymus may be in some remote way connected with certain hemorrhagic tendencies. Though much has been learned, much remains to be ascertained; but confidence born of achievements in the past leads us to hope for developments in the future, the nature and range of which it is difficult to prognosticate.

### PROPHYLAXIS AND TREATMENT.

In conclusion, I must say a word concerning prophylaxis and the treatment of disease. Regarding the former, I will only say briefly that upon the doctrine of the bacterial origin of disease is founded the modern conception and practice of sanitary science. This which in many respects has already developed to the dignity of a specialty, has resulted not only in promoting the welfare of the community and the prolongation of the life of the individual, but it has saved humanity from many epidemics—from an almost incalculable amount of sickness and very high mortality. I need but refer to the recent occurrence of the plague in New York, San Francisco, and Glasgow. It is certain that but for the developments of preventive medicine the few cases in each city would have resulted in widespread epidemics. The prophylactic treatment of tuberculosis —the modern crusade against tuberculosis—is also one of the most encouraging signs of the times. Of other diseases, the ravages of which modern preventive medicine has curbed in large measure, I might mention typhus fever, typhoid fever, cholera, smallpox, venereal diseases, etc. The future seems to promise that soon that ancient and ubiquitous disease, malaria, will be throttled at its fountain source—the mosquito.

With regard to therapeutics and the practical care of disease, it is certain that the scientific researches of recent years have taught us much. While it must be admitted that the administration of a large proportion of our therapeutic measures is still founded upon empiricism, and that many of our drugs are given with a view to the relief of symptoms and the amelioration of the effects of disease rather than a destruction of their causes, our empiricism is a rational one. In contradistinction to that of former ages it is founded upon common sense, and from it, as have other sciences from their empiricism, we are gradualy deducing many scientific facts. Of late years, as a result of scientific investigation, we have learned the true value of drugs and their limitations. We have come to employ fewer drugs and less complex prescriptions. We no longer consider it necessary to nauseate our patients with shotgun prescriptions in the hope that at least one of the ingredients will possess a special affinity for the diseased spot. We have ascertained that in reality drugs play a not conspicuous part in the cure of disease, that their especial office rightly performed is to assist and guide nature in her efforts to effect a cure, rather than to attempt to abort a disease which in many instances run a definite and self-limited course.

The physiologic action of each drug having now been worked out scientifically in the laboratory and at the bedside, when in the presence of disease we note an indication for its employment, we administer it confident of its action in accordance with well-established precedent. This is in many respects purely symptomatic treatment. An intelligent symptomatic treatment, though by no means ideal therapy, is not to be disdained. In many instances it is not only the only form of treatment at our disposal, but it is really founded upon a scientific basis. Thus, for instance, if we know that the symptoms of a disease are due to a lack of bone salts, or of iron, or of thyroid secretion, we supply the deficiency with the proper remedy as the case may be; if due to the presence in the body of excrementitious products that should be removed by a diseased organ no longer capable of normal functional activity, we facilitate its elimination by stimulating the other emunctories; if due to a poison introduced from without, we neutralize it within the body or we hasten its removal through the appropriate channels. On the other hand, we are beginning to understand in some degree the mode of action of certain more or less specific remedies the discovery of whose good effects was purely a matter of chance. Of these I might mention quinin in malaria, salicylates in rheumatism, mercury and the iodids in syphilis, the iodids in actinomycosis, the bromids in epilepsy, etc. Of the mode of operation of some of them we, however, as yet know very little.

We have also come to appreciate at their true value certain remedial measures other than drugs. Thus we know that the most important part of the treatment of tuberculosis is an abundance of fresh air and good, nutritious food; we are aware of the value of systematic rest, massage, and electricity in certain nervous disorders, and of the importance of hydrotherapy in various diseases of the nervous as well as of other systems; we know that many affections of the heart are greatly benefited by systematic exercises and baths; and above all we appreciate the paramount importance of regulation of diet in almost all cases of disease. Then we bear in mind the recuperative effects of sleep, and we should remember that physiologic rest of a disordered organ is a great restorer of health.

### SERUMTHERAPY.

My last theme is serumtherapy, which may be looked upon as the crowning glory of the cultivation of the scientific spirit of the nineteenth century. Without attempting any discussion of this exceedingly interesting subject, I may allude to the fact that the use of antiserums in diphtheria and relapsing fever has been markedly efficient; in tetanus, hydrophobia, and snake bite they have been less efficient though very good; whereas in pneumonia, erysipelas, septicemia,

tuberculosis, dysentery, they have proved rather indifferent, though on the whole promising. But not only in the treatment of disease, but likewise in the prevention, have these serums proved of value. The use of antitoxin in the prophylaxis of diphtheria is now a well-established mode of procedure. Preventive inoculations have also been employed with more or less success in plague, typhoid fever, dysentery, cholera, etc.

It is impossible to foretell what will be the developments in this branch of medicine. That brilliant discoveries are yet to be made can not be doubted; that there will occur improvements in the methods of preparation and administration of those serums that we at present possess is equally certain. That we may yet have a means of curing smallpox as we have of preventing it is to be hoped. That we may prevent and cure yellow fever as well as a common cold are not without the bounds of probability. The past is full of encouragement; the future full of hope.

# Original Articles.

## THE PRESENT STATUS OF SPINAL SURGERY.*

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In considering the subject of the surgery of the spine, it must be remembered that when I wrote my former papers, in 1891 and 1892, certain propositions were still debatable which have now been distinctly settled, so that we are able to reach much more definite conclusions. In my paper on "Laminectomy for Pott's Disease with Paraplegia," after tabulating 75 cases, I said that personally I could not see any very brilliant future for it. It can be applicable to less than 50 per cent of the cases of Pott's disease, as proved by the statistics of Gibney and Myers, and even in this small number its application is limited again to those cases where the compression has not produced a complete degeneration of the cord. Still, it is not by any means to be relegated to the obsolete class of operations. It has a place, and that place, I am convinced, is destined to play a more important part in the therapeutics of Pott's disease than it has heretofore.

Since then I have operated on 15 patients, all of them unfortunately in advanced stages of tubercular disease. Chipault succeeded in tabulating 101 cases, and I have succeeded, including my own, in tabulating 154.

Although only two of mine were ultimately successful they proved that the operation per se is not dangerous. Not a single patient has died from the effects of interference with the vertebral column, but in every instance death occurred, at a considerable period after the operative measures, from an advancement of the tubercular disease. There would be more hope for these patients could we see them earlier, before general tuberculosis has intervened, or before the pressure upon the spinal cord has produced degenerations which are irremediable by operative or other means. Unfortunately mechanical treatment is persisted in until all chance for the success of operative interference has passed, and until either the septic condition is so grave or the tubercular lesions have extended so far into other structures that the condition of the patient almost contraindicates any operative procedure. In cases far advanced in Pott's disease, with long-continued pressure or with tubercular lesions in other parts of the body, or with a general and advanced sepsis, the operation can be of very little benefit.

In the other cases, those for instance where the tubercular lesion is distinctly in the posterior portion of the spine, where an abscess has formed, the other organs still being uninvolved, and where it is possible by following up this abscess by careful surgical dissection, provided the undertaking can be done earlier in the disease, we may hope for a better result.

I can not at the present time change the position which I took in 1891, when I said that it is unnecessary to say that no surgeon would undertake an operation of this magnitude where there was any chance of recovery by other means, but there still remains a considerable number of cases that occupy debatable ground, where the chances of recovery without operation are very slight, where continued mechanical treatment yields little or no result, and where an extension of the disease may render the patient hopeless if it does not destroy life. Such patients had better be operated on.

Then, too, there is another class of cases which show only progression of the disease in spite of all care, and where a degeneration is set up threatening the integrity of the cord. These should undoubtedly be operated on and early. The operation should not be undertaken while there are any good chances for recovery without such interference, but should not be postponed so long that an ascending or descending myelitis may destroy the chances of recovery; and the first sign of degeneration of the cord should indicate immediate operation.

Cases of posterior spinal involvement with paraplegia should be operated on, for here the lesion is easily reached. The removal of the involved laminæ and the clearing up of secondary deposits in the bodies or articular processes, or the proper removal of plastic exudation along the cord will place the patient in a far better position than he can be if only mechanical measures are depended on.

If we can prove that the mortality in these cases is small, and that the patients improve after the pressure has been removed, we may then undertake it with considerable confidence; as I have already said, none of my fifteen has died from the effects of the operation. Naturally the region of involvement makes a difference. The same conditions are noted in Pott's disease that are present in laminectomy for other conditions, viz, that the cervical is the least satisfactory, the dorsal the next and the lumbar and sacral regions the best for operative interference. In all of my operative cases for this condition I was surprised to find that the cause of the pressure was usually due to the tubercular debris and granular tissue rather than to any bony pressure, and as this was gradual in its inception, although the paraplegia may have been sudden, the pressure on the cord was seldom very intense, while in frequent instances there was more or less recovery of function. We must still confess, however, in spite of all that has been said on this question, that it will seldom be successful and very seldom indicated. This is due to the fact that in nearly all instances we find that by the time paraplegia has developed there are secondary tubercular deposit that must eventually destroy the patient's life and consequently contraindicate operative interference.

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We have now succeeded in tabulating 154 cases, double the number upon which my former table was based. Of this number, 128 are sufficiently complete to be included in the statistical results. The total number of deaths occurring as the result, or near enough to the time of the operation to be attributable to it, was 21, or 16.45 per cent. The total number of recoveries was 37 or 28 per cent.; of improvement, 16 or 12.5 per cent.; of unimproved, 18 or 14.06 per cent.; or subsequent deaths, 36 or 28.2 per cent.; total, 128 or 100.2 per cent.

In the tabulation of the subsequent deaths I have been perhaps unnecessarily strict. Many who have shown a recovery from the paraplegia or very decided improvement are included in this list. My reason for this is that in the majority of instances these patients died of sepsis or of pulmonary tuberculosis and should not be included if we accept the theory that those patients with advanced sepsis or tubercular disease in other regions than the spine, or with advanced disease of other viscera should not be operated on. They have, therefore, not been counted in the list of recoveries, improvements or non-improvements, but have ruthlessly been classed among the subsequent deaths. One can not but be impressed with the percentage of mortality and recovery when it is considered that these patients are almost without exception in wretched physical condition when the operation is performed. It is also perfectly evident that if the mechanical treatment is stopped as soon as it is evident that the disease is not arrested by it, and before marked sepsis, cystitis or destruction of the cord supervene, the result of the operation must be much improved.

It is also exceedingly important to consider the region involved. Thus we find that in the cervical region, of 18 patients, 5 died immediately following the operation, while an equal number recovered. Only 3 were improved; 1 was not improved and 4 died subsequently. At least 2 of the immediate deaths were the result of hemorrhage following wounding of the vertebral artery when the transverse process and the vertebral foramen were involved. This must, therefore, be carefully considered in operations in this region, as well as paralysis of the phrenics which follows manipulation of the cord in the region of the third or fourth cervical vertebræ.

In the dorsal region, as we should expect, the conditions are somewhat improved. Here we have by far the largest number of cases—103. Of these, 16 died from the effects of operation, 15.54 per cent., as against 27.77 per cent. in the cervical region; 29 recovered, 28.15 per cent., as against 27.77 per cent. in the cervical. The ratio of difference, it will be noticed, is exceedingly slight. Dorsal improvement is 10.67 per cent., as against 16.66 per cent. in the cervical. This is in favor of the cervical region. There was no improvement in 5.55 per cent. in the cervical region, and in 15.54 per cent. in the dorsal, while the percentage of subsequent deaths was 22.22 per cent. in the cervical and 30.09 per cent. in the dorsal. The chief difference, therefore, seems to be in the ratio of deaths, and if care is taken to protect the vertebral artery and the origin of the phrenic nerves in the cervical region, its results should compare much more favorably with those of the dorsal region. There are too few cases in the lumbar region to serve as a basis of comparison.[1]

1 For the first seventy-five cases on which these statistics are based, see "Laminectomy for Pott's Paraplegia," by Samuel Lloyd, Annals of Surgery, October, 1892. I wish to acknowledge my indebtedness for valuable aid in the preparation of these tables to F. T. Zabriskie, M.D., and to Messrs. E. D. B. Loughran and L. D Mead.

TABLES OF CASES OF POTT'S PARAPLEGIA.

Case 76.—Operator, Kraus; 1886. Dorsal region; duration, long time; male, 29; motor and sensory paraplegia, vesical and rectal paresis; resection 10-11 D. arches, carious; no improvement; died in 10 weeks. Reference: Faillard Inaugural Dissertation; Wurtzburg, 1890, p. 62.

Case 77.—Operator, Schoenborn; 1887. Cervical region; duration, 2 years; male, 18; paraplegia below neck, inferior cervical kyphosis, anesthesia complete up to false ribs; third and fourth arches removed, fourth arch gave hemorrhage from vertebral artery; death from hemorrhage in 15 minutes. Reference: Ibid.

Case 78.—Operator, Richardson; 1889. Cervical region; duration 1 year; male, 22; tumor of neck, paraplegia and slight respiratory trouble; removal of fifth lamina, nothing discovered; respiration difficult; atropin; sensibility markedly improved; died fourth day from asphyxia; carious fourth and fifth cervical vertebræ, bony point pressing cord completely softened. Reference: Brooklyn Med. Jour., 1889, i, 401.

Case 79. Operator, Lorenz; 1889. Dorsal region; duration, 2 years; infant; dorsal kyphosis, motor and sensory paraplegia, vesical and rectal paralysis; resection fifth, sixth and seventh dorsal arches; no improvement. Reference: Wiener Klinik, 1889, p. 127, Case 164.

Case 80.—Operator, Gerster; 1889. Premeningeal suppurating fungosities; rapid improvement; recovery. Reference: N. Y. Med. Jour., 1890, p. 31.

Case 81.—Operator, Davies Colley; 1890. Dorsal region; duration, 4 years; female, 4; paraplegia complete; removal second, third, fourth and fifth dorsal arches. Improved in one week; cured in four months. Reference: Chipault, Studies of Spinal Surgery; Obs. 63 and 65.

Case 82.—Operator, McCosh, Starr, 1894. Dorsal region; partial anesthesia to touch, temperature and pain in legs, and loss of motion; tenth and eleventh dorsal laminæ removed; later, sixth, seventh and eighth dorsal, caries of bodies of vertebræ; discharging sinus; died 4 months later. Reference: Am. Jour. Med. Science, vol. cix, p. 95.

Case 83.—Operator, Wheaton; 1890. Dorsal region; male, 24; motor paraplegia; resection sixth, seventh, eighth, ninth and tenth laminæ, cord appeared pressed backward; improvement, then collapse and death; post-mortem; fungus mass involving the anterior nerve roots. Reference: N. W. Lancet, 1890, p. 288.

Case 84.—Operator, Eiselberg; 1890. Complete paraplegia; trephine; all vertebral muscles involved in tubercular processes; death. Reference: Wiener Med. Woch., 1890, col. 2219.

Case 85.—Operator, Eiselberg; 1890. Paraplegia and vesical paralysis; extirpation large fungous mass; death. Reference: Ibid.

Case 86.—Operator, Eiselberg; 1890. Cervico-dorsal region, paralysis upper extremities; at first improvement; recurrence in 6 months. Reference: Ibid.

Case 87.—Operator, Eiselberg; 1890. Dorsal region; aged 10 years; complete paraplegia, cervical paralysis; removal of eighth and tenth dorsal arches; eight days later fungous mass of pachymeningitis; recovery in 10 months. Reference: Ibid.

Case 88.—Operator, Eiselberg; 1890. Cervical region; cervical kyphosis, subclavicular abscess, partial paralysis of right arm; resection third, fourth and fifth cervical spinous processes; rapid recovery. Reference: Ibid.

Case 89.—Operator, Delorme, 1892. Dorsal region; duration 11 months; male; progressive paraplegia, bladder and rectal symptoms, kyphosis; laminectomy; improvement, complete return of sensation, but not motion; sudden paraplegia, death from exhaustion; post-mortem, tuberculosis of bodies, no pulmonary or urinary lesions. Reference: Chipault, op. cit., p. 276.

Case 90.—Operator, Gross; 1891. Dorsal region; duration, 1 year; female, 14; paraplegia, exaggerated reflexes, dorsal kyphosis, anesthesia, paralysis rectum and bladder; removal third, fourth, fifth and sixth laminæ; caseous matter size of nut pressing upon cord; improvement at first, increase in pulmonary tuberculosis; result, no improvement. Reference: Ibid., p. 259.

Case 91.—Operator, Jalaquier; 1890. Cervico-dorsal region; duration, 7 months; male, 13½ years; complete paraplegia, recto-vesical paralysis, anesthesia; resection seventh C. and first D. laminæ; great hemorrhage; improvement in motion during first few days then disappeared; result, no improvement. Reference: Ibid., p. 262.

Case 92.—Operator, Pique; 1891. Dorso-lumbar region; duration, 9 months; male, 26; complete paraplegia, reflexes exaggerated, anesthesia, paralysis of rectum and bladder; tenth D. and second L. arches removed, pus and caseous material pressing cord; tubercular meningitis; death twelfth day. Reference: Ibid., p. 272

Case 93.—Operator, Gardner; 1891. Duration, long time; female; paraplegia; removed two arches; pus and sequestra escaped from bodies; after some days slight return of motion; improvement. Reference: Australia Med. Jour., 1893, p. 121.

Case 94.—Operator, Jones; 1891. Dorsal region; duration, 5 years; female, 31; complete paraplegia, anesthesia, dorsal kyphosis; removed arches eighth and ninth D., seventh displaced backward, soft membrane covering cord; improvement. Reference: Med. Record, 1892, p. 290.

Case 95.—Operator, Boiffin; 1891. Cervical region; duration, 9 months; male, 17; exaggerated reflexes, head movements difficult; removed third, fourth and fifth C. arches, dura normal; improvement. Reference: Bull. Chir., 1892, p. 157, Case 2.

Case 96.—Operator, Urban; 1891-92. Dorsal region; duration, 4 years; female, 19; paraplegia, kyphosis, 5-12 dorsal; temporary resection fifth, sixth, seventh, eighth, ninth and tenth arches; cord compressed at seventh, no pulsation below; death third day from syncope. Reference: Verhand. d. Deutschen Gesell. f. Chir., 1892, p. 211.

Case 97.—Operator, Urban. Dorsal region; duration, 9 months; female, 54; pain in back, paralysis, atrophy of lower limbs and trunk, sensibility to pressure at eighth spinous process; resection third, fourth, fifth, sixth, seventh, eighth, ninth, temporary cord compressed at eighth, no pulsation below, pulsation did not return till resection of angle of body; death from syncope. Reference: Ibid., p. 216.

Case 98.—Operator, Guellot et Moret; 1892. Dorsal region; duration, 1 year; female, 37; complete paraplegia, reflexes normal; resection twelfth dorsal arch, caseous umbilical compressing cord; marked improvement. Reference: Union Medicale du Nord Est, 1891, p. 361.

CASE 99.—Operator, Chipault; 1890. Dorsal region; duration, some months; female, 4; abscess superior dorsal region communicating with medullary canal, recession of left eyeball, ptosis; artic. process left and arch of first D. bare and rough, post-tubercular meningitis, large mass of fungous material; next day eye symptoms improved and in two days disappeared; recovery. Reference: Chipault, op. cit., p. 245.

CASE 100.—Operator, Roux; 1890. Dorsal region; duration, 1 month; male, 16; partial paralysis of right leg, slight anesthesia below second lumbar vertebra; removal of fifth and sixth arches, pressure by vertebral body; increased paraplegia to complete motor, sensory, rectal and bladder paralysis, wound suppurated; no improvement. Reference: Ibid., p. 246.

CASE 101.—Operator, Roux; 1890. Dorsal region; duration, 3 months; aged 9½ years; complete paraplegia, rectal and bladder symptoms, fluctuating tumor between fifth and sixth dorsal; removal of fourth and fifth arches, granulation tissue in canal; slight improvement. Reference: Ibid., p. 265.

CASE 102.—Operator, Roux; 1891. Dorsal region; duration, 2 years; male, 21; complete paraplegia, rectal and vesical paralysis, no anesthesia, reflexes normal; great hemorrhage, removal 7-8 D. laminæ, pus right side of vertebræ from body of 8th; recovery; death from pulmonary tuberculosis one year later. Reference: Ibid., p. 264.

CASE 103.—Operator, Zavaleta. Dorso-lumbar region; duration, 4 months; male, 30 months; some paralysis of lower limbs, reflexes normal, no bladder or rectal symptoms, kyphosis 11th D. to 3rd L.; resection 12th D. and 1st L., dura much involved, tubercular granulations in canal, caries; recovery in two years. Reference: Ibid., p. 273.

CASE 104.—Operators, Zavaleta and Masi; 1892. Dorsal region; duration 1 year; male, 29; sensory-motor paraplegia, vesical and rectal paralysis; resection 7th, 8th, 9th D., no pulsation in dura, pressure due to fungous mass at 8th vertebra, also some sequestra; improvement at first, suppuration and death one month later from suppurative meningitis. Reference: Ibid., p. 274.

CASE 105.—Operators, Zavaleta and Ferrari, 1892. Dorso-lumbar region; duration, 3 months; male, 5½; kyphosis 11th D. to 1st L., ilio-femoral abscess, reflexes exaggerated, no paralysis of rectum or bladder; resection 11-12 D., 1st L., compression of cord by tubercular mass, carious body 1st lumbar, sequestra; suppurative meningitis; death. Reference: Ibid., p. 275.

CASE 106.—Operators, Zavaleta and Masi. Dorsal region; duration, 9 months; male, 3; paraplegia without pain, kyphosis; 7th, 8th, 9th dorsal arches removed, curettage of bodies; pulmonary edema following general sepsis some weeks later; death. Reference: Ibid.

CASE 107.—Operator, Rechus; 1882. Lumbar region; female, 22 months; fluctuating abscess of lumbar region extending to iliac fossa; opening, 3 fractured vertebræ found, small deposits found in a fungous mass, muscles of iliac fossa surrounded by tubercular processes; fistula remained for 6 months; improvement. Reference: Ibid.

CASE 108.—Operator, Reynier; 1882. Dorsal region; female, 30; fistulous tract at 8-9 D. leading to column; incision, resection of laminæ 8-9 D., removal of tuberculous material; wound closed; recovery. Reference: Ibid

CASE 109.—Operator, Ollier; 1891. Sacrococcygeal region; male, 21; pain over coccyx in early life, abscess over sacrum for two years, bone exposed; extirpation of coccyx and posterior wall of sacrum and its lower pieces. Reference: Ibid.

CASE 110.—Operator, Mayer; 1846. Dorsal region; duration, 6 months; female, 28; accident followed by dorsal gibbosity, later complete paraplegia; arch of 7th D. removed and showed marks of compression; recovery of sensation followed by hyperesthesia, convulsive movements; death on 21st day. Reference: Ibid.

CASE 111.—Operator, Maisoneuve, 1860. Lumbar region; male adult; complete paraplegia; resection of several lumbar arches; no improvement. Reference: Ibid.

CASE 112.—Operator, Ollier; 1882. Dorso-lumbar region; duration, 5 months; female, 18; weakness of legs and lessened sensibility, four abscesses in dorsal and lumbar region; incision of dorsal abscess, removal of 7th arch and surrounding tubercular processes, incision lumbar abscess, resection 11th and 12th D., 1st and 2d L., tuberculous process removed; immediate disappearance of all pain, improvement, 3 months later fistula, 6 months later another abscess, 9 months later death, pulmonary tuberculosis. Reference: Ibid.

CASE 113.—Operator, Fornari; 1883. Dorsal region; female, 20; abscess near 7th and 8th dorsal vertebræ; operation by incision and resection of 7th and 8th arches; diffuse spinal pachymeningitis; death 20 hours later. Reference: Raccoglitore Medico, 1884, vol. i, p. 401, Chipault.

CASE 114.—Operator, Southam; 1889-90. Cervical and dorsal regions; duration 1 year; female, 3½; complete paralysis of all extremities; exaggerated reflexes and painful breathing; resection 6th and 7th cervical arches, removed growths, dura not pulsating; three months later resected 4th and 5th cervical and 1st dorsal; improvement after first operation slight; more marked after second; ninth month voluntary motion improved, and in 1892 could walk. Reference: Ibid.

CASE 115.—Operator, Southam. Dorsal region; female, 5; dorsal caries, complete motor paraplegia, incomplete sensation; resection 3d, 4th, 5th D. arches, some pus from corresponding vertebræ, no pulsation of cord; no improvement; death 9th day from pneumonia; Reference: London Lancet, 1890, vol. ii, p. 1300.

CASE 116.—Operator, Cotterell; 1895. Cervical region; duration, old; female, 13; Pupils dilated, paralysis of right arm, scar on neck from removal of glands 5 years before, projection forward of cervical vertebræ felt through pharynx, head fixed, gradually lost power over left arm and both legs; laminæ and spines of 4th, 5th and 6th C. vertebræ removed; dura bulged slightly; no evidences of dead bone found; skin and muscles sutured, wound closed by first intention; 2nd day, moved left hand; 6th day, moved left hand and arm; 9th day, moved right hand; 14th day, moved right arm above head; 3 months later, complete power over extremities and sensation returned; stiffness of neck removed under massage; complete recovery. Reference: London Lancet, 1896, I. p. 844.

CASE 117.—Operator, E. Percy Paton; 1895. Dorsal region; duration, 6 months; male, 8½. First noticed weakness in left leg, causing limping, later appeared in both; angular curve in lower dorsal region; thighs flexed so as to touch abdomen; loss of sensation; knee-jerks active, micturition and defecation normal; later all reflexes disappeared and loss of power over bladder and bowels; temperature very irregular, but no sign of suppuration. Vertical incision made over 7th, 8th and 9th D. spines; bleeding controlled with sponges; 7th and 8th laminæ removed; dura covered with layer of granular tissue; pus and caseous material discharged; closed with deep and superficial sutures and small drain left. Rallied from operation; temperature better, general condition improved; only partial improvement in the paralysis; control over micturition and defecation; 3 months later abscess involving left hip joint, most of head of femur gone, caseous material and pus removed; death 11 months after operation. Autopsy: Only region of laminectomy examined; gap where laminæ were removed much narrowed, filled with a tough, fibrous tissue; diseased foci found in bodies of several vertebræ. Reference: Ibid., p. 1351.

CASE 118.—Operator, Arthur Neve; 1888. Dorsal region; duration, 6 months; female, 18. Dorsal curvature and paraplegia; both legs much wasted and no voluntary movement; sensations of heat, cold and pain in both legs; general condition good. Removal of 8th and 9th laminæ; dura healthy and pulsated; wound closed by primary union. Increased pain at first; in 3 days could move left leg slightly. Result: No improvement; discharged one month after operation. Reference: Ibid., p. 1062.

CASE 119.—Operator, Arthur Neve; 1895. Lumbar region; duration, 2 years; male, 7. Complete motor and sensory paralysis; slight improvement with extension. Laminæ of 5th and 6th L. removed, dura healthy and cord pulsated; respiration became embarrassed; iodoform dusted in and wound closed without drain; healed; 10 days later wound opened and 1 ounce of pus escaped; sensation and muscular power completely regained in 6 months, but patient was much emaciated; complete recovery. Reference: Ibid.

CASE 120.—Operator, T. Sinclair Kirk; 1895. Dorsal region; duration, 1 or 2 years; female, 5½. Dorsal curvature, complete anesthesia of lower part of body and legs, bowel and bladder symptoms, had diarrhea, general emaciation. Menard's operation; incision 4 inches long, int. to tips of trans. processes on left side; 4th and 5th trans. proc., at junction with lamina and pedicle, artic., with ribs and portion of ribs laid bare; transverse processes removed, ribs cut and head and neck removed; diseases parts of bodies, i. e., cavity corresponded to body of 5th and part of 4th D.; pleura punctured, but no harm done; wound closed. Two days after operation bowels improved; 4 days after, reflexes and sensation; 7 days after, wound healed; 10 days after, analgesia gone; 16 days after, muscular power returned; great improvement; complete return of sensation and muscular power, but curvature remained. Reference: British Medical Journal, 1896, ii, p. 1442.

CASE 121.—Operator, Halley, 1895. Dorsal region; duration two years; male, 27. Angular curvature at 5th and 6th D.; motor paralysis of lower extremities; no bladder or bowel symptoms. Removed laminæ of 5th and 6th D.; 4 weeks later, 7th and 8th. Wound healed by first intention, paralysis entirely gone in 10 days; recurrence and second operation; complete recovery. Reference: Jour. of Nerv. and Mental Diseases, 1896, vol. xxiii, p. 770.

CASE 122.—Operator, Alfred Parkin; 1893. Dorsal region; duration, 6 months; male, 8. Partial paraplegia, partial bladder and bowel symptoms; extension unsuccessful. Removal of 6th to 9th D. laminæ; cord flattened, but pulsating; caseous mass anterior to the cord and much dead bone removed; wound closed and drain left in; spine fixed by means of plaster jacket. Three days after operation, knee jerk on right side; 8 days after, on both sides; 3 months after, sat up in bed; general health good; deformity remains; complete recovery. Reference: Brit. Med. Jour., 1893, i, p. 796.

CASE 123.—Operator, Alfred Parkin; 1893. Cervical region; duration, 6 years; male, 9. Partial paraplegia, knee-jerks and ankle clonus absent; 6th and 7th C. spines prominent; extension followed by complete paraplegia; diaphragm did not act in respiration. Sixth C. spine and lamina removed and cord exposed, 4th and 5th reduced to mass of connective tissue; all compression removed, followed by pulsation; diaphragm commenced to act. Day after operation rigidity of limbs less, knee-jerks returned, abdomen moved in respiration; wound healed quickly, all symptoms gone in 2 months. Complete recovery, but death from tubercular meningitis. Autopsy: Caseating glands found in front of bodies of 3rd, 4th and 5th vert.; cord normal; brain showed usual appearance of tubercular meningitis. Reference: Ibid., 1894, ii, p. 699.

CASE 124.—Operator, Alfred Parkin, 1893. Dorsal region; duration, 3 years; female, 8. Kyphosis, lordosis in lumbar region, advanced scoliosis, dorsal and lumbar spines convex to right, head and cervical part to left; rigidity of legs, knee-jerks feeble, sensation unimpaired; extension increased trouble. Spines and laminæ of 10th, 11th and 12th D. cut away and caseous material in front of cord removed. Next day knee-jerks returned, rigidity of legs less marked; wound healed leaving small sinus for one month; general condition good; later developed psoas abscess; recovery. Reference: Ibid.

CASE 125.—Operator, Alfred Parkin; 1893. Dorsal region; duration six months; male, 10. Both legs rigid, reflexes present, complete anesthesia and analgesia up to the nipples in front and angle of scapulæ behind; shooting pains in back; 11th and 12th D. vert. could be moved laterally; their spines and laminæ removed and cord bulged into wound, but no caseous material found. Next day could move legs; wound healed quickly, no rise of temperature; all symptoms gone in 4 months; complete recovery. Reference: Ibid.

CASE 126.—Operator, Alfred Parkin; 1893. Cervical region; duration uncertain; male, 3. Seventh C. and 1st D. spines prominent; could not walk well, knee-jerks lost later, other reflexes normal, legs much emaciated, no loss of sensation, respiration only by means of diaphragm. Laminæ 6th and 7th C. removed and granulations taken away. Two days later respiratory muscles commenced functionating; all symptoms improved; result, great improvement. Reference: Ibid.

CASE 127.—Operator, Alfred Parkin, 1894. Lumbar region; duration, 2 years; female, 8. Prominent boss in lumbar region; rigidity of legs, but could be drawn up; walked only when supported, knee-jerks absent; bowels and bladder acted involuntarily; sensation in feet and legs impaired. Spines and laminæ of 2nd and 3rd L. cut away and caseous material removed from corresponding bodies. Immediate improvement; wound did not heal well, had to be scraped twice; 4 months later, 2 small sinuses; all symptoms improved; psoas abscess developed. Improvement, but general tuberculous tendencies. Reference: Brit. Med. Jour., 1893.

CASE 128.—Operator, Trendelenberg, 1896. Dorsal region; duration, 5 years; male, 11. Sensibility unimpaired, spasmodic paraplegia, bowels normal, reflexes exaggerated. Resection of 7th C. and 1st, 2nd, 3rd D.; dura thickened with granulations. No improvement from operation. Reference: Verhandlung der Gesell. f. Chir. Kong., xxviii.

CASE 129.—Operator, Trendelenberg, 1897. Dorsal region; duration, from early childhood; male, 17. Three years before began to limp; 1 year later, walking difficult, markedly spasmodic; unable to walk for last year; marked curvature to left and deformity of thorax; loss of sensation below umbilicus; spasmodic paraplegia; some movement of toes possible; no bladder or bowel symptoms; reflexes exaggerated. Fifth to 7th D. laminæ removed; cord discolored and twisted; lumen of canal narrowed. Loss of power over bladder after operation; canal narrowed. Rapid discontraction of legs; 3 years later could walk; never had an erection since. Recovery. Reference: Ibid.

CASE 130.—Operator, Trendelenberg, 1898. Dorsal region; duration, 2 years; female, 14. Sensibility on right side normal, absent below knee on left side; muscular power strong on left side, slightly reduced on right; standing or walking became impossible; bowels normal; left patellar reflex remains, right absent. Eleventh and 12th D. and 1st L. laminæ removed; canal narrowed. Rapid disappearance of symptoms. Recovery. Reference: Ibid.

CASE 131.—Operator, Trendelenberg, 1898. Dorsal region: duration 3 years; female, 14. Sensibility normal, paralysis of left side, paresis on right to great degree; unable to walk or stand. Ninth and 10th laminæ removed, narrowing of canal. Constant improvement; recovery. Reference: Ibid.

CASE 132.—Operator, Trendelenberg, 1898. Dorsal region; duration, since early childhood; male, 18. No effect on sensibility, unable to walk, incomplete control over bowels, reflexes increased. Third to 6th dorsal removed, narrowing of canal. No improvement. Reference: Ibid

CASE 133.—Operator, Treudelenberg, 1899. Dorsal region; duration, 4 years; male, 9. Sensibilities intact, spastic paraplegia, slight muscular power over legs, reflexes increased. Seventh to 10th D. laminæ removed; caseous material removed from arch of 10th, which was carious. Loss of power over bladder and rectum, later returned; had priapisms; continued improvement. Still under treatment; condition worse than before operation. Reference: Verhand. der Gesell. f. Chir. Kongress, xxvii.

CASE 134.—Operator, Trendelenberg, 1898. Dorsal region; duration. 15 years; male, 18. Sensibility, complete anesthesia below crest of illum; spastic paraplegia and involvement of ilio-psoas muscle; loss of power over bladder, incomplete over rectum; reflexes increased. Removal of laminæ, 8th and 9th dorsal; epidural abscess size of cherry. Subsidence of anesthesia, improvement in bladder and bowel symptoms; gradual improvement; recovery. Remarks: Symptoms pointing to another abscess. Reference: Ibid.

CASE 135.—Operator, Trendelenberg, 1899. Dorsal region; duration 17 years; male, 36. Sensibilities dulled, paresthesia, weak movements, can walk on crutches; marked spasms, incontinence of urine and feces, bowels same; reflexes increased. Removal laminæ 2nd to 4th dorsal, narrowing of canal. Movement of legs rapidly returned; bladder and bowel symptoms much improved; recovery. Still under treatment. Reference: Ibid.

CASE 136.—Operator, Ellenwood, 1894. Dorsal region; duration, 10 months; male, 26. Struck by log; bad secondary syphilis; complete paraplegia, diagnosed as Pott's disease. Fourth, 5th, 6th and 7th D. arches removed; abscess around right 5th trans. process connecting sequestrum in canal; no drainage. Small sinus; remaining, little improvement. Death from pulmonary tuberculosis. Reference: Occidental Med. Times, 1894.

CASE 137.—Operator, Lloyd, 1892. Case 1. D. region; duration, more than 2 years; boy, between 7 and 8 years old. Sharp kyphosis, apex at 7th dorsal; abscess with fistula opening between the 8th and 9th ribs of right side, about 3 inches from median line posteriorly; physical condition bad; sacral bedsores; paraplegia, anesthesia and vesico-rectal paralysis. Incision made along margin of 8th rib from sinus toward spine about 2 inches; resection of rib; during dissection along the sinus pleura was opened and fluid evacuated from an encapsulated cavity; large abscess finally opened communicating with bodies of 7th and 8th vertebræ; bone debris, sequestra and granulation tissue scraped away; articular processes of both vertebræ found eroded and transverse process loose. Removal of these portions allowed entrance to vertebral canal and the removal of considerable debris pressing on cord. Gradual improvement in symptoms; anesthesia less marked, control of bladder, then of rectum; motion in flexors and adductors of thighs; then pulmonary involvement and death in 8 months after operation.

CASE 138.—Operator, Lloyd, 1892. Case 2. D. region: duration 1 year; boy, 10 years. Kyphosis at level of 10th dorsal with sinuses along back and psoas abscess of large size; paraplegia, partial anesthesia, some rectal and vesical paralysis, very septic, contractures of thighs and legs. Incision from 8th to 12th dorsal; muscles infiltrated with tubercular tissue; during curettage transverse process, articular process and part of right lamina of 10th vertebra removed; cord compressed by granulation material and a sequestrum from body of 10th lamina, 9th, 10th and 11th vertebræ removed and vertebral canal curetted; pulsation returned in cord. Decided improvement; could soon move legs; had control of bladder and rectum and sensation normal. Contracted measles and died 10 months later while still improving. Still had sinuses communicating with bare bone.

CASE 139.—Operator, Lloyd, 1893. Case 3. L. region; duration 7 months; girl, 7 years. Tubercular tumor with psoas abscess over 2od lumbar vertebra. Partial paraplegia, vesico-rectal paralysis: great pain in back and legs; sacral bedsores; incision into tumor and curettage, opened spinal canal between laminæ of 2nd and 3rd vertebræ close to transverse processes of left side; removal of laminæ 1st, 2nd and 3rd L., caries body of 2nd; psoas abscess opened in Scarpa's triangle; this communicated with posterior abscess; drainage. Improvement, but soon showed pulmonary tuberculosis, from which she died within one year.

CASE 140.—Operator, Lloyd, 1893. Case 4. D. region; duration 2 weeks; girl, 7 years. Kyphosis level of 5th D. vertebra; plaster jacket; whooping-cough, sudden paraplegia and anesthesia below umbilicus, vesico-rectal paralysis. Laminectomy 3rd, 4th, 5th and 6th dorsal; compression of cord from displacement of body of 5th vertebra, which was carious and almost destroyed, probably had given way during a fit of coughing; no pulsation in cord below this area, even after scraping away the compressing portion. No improvement. Death from respiratory difficulty due to ascending degeneration of cord.

CASE 145.—Operator, Lloyd, 1898. Case 5. C. region; duration 1 year; man, 24 years. Torticollis, posterior pharyngeal abscess, tingling in arms and lower limbs, numbness; no paraplegia, but sense of sluggishness in muscles and weakness; reflexes exaggerated. Incision parallel to post. margin of sterno-cleido-mastoid, right side, careful dissection; abscess opened, trans. process and ant. surfaces 3rd and 4th vert. eroded and bare; necrosis inferior articular process; 3rd opening canal; vertebral artery not injured; small focus granulation tissue about articular process extending slightly into canal. This patient developed tubercular disease about knee, which was operated on 6 months later. At this time all numbness and spinal symptoms had disappeared. He then developed dulness of both pulmonary apices. Sent to mountains and now, June 6, 1900, is well except for a small sinus in neck not communicating with bone.

CASE 146.—Operator, Lloyd, 1893. Case 6. D. region; duration long time; boy, 12 years. Had been paralyzed a long time before coming to hospital. Complete paraplegia and anesthesia below umbilicus. Great pain in back and legs, vesico-rectal paralysis; slight displacement backward of 4th dorsal spine. Laminectomy 2, 3, 4, 5 6 dorsal; pachymeningitis with great thickening of dura from 2nd to 5th dorsal; leathery mass removed; some hemorrhage, controlled by temporary packing; dura opened in several places, but readily sutured, cord softened. No improvement; death from exhaustion 3 months later.

CASE 147.—Operator, Lloyd, 1893. Case 7. D. region; duration 10 months; girl, 5 years. Paraplegia, anesthesia from point between umbilicus and symphysis; vesico-rectal paralysis; sacral bedsores, also bedsores over heels; reflexes abolished. Laminectomy 5, 6, 7, 8 dorsal; mass grayish granulation material involving inter-S dorsal; mass grayish granulation material involving intervertebral fat and interspinous ligaments; small carious focus in body of 6th vertebra; severe compression of cord; no return of pulsation, softened. No improvement; gradually increasing paralysis and finally death 4 months later from respiratory failure due to ascending degeneration.

CASE 148.—Operator, Lloyd, 1894. Case 8. D. region; duration some months; boy, 9 years. Very large and sharp kyphosis from 2nd to 9th dorsal; paraplegia, anesthesia below umbilicus, vesico-rectal paralysis; reflexes abolished; contracted thighs, pain in back and limbs, especially on motion. Laminectomy 4th, 5th, 6th and 7th D., cord completely severed between greatly thickened interspinous ligaments of 5th, 6th and 7th spines and body of 6th. No improvement. Death from pyelitis 2 months later.

CASE 149.—Operator, Lloyd, 1894. Case 9. D. region; duration, 6 months; boy, 11 years. Sinus at angle of 7th rib, which was bare; fluid in pleura, fluctuating tumor between sinus and spine; unable to walk; reflexes exaggerated, pain in back, chest and limbs; spastic gait. Incision enlarging sinus backward, resection rib 2 inches, opening pleura, pus evacuated, communication sinus with fluctuating tumor, incision extended; granulations and several sequestra found. 1 being head of rib; piece of rib removed; vertebral canal opened alongside of transverse process: Post. nerve roots injured during exploration. Lamina of 9th vert. removed and some bone debris curetted from around cord. All symptoms due to spinal pressure disappeared immediately: could walk in 2 weeks. Death from exhaustion from large suppurating wound involving pleura 6 weeks later.

CASE 150.—Operator, Lloyd, 1895. Case 10. D. region: duration, 2 years; girl, 7. Paraplegia, anesthesia, vesico-rectal paralysis; reflexes almost if not quite abolished; bedsores, sacrum and heels; pain, back and legs and abdomen; cystitis very marked. Laminectomy 2nd, 3rd and 4th dorsal; tubercular mass involving ligamenta subflava and interspinous ligament between 3rd and 4th spines; transverse process and articular process (superior left) of 3rd vertebra eroded; cord greatly compressed; no pulsation after or before removal of mass. No improvement. Death from pyelitis 5 months after operation.

CASE 151.—Operator, Lloyd, 1894. Case 11. C. region; duration, more than 1 year; girl, 6 years. Paraplegia, anesthesia including arms partially; occasional attacks respiratory difficulty; bedsores, vesico-rectal paralysis, abolition reflexes; tumor over 5th and 6th cervical vertebræ. Laminectomy 5th and 6th cervical; tubercular granulations springing from spines 5 and 6, and eroding left lamina of 5th vert.; compression of cord by pachymeningitis and tubercular granulations and bony debris; pulsation not satisfactory after compression removed. Slight improvement only. Could use arms but not legs. Death from respiratory failure 3 months after operation.

CASE 152.—Operator Lloyd, 1895. Case 12. D. region; duration, 3 months; girl, 7½ years. Partial paraplegia; reflexes normal; no anesthesia; pulmonary involvement left apex; tumor over 12th dorsal. Laminectomy 11th and 12th dorsal, 1st lumbar; caries arch 12th dorsal and spinous process involving vertebral canal for short distance. Immediate and complete recovery. In few weeks could walk well without aid of any kind. Death 8 months later, pulmonary tuberculosis.

CASE 153.—Operator, Lloyd, 1896. Case 13. D. region; duration, 7 months; boy, 4 years. Complete paraplegia, anesthesia, vesico-rectal paralysis, abolished reflexes; great pain; sharp kyphos 11th dorsal and 3rd lumbar. Laminectomy 11th and 12th dorsal, 1st and 2nd lumbar; pressure due to tubercular debris, and large sequestrum completely occupying vertebral canal; cord absolutely separated for space of 1½ inches, except for a fibrous band. No improvement.

CASE 154.—Operator, Lloyd, 1898. Case 14. L. region; duration, 2½ years; boy, 5 years. Psoas abscess, sinus at tip of coccyx into rectum and gluteal region. Very painful on pressure in region of 4th lumbar spine; does not attempt to walk; reflexes exaggerated; amyloid liver, spleen also enlarged; marked lumbar lordosis. Incision along lumbar region opens abscess and allows of removal of sequestrum from body and transverse process of 4th lumbar; lamina also eroded and removed; granulations scraped away from cauda and from abscess cavity. Complete recovery of function; can walk well without support.

*(To be continued.)*

# JOINT TUBERCULOSIS.*

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The discussion of tuberculosis of the hard and soft parts has been so general in the past years that it would hardly seem necessary at this date to emphasize the extent or the importance of this infection in the production of bone or joint disease, but the fact still remains that a large proportion of cases of joint tuberculosis are not recognized until the period of actual destruction has taken place. Tuberculosis of the joints, as of the lungs, requires for its arrest a diagnosis at the very beginning of the infection. At this time, while it is a purely local process, arrest and cure are perfectly feasible; in the later stages, destruction of bone or joint or limb or life is probable. It is of the utmost importance, therefore, that a recognition of the earliest signs should be urged upon the general practitioner, so that curative measures may be instituted at the earliest possible moment. Three things are absolutely necessary in order to accomplish this result: 1. The practitioner must first recognize that joint tuberculosis is at the beginning a purely local process; that the focus is small; that local and constitutional symptoms will not present themselves in any positive palpable or visible symptoms so far as the ordinary evidences of acute inflammation are concerned. As a rule, there will be neither heat, nor swelling, nor redness, nor recognizable pain. I do not mean by this that there will not be recognizable symptoms; these are nearly always present, but they are of a different kind, as will be shown later. 2. The practitioner must rid his mind of the idea that joint tuberculosis originates only in the children of tubercular parents. A visibly healthy child, of apparently absolutely healthy ancestry, can, and often does, have local tuberculosis. 3. He must absolutely divest himself of the old idea that all joint pain is rheumatic. This last error is the most difficult of all to remove, as it is so firmly fixed in the minds of the profession and of the laity, and is most pernicious in its results.

As already stated, the evidences of acute inflammation are rarely present. It is a quiet struggle that is going on deep in the recesses of the epiphysis of the bone, but it is a desperate one. The tubercle bacillus has gained a foothold, owing to some local traumatism or temporary constitutional depression that has lowered the individual's resistive power. The attack of the enemy is immediately the signal for phagocytic defense; the invader must be destroyed, or, failing in this, must be walled off and isolated from the system. In a previously healthy individual victory will crown the efforts of these defending cells, if the physician will but lend his aid to prevent that stage beyond hyperemia which we recognize best by the term inflammation. Alas! Too often the surgeon waits for the flame to show itself, when he should have made his diagnosis while there was but the smouldering ember! It is then too late to check disastrous results. It is a discredit to any surgeon to wait for violent or inflammatory symptoms before he makes a diagnosis; both diagnosis and treatment are demanded at the very inception of the invasion. With early diagnosis and early treatment, hundreds of crippling results will be arrested.

After a slight and often unrecognized injury, a child begins to limp. Let no physician imagine that a child limps "from habit:" a child does not wish to be hampered in its play, and it will limp only from a cause. To find that cause is the duty of the physician; he will not find it by looking for tenderness or pain, although these may be exceptionally present, but first in rigidity of the muscles (muscular spasm), protective rigidity, in the region of the joint affected. The muscles are all placed upon guard, and diminished mobility is the result. Fortunately, Nature at once recognizes the invasion of the enemy, and uses her best efforts to secure the condition most helpful for recovery. Nature puts the part as thoroughly at rest as is possible under existing mechanical conditions by fixing the joints in the best attainable position and preventing motion, but unfortunately in doing this she is compelled to bring the two joint surfaces into more positive apposition. This rigidity can be recognized in the first few days, if the patient is stripped and placed in a horizontal position; a comparison of the position of the limbs and the motions possible at any given joint can then be fairly instituted. With the patient standing, or clothed, any surgeon is liable to error, especially if the joints of the lower extremities are involved. Even for an examination of the shoulder or elbow, patients should be stripped to the waist. I am inclined to attribute a large proportion of errors to insufficient examination. A careful investigation, under these circumstances, will, even in the first few days of the disease, disclose this limitation of motion in some direction. At the knee we will usually find that the hamstring muscles, being the stronger, have carried the knee into a state of flexion, thereby also relieving joint strain; at the hip, the psoas, iliacus and anterior muscles will be found in a state of excessive tension, while the entire periarticular group will also be rigid and on guard. Bringing the pelvis into its proper relation to the vertebræ, by flexion of the sound limb upon the chest, will at once show the deviation of the affected limb from its normal relations to the ilium; or, if the popliteal space is brought down upon the table, the pelvis will be so tilted that a compensatory lordosis of the spine is necessitated. In early examination, movements of the femur may drag the pelvis after it only in one direction, but a few days later all the muscles will be on guard, and it will be noted that the pelvis follows the thigh bone in all directions: adduction, abduction, flexion, rotation, etc.

*Pain.*—Pain is frequently entirely absent or may exhibit itself by a reflected pain, or by distress along the course of a nerve and at a distant point, as in the knee in hip-joint disease, or down the legs or in the abdomen in spinal caries. The night-cries so frequently present in joint disease are an evidence of deep pain, caused by the sudden resumption of muscular control when any motion of the limb during sleep arouses the muscles to sudden and violent action. The patient, after a scream or cry, will be relieved by the control secured by muscle rigidity, and will sink to sleep only to have the process repeated at irregular intervals. Tenderness may be entirely or partially absent; in fact, is rarely present over a tubercularly diseased vertebra. Rigidity is evidenced when attempts are made either at flexion, extension, lateral bending or rotation, and is a much more reliable sign. Tenderness even at the ankle and wrist in tuberculous cases is often wanting. Induration and thickening, however, are usually present early, and become marked as the disease progresses; comparison with the opposite joint will best discover the amount. Heat or redness is rarely visible.

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*Heredity.*—Every individual, and especially every child, is liable to be invaded by tubercle bacilli, no matter how healthy in itself, no matter what the condition of the parents. The child of tuberculous parents is far less able to resist the onslaught of these bacilli, and it was this non-resistance of cells that was recognized by the older pathologists as the "scrofulous" or "tubercular diathesis." Healthy cells, however, may be temporarily rendered non-resistant by disease, general or constitutional, or by injury producing hyperemia or inflammation. During this stage, tubercle bacilli introduced through a slight abrasion, or through the blood, may secure a lodgment; phagocytic action being temporarily reduced may not be able to overcome them, and a foothold is secured in the epiphysis, which is in young children an especially favorable focus owing to its great activity. What we mean by tubercular heredity, therefore, is simply congenital cell non-resistance, and such a child will be continually exposed to the dangers of infection from even trifling traumatic or other causes, while such causes in the truly healthy child would be quietly and successfully repelled. Let it not be forgotten, therefore, that there are seasons and conditions in the strongest child when, through temporarily reduced vitality, a tubercular infection may take place.

*Rheumatism.*—A large majority of all cases of tubercular hip disease are treated for weeks, even months, sometimes even up to the stage of suppuration, for so-called "rheumatism." The mistake is utterly inexcusable, for rheumatism of a single joint in children ought to be absolutely thrown out of the question, unless positive symptoms are in evidence. The symptoms of true rheumatism are always sufficiently marked to render the diagnosis clear, consequently if every case of joint disease which is unaccompanied by positive indications is viewed from the beginning with the probability of its being tubercular, the greatest benefit to mankind will be secured. I have never seen injury resulting from an error of diagnosis in this direction; I have seen hundreds of most lamentable results from the "rheumatic" mistaken diagnosis. Moreover, the treatment for the more grave disease is never injurious, even granted that the rheumatic element is present. The symptoms of the two conditions differ so widely that only care is necessary for the differentiation.

*Treatment.*—Diagnosis being assured, the indications for immediate and early treatment are positive. One week of rest at the inception of a tubercular invasion will accomplish more than months at a later period after a tubercular focus is established. A large proportion of the cases of invasion can be warded off if the proper treatment is commenced within the first ten days. The treatment of joint disease should follow certain positive lines; the methods of securing results will differ greatly with individuals, as might be anticipated. Rest of the affected joint; control of muscular action; relief from weight-bearing; abundance of sunshine, fresh air and good food are the fundamental ideas. Mechanically, the chief object is to prevent the addition of hyperemia and inflammatory action to the cell conflict already inaugurated against the invading enemy. Therapeutic and hygienic measures are of the greatest importance. A general definite plan of treatment is all-important; the particular method, or the particular splint, to be employed is not of much consequence.

*Conclusions.*—1. Diagnose early; treat early. 2. Do not look for positive inflammatory signs as indications of tubercular invasion; the symptoms are entirely different, but are equally positive, if a careful examination is made, muscular rigidity being one of the earliest and most reliable. 3. Discard entirely the existence of rheumatism of a single joint in children.

## PERMANENT CATHETERIZATION.*

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Varying opinions are held as to the usefulness of the retained catheter after perineal operations upon the posterior urethra. Most authorities, in discussing external urethrotomy, pass the retention catheter without comment, advocating the use of the short perineal drainage-tube only. By some it is advised that continual catheterization be employed for twenty-four or forty-eight hours, and that at the end of that time intermittent catheterization be begun. A few favor retention of the catheter for a longer period, varying from three to six days. By no writer with whose counsels I am familiar are we taught to leave the catheter in after perineal urethrotomy until the urethral and perineal wounds are firmly healed.

Permanent catheterization for a period as long as twenty days is common practice in hematuria, having its origin in trauma of the prostate, and, as is well known, it is often indicated and employed in certain cases of retention of urine, the patient being placed under such circumstances that regular sterile catheterization can not be practiced. In such cases a permanent catheter, far from causing distress, often affords complete relief from pain and strangury, and even in cases of pronounced infection it often gives excellent service. It relieves tension, diminishes cystitis and renders the subsequent passage of instruments easy by maintaining or even increasing the caliber of the urethra.

The practice of permanent catheterization fell into disrepute before the advent of clean surgery, it having been observed that the continuous presence of the catheter in the bladder and urethra produced congestion at the vesical neck, cystitis and a mechanical urethritis. Abscesses also developed occasionally in the periurethral tissues at the scrotal angle, due in all probability to pressure exercised by the instrument.

Inflammation of the bladder may occur during permanent catheterization, as a direct extension of a urethritis or from decomposition of the small quantity of urine which always moistens the intravesical end of the catheter. To prevent this complication we are generally advised to change the catheter often and to flush the urethra twice daily with 1 to 10,000 corrosive chlorid solution, or 1 to 1000 silver nitrate, and to irrigate the bladder as often with 4 per cent. boric acid solution.

It occasionally happens, however, that the membranous and prostatic urethra, after external urethrotomy, particularly along the line of incision, is so sensitive and deformed that the changing of the catheter would be an exceedingly difficult and exquisitely painful procedure. After perineal section involving removal of a portion of the posterior urethra and anastomosis, the passage of the catheter is, as is well understood, extremely difficult of execution.

If, after such an operation, a large soft-rubber catheter can be retained in the urethra, its tip barely projecting into the bladder, until the urethral and perineal

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wounds have completely healed, or firm granulation tissue fills the perineal defect, it will, as can readily be seen, do away with much of the tedious work of after-treatment in the case. The writer has been surprised to discover with what great tolerance the urethral mucosa suffers the presence of a soft-rubber catheter. This tolerance on the part of the mucous membrane seems to be more marked when a catheter of large size is used. The reason for this is not altogether clear. It is possible, however, that when a large catheter is used, the lumen of the urethra being quite filled, and the possibility of movement of the catheter in the urethra being thereby restricted, irritation of the mucosa as the result of friction is not so apt to occur as if smaller instruments were used. Moreover, the very presence of a large catheter in the posterior urethra extending into the bladder doubtless does much to relieve spasm at the vesical neck by mechanically preventing contraction of the cut off muscles. The effect here is perhaps similar to that produced by dilatation of an irritable and contracted sphincter ani.

In a case observed by the writer, after a perineal section for impassible traumatic stricture involving excision of a huge scar, resection of nearly all of the membranous urethra and urethral anastomosis, a No. 26 French scale, soft-rubber catheter was retained in the urethra for seventeen days, and in that time the patient neither suffered loss of sleep nor complained of pain. The temperature never rose above 99.4 F., nor the pulse above 80. As for discharge, there was just enough of mucopurulent character to slightly moisten the meatus, the lips of which were somewhat pouting and red. This patient received, by mouth, three times a day, five grains of salol and five grains of cystogen. The bladder was washed out twice daily with warm 4 per cent. boric acid solution, and once every other day an ounce or more of hot solution of 1 to 5000 potassium permanganate was injected between the catheter and the urethral mucosa. After the sixth day the discharge from the urethra ceased, and the flushing with potassium permanganate was discontinued. It seemed that the mucosa of the urethra had now become quite tolerant of the catheter. The discharge did not reappear. The bowels were not allowed to move during the first two weeks. At the end of this time they were cleaned with Apenta water. When the catheter was removed, healing was quite complete and the subsequent care of the case was easy. In this instance intermittent catheterization was hardly to be considered, and permanent retention of the catheter left nothing to be desired. In another case, one of traumatic stricture with consequent fistulæ of the membranous urethra of thirteen years' standing, a No. 26 Charrier scale catheter was left in after perineal section and urethrotomy, for twelve days. The perineal wound healed solidly during this time. After removal of the catheter, the membranous urethra was found to be large enough to readily admit the passage of a No. 32 French steel sound. This striking increase in the caliber of the urethra was doubtless due to absorption produced by the permanent dilatation. It has been interesting to the writer to note with what facility sounds several sizes larger than the retained catheter can be introduced after removal of the latter.

In a third case, after operation for the relief of a large suppurating and much operated perineal fistula, the process of repair being slow, a No. 26 French rubber catheter was left in the urethra for sixty-five consecutive days. After the tenth day, pain in the bladder and the discharge from the urethra having ceased, the patient began to walk about, the urine being caught in a rubber urinal tank strapped to the thigh. Three weeks after the introduction of the catheter this man made a journey into an adjoining state, wearing the instrument without discomfort, returning after four days, none the worse for the trip.

The writer has recently employed permanent catheterization, after perineal lithotomy, in two cases. The catheter was kept in for two weeks in each instance. During this time no attention was paid to the condition of the urethral and vesical mucosæ except in so far as administration by the mouth of salol and cystogen may be interpreted as such attention. Neither urethra nor bladder was flushed at any time. There was no apparent cystitis and no discharge from the urethra, the perineal wounds healing promptly.

The observations in these cases would seem to teach that the danger of mechanical urethritis and cystitis as the result of the presence of a retention catheter has perhaps been somewhat overestimated, that after such a catheter has been in contact with the urethral mucosa for several days there develops a distinct tolerance on the part of the urethra for the instrument, and that large catheters are rather to be chosen for permanent retention than smaller ones. A large catheter is much more easily retained than a small one.

## SUGGESTIONS FOR THE RECONSTRUCTION OF SYPHILITIC NOSES.*

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Nasal deformity from syphilitic destruction of bone and cartilage is a very frequent result of the tertiary stage of the disease. The disfigurement varies in extent and character, but is always very noticeable because of the importance of the nose in facial contour. The mental distress of the patient is usually acute, because the disfigurement is associated in the public mind with a loathesome and disgraceful disease. The fact that syphilis may be inherited or be acquired in an innocent manner avails little in the public's estimate of a person carrying ever upon his countenance the well-known mark of sexual impurity. Nearly every other lesion of syphilis may be concealed from public observation, or may at least be attributable to diseases of a less dishonorable nature. The patient with the sunken or distorted nose of syphilis has, however, scarcely any shield to protect him from impertinent scrutiny and the innuendo that his tissues are contaminated with the scourge usually due to unchastity.

These circumstances make the condition one to appeal to the sympathy of the surgeon, whose every effort should be given to the consideration of adequate operative relief.

My attention has been forcibly directed to this surgical problem, because I have recently seen more than one who had in vain applied for relief to the general surgeon and nasal specialist. For years past the correction of deformities of the face has been of increasing interest to me; and I have been more and more gratified at the results obtainable by intelligent operative measures. The literature of this surgical field has become quite voluminous, but it will be found to repay those who take time to study it.

Syphilitic deformities of the nose may be roughly divided, for the present purpose, into: 1, those in which

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one or both alæ, the lobule, the columella, or other parts of the external nose have been ulcerated away; 2, those in which the internal supports of the cartilaginous nose have been destroyed and the middle of the organ has fallen inward, causing a transverse depression below the nasal bones; and 3, those in which a similar internal destruction has been followed not only by the transverse depression but a cicatricial invagination of an ala, both alæ, or the end of the nose. The more serious cases may be complicated with necrotic perforation

Fig. 1.—Destruction of alæ and lobe of nose, due to syphilis.

of the hard palate, loss of portions of the alveolar process of the upper jaw, cicatricial changes from ulcerative destruction of the soft palate; and also by actual loss of portions of the sunken or retracted external nose. The first group contains the cases which are improved by the comparatively simple plastic procedures; and hence they are not often refused treatment. It is not difficult to make a new ala out of the tissues of the cheek by cutting a flap with its pedicle at the side of the nose, and swinging it around into the gap in the outer wall of

Fig. 2.—Destruction of alæ, columella and portion of hard palate, due to syphilis.

the naris. A columella may be constructed with sufficient ease by cutting a column of skin and muscle from the middle of the upper lip and turning it upward. One operation, supplemented by a little trimming or modelling of the parts at a later date, is usually sufficient to ensure a fair reconstructive result.

The patients who belong to the second and third groups, are those who meet with discouragement when they apply for surgical relief; and yet much, very much, may be done to lessen the horrid deformity of countenance and to alleviate the despondency due to the consciousness of facial ugliness. I have seen evidence that some members of the medical profession believe that these syphilitic noses should go untouched, because the constitutional taint may militate against healing after operation wounds. This opinion is fallacious. It would not be proper to operate on a nose the seat of active syphilitic inflammation; but, after the active process has ceased, incisions heal as promptly in syphilitics as in healthy persons. I have never seen any more reason to hesitate to cut bone, cartilage and skin in the former than in the latter class of patients.

The simplest form of sunken nose is that in which the organ has caved in, as it were, at the middle of the dorsum. Thus the lobule is thrown upward, the plane of the openings of the nostrils is more or less vertical instead of horizontal, and projection of the cartilaginous nose is greatly reduced. To remedy the deformity, the tip of the nose must be brought downward and forward. This is usually to be done by a free transverse cut across the nose at the point of greatest depression. This incision permits the operator to pull the lobule and alæ downward, until the tip of the nose stands out prominently from the plane of the face, and the nostrils with the intervening columella lie in a horizontal plane. The detachment of the lower part of the organ

Fig. 3.—Reconstructed nose after syphilitic deformity. This nose was much sunken before operation.

from the nasal bones above and its reposition leave an opening into the nasal chamber extending across the middle of the face. This space must be filled with flaps of tissue sufficiently large not to draw the lower part of the nose upward when healing takes place; and sufficiently rigid to maintain a straight or a nearly straight line along the dorsum or bridge of the nose.

Various methods of operating have been devised. Some surgeons have inserted metallic supports with legs resting on the nasal bones or the frontal bone above, and the superior maxillary bones below. These foreign bodies are not very desirable occupants of reconstructed syphilitic noses. I prefer to build, of superimposed flaps, a thick fibrous wall which will maintain its shape; or else to hold such a reconstructed wall in proper shape by some form of inconspicuous spring attached to a spectacle frame.

Recently I operated on such a case with gratifying result, by turning into the gap two pairs of cheek flaps and bringing down two flaps from the forehead. The first cheek flaps were turned into the gap with the skin surface toward the nasal cavity. Subsequently two flaps were made from the frontal tissue between the eyebrows and rotated downward on top of the cheek flaps. At a still later period two more cheek flaps were cut and rotated on the top of the new portion of nose. Minor operations were done to properly adjust these various masses of borrowed skin and connective tissue and more will be required. The result, however, justifies the time and annoyance to the patient of so many operations. She is now one of my most grateful patients.

In all such nasal reconstructions, the patient should know at the start that six months or a year is not too long a time to devote to the operative relief. Each step must be followed by a period of inactivity to allow cicatricial influences to show their effects. The surgeon must be guided by the experience obtained in each patient, and can not promise exactly when he will operate again or what he will do as the next step.

Fig. 4.—Loss of end of nose from caustic applied by quack doctor. [Case shown to illustrate what can be done in similar cases due to syphilis.]

Some years ago I satisfactorily slipped a triangular flap down from the forehead; and pinched it up into a fair-looking dorsum with an eyeglass spring attached to a pair of spectacles supported by the ears.

Another method which might be employed is that used by Keegan in rhinoplasty for amputated nose. He dissects the tissue from over the nasal bones and

Fig. 5.—Loss of end of nose repaired by flaps from cheeks. [Same case as Fig. 4.]

turns it downward in two flaps, which then lie with their raw surfaces upward. Over these might be placed two flaps made from the cheeks or a frontal flap similar to, but smaller than, that used in making an entire cartilaginous nose. Other suggestions are to bring down a frontal flap after making a groove down the middle of the upper part of the nasal bridge, by splitting the soft tissues in the middle line and drawing them aside; to make a small frontal or frontonasal flap, perhaps containing periosteum or a thin layer of bone, and thrusting it downward through a transverse button-hole or tunnel made in the tissues covering the lower end of the nasal bones; to detach one of the nasal bones and displace it downward; to chisel loose the nasal bones and pry them forward; to cut the edge of the superior maxillary bone with a chisel and bend it forward.

If there is an opening in the hard palate, an obturator must be made to close it. In this event it might be possible to attach a long lever to the nasal surface of the artificial palate and let it hold up the flaccid new part of the nose. The end of this lever might be provided with a narrow pad to act as a sort of ridge-pole to the nasal roof; and the lever might be provided with a spring joint like that controlling the blade of a pocket knife. The patient could then adjust the obturator in the mouth and push the lever and its pad into position by a probe or hook introduced through the nostril.

Sunken noses not requiring such extensive operative treatment might perhaps be improved by two cheek-flaps turned up and thrust through subcutaneous tunnels extending from the sides of the nose to the middle line. This maneuver would fill up a slight hollow on the dorsum of the nose. It might be utilized also in congenital saddle-back nose, which has a hollow in the dorsum of the organ.

Syphilitic noses in which much tissue has been lost must be treated by rhinoplastic operations, which will bring a sufficient bulk of tissue to give opportunity for modelling. The new tissue may be taken from the forehead, the cheeks, the arm, or the palm of the hand. A large flap from the abdomen or thigh may be attached to a raw surface made on the hand; and afterward be transferred to the face.

After a crude resemblance of the nose has been thus made, minor operations will shape it so as to improve the outline and fashion alæ and columella. The ala may be lined to prevent cicatricial occlusion, by a strip of mucous membrane cut from the inside of the upper lip, and thrust through a button-hole made in the upper part of the lip.

The incisions made in the plastic restorations of syphilitic noses may be free, and usually must be so; but the scars become in time scarcely perceptible. Even if they are evident to close observers, they are much less disfiguring than the lesion for relief of which they were demanded.

Many persons, both in and out of medical circles, believe that syphilitic nasal deformity is incurable. This is an error and should be combatted by practitioners everywhere. Aseptic methods, carefully planned and well-executed operations, and judicious after-treatment hold out the same hope of benefit as in other departments of surgery. The degree of benefit varies only with the complicated character of the problem. Many patients may be very satisfactorily relieved of the greater part of the unsightly deformity; and there are very few who can not have their condition considerably ameliorated. It is sad to meet in one's daily walks so many deformed noses that could readily be improved.

1627 Walnut St.

**Benefit Profits.**—The *Muenchener Med. Woch.* devotes part of its profits every year to various benevolent organizations for members of the profession in Bavaria. Last year it distributed 4000 marks between the fund for widows and orphans of physicians and three other societies, with 200 marks to the building fund of the local medical society and 200 marks for a memorial to the late Dr. Aub.

## THE MEDICAL TREATMENT OF PEPTIC ULCER.*

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The personal experience of any malady is apt to enhance the interest of a physician therein, and should not detract from his knowledge thereof. Thus I have been led to analyze my hospital and private records of cases of peptic ulcer, which, for perhaps fifteen years, I have treated more rigidly than do most physicians.

For diagnostic purposes, cases of peptic ulcer may be divided into three classes: 1. Those which are entirely latent and present either no symptoms at any time or first manifest themselves by hemorrhage or perforation. 2. Those with symptoms of indigestion not easily distinguishable from those of indigestion arising from other cause. 3. Those with diagnostic symptoms. The first class is not of therapeutic importance unless hemorrhage or perforation occurs, throwing them into Class 3. Careful study of the case in all its aspects may in like manner transfer a case from the second to the third class, that to which alone my remarks to-day are applicable—the class in which the diagnosis is reasonably certain.

The salient fact with special therapeutic bearing seems to me the presence of an open ulcer associated with and probably in a measure dependent on hyperacidity. The gastric ulcer is subject to two adverse influences—the irritating acid secretion and the unrest due to the periodical changes in the size of the organ and to the peristalsis. The duodenal ulcer is subject only to the former. In spite of these adverse influences, we know that healing may take place; but it would seem entirely reasonable to suppose that healing may be promoted by rest just as it is in every ulcer of the skin or mucous membrane which is accessible to vision. We have no means of knowing, in any given case, how large or deep an ulcer may be, or whether it is single or multiple. We know that surface ulcers of any depth or size do not heal in two or three days, and if the principle of absolute rest is worth being enforced at all in peptic ulcer, it is worth strict enforcement. Hence, I long ago adopted the arbitrary period of two weeks as a reasonable time to allow for the healing process and a fair average limit of toleration of exclusive rectal feeding. This period has been prolonged in two cases to five weeks, and has been shortened in others to meet the seeming demands of the special case. In a few cases rectal feeding has clearly provoked stomach unrest and vomiting. In some others the period of stomach abstinence has been shortened on account of the refusal of the bowel to retain or absorb in spite of varied coaxings. In most cases all discomfort ceases as soon as the stomach ceases to work, and there is usually no great sense of hunger. If discomfort persists or hunger is importunate, I give small doses—1/32 to 1/16 grain—of morphia once or more during the day. Incidentally I may allude to the happy effect of morphia in checking gastric hypersecretion. To fully realize this one must have himself experienced it.

I ordinarily give a large cleansing enema daily and nutrient enemata every six hours. Formerly I rarely gave more than six ounces of milk, or milk and egg—in either case with a pinch of salt—at a time. Lately, acting on the suggestion of Dr. G. G. Sears, I have found that in some cases as much as a pint of nourishment can be introduced and absorbed every six hours. For thirst I sometimes allow small quantities of water by the mouth. In other cases I have introduced water into the rectum or under the skin.

My two weeks' starvation treatment of cases of undoubted peptic ulcer was founded on *a priori* reasoning, which must always be checked and dominated by results of actual experience. The able and exhaustive analysis of Greenough[1] and Joslin, of 187 cases of gastric ulcer treated in the wards of the Massachusetts General Hospital from 1888 to 1898, throws important light on peptic ulcer in its various aspects. The subsequent history of 114 of these cases was ascertained. It appears that a larger percentage of cures was obtained in those fed by the mouth than with exclusive rectal feeding. This does not prove that the latter method was harmful, inasmuch as the rectum-fed cases comprised a larger proportion of severe ones, but it seems to show that there is no such advantage in absolute gastric rest as the considerations which led me to adopt it suggested as possible. One important suggestion, however, appears to result from the analysis of my personal cases, made with great care by Dr. W. H. Smith, to whom I wish to express obligation. Of 85 cases Dr. Smith succeeded in getting reports to date in 52. Of 63 cases treated by rectal feeding, the end result is known in 37. Of these 37, 18 were fed exclusively by the rectum less than ten days, and in 7 there has been a recurrence of severe symptoms. Of the 19 cases fed exclusively by the rectum for more than ten days, there has been recurrence in only one. Greenough's and Joslin's results nearly brought me to the point of abandoning my strict treatment. If careful stomach feeding is as safe, it is certainly quicker and pleasanter. But the marked contrast in frequency of recurrence, brought out by Dr. Smith in cases of more or less than ten days of absolute rest, encourages me to persevere until larger figures are at my disposal. As far as present figures go, they are strongly in favor of prolonged rest and are consistent with *a priori* reasoning.

* Read by title in the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Am. Jour. of the Med. Sci., August, 1899; Journal A. M. A., xxxiii, № 6, p. 534.

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## LAVAGE OF THE STOMACH AS A THERAPEUTIC AGENT IN THE TREATMENT OF HABITUAL CONSTIPATION. A PRELIMINARY REPORT.*

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The application of remedial measures to one healthy organ for the relief of diseased conditions in another organ has been practiced from times immemorial. Counterirritation is probably the prototype of all such procedures. Dr. Fenton B. Turck, Chicago, has recently reported the results of his experiments in the treatment of diseases of the intra-abdominal viscera through the colon. The washing of the bowel for the relief of various acute disturbances of the stomach and other organs is a measure used not alone by physicians, but by almost every mother all over the world.

Does the washing of the stomach have any influence upon the relief of intestinal disturbances? The answer

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is in the affirmative. Lavage of the stomach is indicated as a therapeutic measure in the following intestinal disorders: 1. Constipation due to excessive acidity of the stomach. 2. Constipation due to gastric atony. 3. Diarrhea resulting from excessive production of mucus in the stomach. 4. Obstruction of the intestines from whatever cause: "By lavage we relieve the upper portion of the bowel from the pressure and weight exerted by the contents of the stomach and, having relieved the pressure, the part of the bowel which lies above the constricted portion empties its contents into the stomach and thus lessens still more the general tension."[1] 5. Habitual constipation. The first four indications are self-evident and do not require any extended commentary. The fifth indication, habitual constipation, of which I claim to be the originator, until some one will claim priority,[2] requires a few words of explanation. I have "stumbled" upon this discovery. I have noticed in a number of patients who suffered from some gastric trouble accompanied with constipation that, after I had used lavage on them, they reported the following day that they had a natural movement of the bowels, "the first in many years." With the increase of the number of such cases it dawned upon me that there might be some relation between the washing of the stomach and the movement of the bowels. Instead, therefore, of only removing the stomach contents on the second day of the examination, I made it a rule to also wash the stomach in all cases of constipation. The results were surprising. Later, I applied this measure to the treatment of habitual constipation in patients who were free from any gastric disturbances. In a large percentage of such cases the results were highly gratifying.

I am at present studying the physiologic basis of this treatment, and will reserve the report of my conclusions for a future occasion. As a preliminary communication I wish to call the attention of the profession to the following statements: 1. A certain percentage of individuals suffering from habitual constipation are apt to have a spontaneous movement of the bowels the following day after the stomach has been washed for the first time. 2. The majority of such patients will eventually recover the normal function of their bowels, if lavage is continued daily for two or three weeks, and later at greater intervals. 3. The best results are obtained from using cold water, or hot and cold water alternately. 4. The best time for such lavage is one hour before breakfast.

1. Spivak: Med. Treatment of Intestinal Obstruction. Journal A. M. A., May 27, 1899.

2. Since this paper has been presented, there appeared an article by Oswald Ziemssen, entitled "The Stomach-Tube as a Peristaltic" (Berliner Klin. Woch., Aug. 13, 1900), in which the author claims that the daily use of the stomach-tube with lavage is a valuable stimulant to peristalsis, and an efficient means for curing chronic constipation. I am glad that the number of observers has doubled. Notwithstanding the fact that Dr. Ziemssen's article was printed first, yet, since my article was presented in June, 1900, I still claim priority.

**Extraordinary Fecundity.**—According to the *Medical Age* of March 25, one of the Italian journals has recently recorded an extraordinary case of fecundity of which it guarantees the authenticity. Flavia Granata, who it appears is well known at Rome, has recently given birth to her sixty-second child. This woman is now 59 years old. She was married at 28, and has successively given birth to a daughter, then six sons, then five sons, then four daughters, and then a long series of twins annually, and ended recently by having four sons.

## WHAT DRUG STANDARDIZATION MEANS FOR THE PHYSICIAN.*

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In the early decades of this century medicines were very simple, and of the many herbs, roots and barks that were used, few if any had their virtue attributed to any definite chemical that they contained. As early, however, as 1805, Stürner, a German pharmacist, isolated morphin from opium and termed it *sel essentiale opii*. The result of this epoch-making discovery was not to establish drug assaying, as would appear likely, but instead a great interest in the isolation of the alkaloids from drugs and the chemical study of these alkaloids. The leading pharmacists of the day were developing as chemists, and looked upon the problem of alkaloids from the chemical standpoint almost entirely. The problem was to isolate the alkaloid, determine its composition and, if possible, its constitution. Although medical men used the resulting alkaloids in their profession, it did not occur to any of the pharmacists of the time to standardize the drug by determining the amount of alkaloid it contained. Among the great physicians of the early decades of this century there was one, however, who was in advance of his time in this connection, and that was Claude Bernard who, when the *sel essentiale opii* was promulgated as a *fait accompli*, was sufficiently impressed as to its importance to announce that, inasmuch as it appeared that this morphin was the essence or active principle of opium, he predicted that the time would come when, by establishing the amount of these principles in drugs, physicians would be enabled to have at their command drugs whose strength of active principle would be known, and that it would be possible to accurately control the dosage and hence the medicinal effect of most if not all drugs. This was seventy-five years ago. So slow has been the development of this idea of Claude Bernard's, however, that, although alkaloids were known by the dozen during his lifetime, but three drugs in the U. S. Pharmacopeia of 1890 have an established standard of akaloidal strength, viz.: opium, nux vomica and cinchona.

The cause of this anomalous condition of affairs is to be found in the fact that while pharmacy has during these years developed more as a trade than a science, chemistry entered, decades upon decades ago, the portals of the university and gained upon pharmacy enormously. Chemistry has taken hold of these alkaloids and not only given us their composition, but in almost all cases their atomical anatomy, i. e., their constitution. During all this time pharmacy has labored on, not as a science to any extent, but in colleges of pharmacy as a trade, the object being to turn out as many men as possible who could put up a prescription and pass a state board of pharmacy examination. I venture to assert that had the university opened its portals to pharmacy as it has to chemistry, notably in this country, the great majority of drugs would to-day be possessed of a standard of strength and their chemistry would be generally known.

But few of the many pharmacists who are graduated annually have any time or any desire to spend any time investigating drugs, and as a result the work that is necessary to enlighten us on the chemistry of the potent

* Presented to the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

drugs is not forthcoming. The great trouble has also been that, so great has been the number of knights of the pestle set adrift in this country, with sheepskin in hand and no fixed position in life established, there has been undue competition in the profession of pharmacy, and instead of being able to devote any time to investigation, even if the inclination were present, the entire time of the pharmacist is taken up in devising schemes to get the better of his numerous competitors.

To turn now to the subject proper of this paper, let us consider what the standardization of drugs means for the physician. To-day physicians, in case of the majority of drugs, have no idea of the potency of the ones they are prescribing, and they must, as they do, rely on the good name and intentions of the manufacturer and the dispensing pharmacist. In case of opium, nux vomica and cinchona, they know that when they prescribe preparations of these drugs they can depend on getting the effects of a definite and invariable quantity respectively of morphin, strychnin and quinin. As soon, however, as they touch upon such potent drugs as digitalis, belladonna, henbane, aconite, ergot, cascara sagrada, rhubarb, senna or golden seal, they must take the word for the deed and assume that they are getting a preparation of sufficient strength to produce the desired effect. All that they are justified in assuming is that they are getting the effect of a fair, sound, average sample of the drug, but just how the same will measure up as compared with what they have used for another patient who got it at another pharmacy, they have but little means of knowing.

Let us take for instance digitalis. This is a drug that is almost universally used by physicians, and is also used in emergency cases, when the heart is involved, and prompt and decided therapeutic effect is counted on.

Then consider ergot. We all know how greatly these drugs vary in therapeutic potency and in content of active principle. The pharmacist has no official standard for either, and must use his eye and nose to decide whether the drug he is purchasing is, in his judgment, prime or not. Appearance is, however, no criterion whatever of drug potency, for many and many a time have I assayed beautiful, bright and bold digitalis leaves or ergot grains and found, to my surprise, that they contained far less active principle than did another lot of drug I had before me that was anything but prepossessing in appearance. From the bold, bright drug, an infusion would be made, or a tincture, by the pharmacist, and the therapeutic effect of only 0.15 per cent. digitoxin and 0.12 per cent. digitalin would be produced, while from the unsightly specimen aforesaid the therapeutic effect of 0.38 per cent. digitoxin and 0.25 digitalin would be obtained, i. e., the dull digitalis would produce twice the effect of the beautiful, bright sample, on the heart of the patient. The same may be said of ergot, where, if possible, more trustworthiness and uniformity are desirable, due to the greater emergency nature of the drug than in case of digitalis. One lot of ergot is by no means necessarily equal in content of active principle, and consequently in therapeutic effect, to another, and any fluid extract used in filling physicians' prescriptions in one pharmacy may be as widely different from that obtained in the nearest adjoining pharmacy as 0.05 per cent. differs from 0.35 per cent.

The great disadvantage to the physician lies in the fact that, except in case of opium, nux vomica and cinchona, he has absolutely no assurance that when he prescribes any preparation of a vegetable drug he will get any trustworthy therapeutic effect from it. In fact, he may expect almost any effect, from none at all to the effect of an overdose; for actual experience in assaying vegetable drugs has shown me that some lots of drugs contain unusually large amounts of active principles, in fact sufficient to make a large normal dose a poisonous one. The mere fact that the actual alkaloidal strength of most galenical preparations of the U. S. P., as they are standing to-day on the shelves of the thousands of pharmacies of this country, is sure to vary within wide limits, and does naturally so vary, ought to cause every physician, who knows what assaying a drug and having a fixed active principle strength for all drugs is, to be very emphatic in insisting that the U. S. Pharmacopeia should set up definite standards for all vegetable drugs that have any therapeutic value at all. As the case now rests, the therapeutics of the vegetable drugs to-day is nothing more than the casting of a die or the flipping of a penny. "Heads," I get a therapeutic effect to speak of; "tails," I get practically no therapeutic effect.

Many manufacturing pharmacists and chemists of this country have set up standards of alkaloidal strength for many of the vegetable drugs, and their preparations of these same drugs may be relied on to produce at least uniform results themselves. They reach a conclusion as to a drug standard of alkaloidal strength, by assaying many typical samples of the drug and using the mean of these assays as a standard, embracing in these figures also the published assays of as many other pharmaceutical chemists of note as they can. While this is better than no standard, inasmuch as all the fluid extracts or tinctures made by that one firm will always be uniform, yet it is far from being what is desirable and necessary. What is wanted is to have a national alkaloidal standard for the drug, and then have all manufacturers and retailers have their preparations of this strength. Then the physician may depend on geting uniform and satisfactory results. It is manifestly impossible for the Revision Committee to establish standards for all vegetable drugs at once, but if they feel that the desire of the medical profession throughout the land is to have standards established, they will see that for all drugs that can be standardized to-day standards will be established in the next edition of the pharmacopeia.

To be specific and no longer deal in generalities, what is meant by a therapeutic standard for a drug, and how can the same be determined? A therapeutic standard of a drug or the preparation of a drug is, in the first place, the adoption of a definite content of that drug in a certain active principle or principles which are known to have the same therapeutic effect as the drug, as for instance 5 per cent. of total alkaloids and 2.8 per cent. quinin for cinchona bark; 13 to 15 per cent crystallized morphin for powdered opium; 1.5 per cent. total alkaloids for fluid extract of nux vomica; 15 per cent. total alkaloids for extract of nux vomica, etc. In these cases all the fluid extract of nux vomica on the shelves of the pharmacists of this country, that is labelled U. S. P., contains 1.5 per cent total alkaloids, and all the fluid extracts of cinchona contains 5 per cent. total alkaloids and 2.5 per cent. quinin, etc., and whether a physician's prescription is put up in Atlantic City, N. J., or in San Francisco, the therapeutic effect of these two drugs will be identical. For these three drugs the physician can rest assured that he will get

identical results, practically, wherever his prescriptions calling for these are compounded.

How much more scientific for therapeutics and how much more satisfactory for physicians especially, and for pharmacist and patient as well, would it be if this could be said of all drugs? The chances of a patient complaining that the medicine did not work, or of the physician failing to get prompt results where prompt ones are necessary, due to full therapeutic strength of his medicines, would be reduced to *nil*. This is just exactly what drug standardization means for the physician.

To return to our specific cases, ipecac, golden seal, wild cherry, cascara sagrada, rhubarb, sanguinaria, ergot, digitalis, conium, belladonna, henbane, cannabis indica, aconite, etc., should be similarly standardized so that physicians can be positive that when they prescribe these and put U. S. P. behind them they will always get preparations, from all pharmacies, of identical therapeutic strengths. The exact standard in these drugs is arrived at by determining, from an examination of many samples of sound, prime drug, what the average content of the same in active principle is. If a drug of this active principle strength can be prescribed with safety in the doses given in standard works on therapeutics, and produce all the desired effects of the drug, it can and should be adopted as the therapeutic standard of that drug. Thus, in case of ipecac, 1.75 per cent. of total alkaloids; of golden seal, 2 per cent. hydrastin; of sanguinaria, 1 per cent. sanguinarin; of conium, 0.6 per cent. coniin; of belladonna root, 0.45 per cent. total alkaloids; of colchicum root, 0.5 per cent. colchicin; of aconite root, 0.5 per cent. aconitin, etc., might be accepted as the therapeutic standards of these respective drugs, because experience in assaying typical specimens of them has shown that this is the average content of the specimens that, when dispensed in the usual doses for drugs, will produce the full therapeutic effect thereof. There are some drugs of which the chemistry is not sufficiently advanced to justify us in stating that the therapeutic effect thereof is due to any one or two definite chemical substances, as, for instance, cannabis indica, cotton-root bark, culver's root, burdock root, lobelia, poke root, yellow dock root, squill, senna, senega, stillingia, etc., but it is only a question of time when these drugs will have their chemistry and pharmacology worked up, and we will then know to what constitutent or constituents each owes its therapeutic activity.

I would not have you think that this subject is incomplete and unworthy of the attention and confidence of the medical profession until all drugs shall be perfectly known and standardized. The principle I am arguing for is as good, sound and correct if only one drug is standardized as if all were standardized. Naturally, we can not standardize them all at once, or in five or perhaps ten years, but we can hope that we have the encouragement and cooperation of the medical profession in endeavoring to standardize them as rapidly as lies in our power. Especially would I have it clearly stated that, as nothing can be lost to the physician, and immeasurably much gained by the adoption of drug standardization, the members of the medical profession should lend the cause of scientific pharmacy and medicine the great impetus of their favor and encouragement by making it apparent that they favor drug standardization, and are convinced of its advantages to them and to medicine. The convention of pharmacists and physicians that recently met at Washington to appoint a committee and give the latter instructions as to the revision of the pharmacopeia, was quite decided in its favor of the more general standardization of the vegetable drugs of the pharmacopeia. It appeared to be the unanimous sentiment of the 188 or more delegates from institutions of pharmacy and medicine there assembled, that as many as possible of these vegetable drugs should be standardized, and the committee there elected will no doubt regard the subject of drug standardization as its most important duty. The view of the American Medical Association, as expressed by one of its representatives, that physicians would like to have the pharmacopeia contain a liquid and a solid preparation of each vegetable drug in it, and have these respectively in each case represent a like amount of the drug, was not favorably considered by the convention. The idea was to have all the fluid preparations represent, say 100 cubic centimeters 100 grams, i. e., a fluid extract, and then have no tinctures or more dilute preparations of the same drug. Similarly for solid preparations, have all solid extracts represent a uniform amount of the drug, say 100 grams represent 500 grams of the drug, and then have no stronger or weaker solid extracts of the same drug. The objection raised was that it was impracticable, as many drugs can not be made into liquid or solid preparations of the same strength as other drugs can be. This, however, has no bearing on drug standardization, as the latter depends on quantity of active principle, and the former depends on quantity of drug, which necessarily brings with it variation of quantity of active principle.

To sum up, drug standardization means that drugs shall always be uniform in therapeutic strength, and the great advantage of this uniformity to the physician is that he can always depend on obtaining definite and uniform therapeutic effects whenever he prescribes a standardized drug. It removes the element of doubt from the physician's mind, and places him on a sure footing in relation to his patients, while at the same time avoiding for the pharmacist any question as to the reliability of his drugs, and assuring the patient that he is always getting what the physician desired that he should get. Any achievement that thus makes for the advancement and improvement of all the parties in the highly important operation of administering to the ills of humanity must needs be a good achievement, and deserving of the approbation and encouragement of all concerned.

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**"Christian Scientists" Not Insurable.**—In the March issue of the *Cleveland Journal of Medicine*, attention is called to the fact that the fraternal beneficial organization known as the Knights of Honor some months ago ruled that persons believing in the doctrines of so-called "Christion Science" would not thereafter be received into membership. "This action was taken because it was seen to be reasonable not to take any risks upon the lives of persons who refuse to avail themselves of the accumulated knowledge of medical science when they are ill. It is now learned that one of the greatest and most conservative life insurance companies in the world, the Mutual Life Insurance Company of New York, without making any parade of the matter refuses to issue policies upon the lives of 'Christian Scientists.' These facts are not noted to give these organizations credit for doing that which common sense and good business policy suggest, but to show the very fact that, viewed from the commercial standpoint, the 'Christian Scientist' and faith curist are recognized as persons who do not take average care of their lives. For insurance purposes they are being classed along with habitual drinkers and with those who follow hazardous occupations."

## A VISIT TO "JESUS HILFE" OR THE LEPROUS HOSPITAL OF JERUSALEM.

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During a recent visit to Palestine it was my pleasure to inquire into the condition of the lepers of that country and pay a visit to the "Jesus Hilfe" Asylum. Through the courtesy of our American consul, I was most cordially received by the superintendent and physician in charge, Dr. Einsler, and conducted through the institution. Every available opportunity was given me to study the disease with a view of bringing home to the profession of Minnesota, where the affection at present exists, some information as to its prevalence in the Orient, where from time immemorial, so to speak, it has had its home.

Notwithstanding the fact that "Jesus Hilfe" Hospital is one of the best equipped of its kind in the world, and is an imposing stone building surrounded by luxuriantly blooming gardens, the average tourist is content to view it from a distance. In fact, it is somewhat difficult to secure the services of a dragoman who is willing to cross its threshold. The hospital is situated in the German settlement of Jerusalem, on the hillside, in full view from the main road leading to Bethlehem, probably a half hour's drive from Jerusalem, and commands a fine view of the surrounding country.

Fig. 1.—Jesus Hilfe Hospital.

The history of its origin and growth breathes the true missionary spirit, a brief account of which may be interesting.

### ORIGIN AND GROWTH OF THE HOSPITAL.

In the year 1865, a Pomeranian baroness, von Keppenbrück, visited Palestine, and being deeply impressed with the wretchedness and misery of the lepers, made a liberal contribution toward the founding of an asylum for them. Working in conjunction with the order of the Evangelical Brotherhood, additional funds were obtained in England. A committee was appointed and a building erected near the Jaffa Gate, where lepers who came of their own volition were admitted. Years later, however, it was found that the building was inadequate to accommodate all who applied for admission, therefore plans were effected to erect the present hospital. Voluntary contributions were received from Germany, England, Switzerland and North America. In 1887 it was completed, and the inmates were transferred to the new building. A few years prior to this, however, the founder of this magnificent charity placed it under the management of the Brotherhood, and it has since become their absolute property.

### MANAGEMENT OF THE HOSPITAL.

The Chapter House of the Brotherhood, under whose control the hospital is, is in the Kingdom of Saxony. They appoint the house parents and four deaconnesses who are trained nurses, and publish annually a statement of the disposition of the moneys received. A local committee composed of members of the German Lutheran congregation of Jerusalem has the immediate supervision of the institution. Most gratifying results have been obtained.

### THE HOSPITAL INMATES.

Fifty patients can be accommodated and the hospital is sometimes taxed to its utmost capacity. On account of local prejudices, when a shelter was first provided, it was difficult to induce lepers to enter the hospital, but before the old building was abandoned twenty patients were enrolled. Unfortunately these poor creatures can only be carefully nursed and made comfortable until death ends their misery, as a cure for this loathsome disease remains still undiscovered.

Those who become inmates have their sores bandaged daily, are frequently bathed, furnished with comfortable clothing, fresh linen and nourishing food, besides being provided with space in the ward, in which are a bed, an easy chair and combination table and cupboard. They are not compelled to remain in the hospital for any given time, but as a rule they soon appreciate their improved environment and become attached to those who care for them and contribute to their comfort. They are not permitted to leave the grounds, beg or marry; neither are married lepers admitted. Through the house father they keep in touch with their friends, and at certain times are permitted to receive them. On pleasant days they sit about in the garden or on the roadside outside the entrance gate, amusing themselves playing draughts or other games.

Those having use of their hands and feet assist in the work about the grounds. Reading is a favorite pastime, and being read aloud to is considered a privilege. Mental obtuseness is not of necessity present to the extent that was formerly supposed. They are said to evince a keen interest in any occurrence out of the ordinary routine of every day life in the hospital, such as the return of an attendant after a vacation, and gladly contribute their best to the "welcome home," dancing the fantasia, etc., and for days talking of nothing but the coming event.

### LEPROSY IN PALESTINE.

The number of lepers in Palestine is about four hundred, the village of Siloam, southeast of Jerusalem, alone having between thirty and forty. The government designates places for them in which to live, as they are excluded from social and family life. Institutions under Mohammedan jurisdiction accord them full liberty to wander about at will. They sit along the wayside singly or in groups, asking alms. The roads frequented by tourists are their favorite resorts, a large proportion of the Siloam contingency congregating at the foot of the hill leading to the Garden of Gethsemane and the Mount of Olives. Several of the accompanying photographs were taken from these groups. Since 1893 a residence has been set apart for children, the offspring of lepers, in which are a half dozen or more healthy boys and girls. It is hoped that in this way such offspring can be protected against the development and ravages of the disease by good care, proper training and nourishing food. The majority of lepers manage to eke out an existence by begging, and prefer their

Fig. 2.—Deaconesses.

independence and alms to a residence in an asylum. The fact that their condition is aggravated by this mode of life, neglect and filth is self-evident, and beyond the appreciation of the average Oriental, who is content to habitually sleep on a heap of rags or a bundle of straw with perhaps nothing but a stone for a pillow and is oftener without than with a covering, shedding his garments only when in tatters. A beggar society was some years ago founded in Jerusalem among the lepers, with a president at its head, called a "sheik." Every leper who desires to become a member must pay an initiation fee with the promise to beg and contribute a certain portion of his income obtained in this way to the general fund of the society. Individuals who have no money or are too ill to beg are not accepted.

### LEPROSY INVESTIGATIONS.

Dr. Einsler, the physician in charge of the hospital, is a Hungarian by birth, and about fifty years of age. For a period of sixteen years he has been identified with the asylum and is enthusiastically in love with his work. He is a keen observer and fully abreast of the times, devoting himself unceasingly to his laboratory, and prosecuting researches with a view to throw more light on the mooted questions of leprosy. It was my pleasure and privilege to have several personal interviews with Dr. Einsler regarding his long experience with the disease. He spoke of the mental and physical characteristics of lepers, and especially dwelt on the clinical aspects of the disease as it presents itself in Palestine. He holds the view that as yet it is not definitely known how leprosy is propagated, whether through heredity, contagion or infection, but he excludes contagion for the reason that no case has ever come under his observation that would lead him to believe in the theory, basing his opinion at the same time on the fact that people constantly mingle with lepers. Then, too, lepers always have been and are still allowed to wander through the streets or along the highway, transacting business, handling money, fruit, etc. He believes a peculiar susceptibility or predisposition exists primarily, and that heredity or infection plays its part afterward. And still, on this point he is not satisfied, because as yet the facts in his possession are not fully established, but he hopes that as bacteriologic investigations progress something more definite will eventually be ascertained. The lepra bacillus has been discovered and is now generally recognized as a special micro-organism giving rise to the malady.

I am able to show under the microscope a preparation quite characteristically demonstrating this bacillus, which was mounted in the "Jesus Hilfe" Hospital, the specimen having been taken from a pustular nodule on the face of a patient. Dr. Einsler believes that as soon as cultures are made and inoculations performed our information on the manner of communication will be more definite and the question will become settled. In his laboratory scientific investigations along this line are being made, and before long, he thinks, he will be able to publish tangible conclusions on the subject. In speaking of the usual early manifestations of leprosy, he said that the upper respiratory tract—the mucous membrane of the nose and throat—becomes affected. The turbinated bodies, the cartilages of the nose, the soft palate and the larynx are attacked. It is with considerable interest that I note this observation, because it concerns us who are specially engaged in the treatment of the diseases of the nose and throat.

The forms of leprosy as observed in Palestine are the nodular, nervous, and the mixed.

### CLINICAL FEATURES.

The skin and the respiratory mucous membrane become affected. The face, the hands, the forearms, the ankles and the feet not unfrequently evidence the onset of the disorder. The skin is at first dry and glossy, while later appear small lumps or nodules, either in great or small numbers, which increase but little in size and often remain unchanged for years. This condition is called the small nodular variety of leprosy. Then again only a few nodules appear, about the size of a hazlenut. Frequently in this form there is present an intensely red discoloration or inflammation of the skin, resembling erysipelas or inflammation of the lymph vessels. Sometimes this condition is

accompanied by a marked elevation of the body temperature, which continues for several days and is followed by an increase of the number of nodules. The discoloration of the skin does not limit itself to the nodules, but also involves the surrounding integument. It is not unusual for the nodules to degenerate when fever is present, which condition may be accompanied by a diffuse swelling and infiltration of the neighboring tissues.

The broken-down nodules generally heal and cicatrize, but, on the other hand, they may become associated in the necrotic process with others lying in the same region, in this way forming extensive suppurative areas which show no disposition to heal, thus eventually exhausting the vitality of the patient and causing death. It not seldom occurs that the nodular forms of the disease are both present in the same individual; so apparent is this that no trouble is experienced in determining their co-existence. Palpation is invaluable, because not infrequently the sense of touch is the only means by which to determine the presence of the small nodules, while the large ones are visible. There are instances where no nodules exist and nothing is to be seen but circumscribed thickenings of the skin, giving the characteristic appearance of leprous spots. Sometimes, owing to the existence of these circumscribed areas, the sweat glands perish and lose their function, thus giving rise to dryness of the skin. Those parts of the body covered with hair undergo a similar change, the hair bulbs degenerate, followed by dryness, brittleness and dropping out of the hair, eventually leaving behind a smooth, shiny surface. Examples were cited where the eyebrows or even the beard had thus suffered. At no time has it been observed that the hair covering a leprous skin has turned white.

Somewhat in a similar manner as that of the skin, the mucous membrane of the mouth, nose and eyes suffers. Nodules appearing on mucous surfaces are generally paler in color than the tissue adjacent to them. Mucous membrane nodules degenerate more easily than those appearing on the skin, a circumstance which is not quite understood. The fact perhaps is due to the nature of the irritant and the susceptibility of the membrane. Probably the character of the local irritant makes the difference. Yet it can not be disputed that the same morbid process is at work in the mucous membrane as in the skin.

Circumscribed swellings or thickenings are also characteristic of the mucous membrane. When these areas of acute swellings join similarly affected nodules lying in the same region, extension of the morbid process takes place and considerable destruction of tissue results. In grave cases the cartilages of the nose and the soft palate are destroyed. Extensive destruction of the palate usually forms a direct communication between the mouth and nose. The mucous lining of the posterior nares, nasopharynx and larynx may also be invaded by the bacillus of leprosy. When the larynx is affected, hoarseness and sometimes complete loss of voice are produced.

The tongue is not exempt. Frequently nodules appear in great numbers, whereby the tongue becomes thickened, uneven or fissured. In certain instances the gums swell and bleed as in scurvy. The teeth loosen, drop out or are easily removed. The eyes not infrequently become involved. The nodules appear on the upper surface or on the edges of the lids. Movement of the lids is interfered with and the fissure between the lids becomes contracted. Nodules seldom appear on the mucous membrane of the lids, while the mucous membrane of the orbit is frequently affected. The cornea is rarely involved. Generally the conjunctivæ are dry and brilliantly white. By and by there takes place a diminution of the luster of the sclerotic coat, which is gradually and surely followed by total blindness. Small nodules form at the edges of the sclerotic coat, forming, as it were, flaps of the mucous membrane.

The disease is not limited to the skin and mucous membrane: the lymph glands may become involved. The glands of the neck swell and inflame. Sometimes glandular suppuration takes place and gives origin to a continued discharge of pus.

Regarding the first stage of the nervous form of leprosy not much is known, because the individual seldom comes under the observation of the physician until long after the nervous system has shown signs of disturbance. It is only after the nervous affection has advanced that attention is drawn to it. The beginning period of the nervous form is characterized by spots appearing on the skin, accompanied by fever. Violent pains of the extremities, resembling more or less those of rheumatism, is a frequent symptom.

Fig. 3.—Lepra Leontiasis.

Extreme sensitiveness of the skin exists. The advanced stage of the nervous form is not marked by a change of the surface of the skin, except that now and then increased pigmentation is apparent and sensation is usually decreased. As the nervous affection progresses, sensitiveness diminishes, especially in the face and the extremities, which condition increases until entire loss of sensation is experienced or anesthesia of the parts is established. But even when anesthesia of the skin is present, the deeper structures are still sensitive to pain. In some cases the peripheral nerves assume spindle-formed thickenings. Amputations some-

times are rendered possible in consequence of the anesthesia and a general anesthetic is not needed. The incision of the skin is unaccompanied by pain, but on the other hand, separation of the deeper layers of tissue is attended by violent pain.

Fig. 4.—Anesthetic Facial Leprosy.

The muscles undergo certain changes. Their tendency is to grow smaller in circumference, but they do not disappear. It is apparent, not true atrophy. The muscles of the face, the hands and the feet undergo

Fig. 5.—Lepra Leontiasis.

the atrophic process. The face assumes a peculiar, staring countenance, expression being entirely lost. The eyes can not always be closed, or only partially so, in consequence of which, through mechanical influences, serious trouble may arise, often inducing complete blindness. The muscles of the palms of the hands and of the soles of the feet do not atrophy.

Motility of the fingers and toes diminishes. Owing to the predominating strength of the contracting muscles, the fingers and toes contract or become clutched.

Fig. 6.—A so-called Healed Leper. Natural Process.

In the course of the disease the joints become affected and the loss of a finger or a hand follows. An illustration of this is seen in the photographs. The cause of the natural amputation, as it were, is explained as follows: Channel-like swellings form in the neighborhood of the

Fig. 7.—Early Stage of Leprosy of the Face.

joint, which begin externally and gradually extend deeper and deeper until the joint is destroyed and the member drops off, healing and cicatrization ensuing. This method of exfoliation is peculiar to the fingers and toes. Then again, inflammation of the joint, attended

by violent pains and fever, followed by suppuration and necrosis of the bone and final dropping off of the limb, is the case, in which instance healing, cicatrization and the formation of a stump take place.

Another form is periostitis of the bone of a finger, hand, toe or foot, whereby tumors, abscesses and sinuses form. By means of a sound, necrosis is usually detected. The suppurative tumor remains open until the diseased bone disappears, healing afterward following. The development of this form of leprosy differs in different individuals. Many of the patients remain apparently the same for years, because the atrophy and contraction of the muscles progress slowly. Therefore such a one goes for many years with contracted fingers and toes. On the other hand, when ulcerative processes are present, exfoliation often is speedily accomplished.

When the toes are severely contracted the patient is compelled to walk on the tips of the toes. In spite of the reduced sensitiveness of the parts, the leper may plead for amputation of the affected member. Accidents sometimes befall a leper suffering from the nerv-

features of leprosy as it exists in Palestine, with the clinical account given by Dr. Hansen, the discoverer of the lepra bacillus, I find the general characteristics of leprosy in northern Europe accord with those peculiar to lepers of the Orient.

Permission was granted to take pictures of some of the inmates whose appearance, condition and history appealed to me as being exceptionally instructive. They convey a quite clear idea of the different forms of leprosy, especially the nodular varieties. With the aid of an interpreter brief histories were developed, an account of which I append.

DESCRIPTION OF ILLUSTRATIONS.

Fig. 1 is a picture of the "Jesus Hilfe" Hospital, giving a good idea of its location and architectural design.

Fig. 2 is representative of the four Moravian deaconesses who so faithfully nurse the lepers of the institution. They are intelligent, and thoroughly devoted to their life-work.

In conversation with the deaconesses in regard to

Fig. 8.—A Leprous Beggar Boy. Mount of Olives in Background.

Fig. 9.—A Group of Lepers Along the Highway.

ous or anesthetic variety of the disease. Incidents were related where the patient when reclining toward heated bodies became severely burned. The accident is often followed by marked sloughing of the parts and the formation of disagreeable cicatrices. Sometimes cases of burning arise where the leper is not conscious of the injury inflicted, the accident being recognized only by some one near the patient, through the detection of the odor of the burning tissue.

TREATMENT OF LEPROSY.

Respecting the treatment of leprosy, no specific is as yet known. All that it is possible to do is to make the patient comfortable. The average duration of life is about forty years. Some lepers live to be quite old, while others succumb to the disorder early. Extermination of the disease can only be brought about by confinement in hospitals and the intervention of marriage.

COMMENTS.

In comparing the results of my personal interview with Dr. Einsler regarding the behavior and clinical

their personal experiences with the lepers, I was deeply impressed by their zealous devotion to the patients and the risk of infection they were taking. But it seems they do not fear infection: they go about among the patients most courageously, performing the duties assigned them. They are in daily contact with the lepers, handling them, washing their clothes and dressing their sores. No case of leprosy has as yet arisen among them. Of the four now in the hospital, one has been employed thirteen years, one ten, one five, and the fourth, one year.

Fig. 3 represents a man aged 30 years who has been suffering from leprosy for a period of three years. The disease first made its appearance on the face. One of the early symptoms was pain and unusual dryness of the nose, followed by external redness of the face when exposed to the sun, the discoloration later developing into purplish red. Nodules then appeared, no other part of the body at this time having been affected. The man is not married. So far as he knows leprosy did

not exist in the family, nor does he know how he contracted the disease.

When I saw him the forearms and the lower extremities showed an eruption, the eyes and arms were anesthetic, but motion was not interfered with. The patient weighs 160 pounds, sleeps well, has no appetite and complains of more or less urinary and alimentary disturbance. Two tumors the size of English walnuts presented under the lobes of the ears, the left one being quite visible in the photograph. These tumors appeared one year ago. At the commencement of the disease impaired hearing was noted, but since the affection has become fully established the patient thinks the hearing has improved.

Fig. 10.—Advanced Form of Leprosy.

The left eye is affected. The eyelids are nodular, thus causing stiffness and a difficulty in closing them. Complaint is made of obstruction of the nose, which organ at present, externally, is nodular and purplish-red. In consequence of the intensely diffused infiltration and cicatricial tissue, the nose presents a broad and deformed aspect. Nose-bleed and hemorrhages from the mouth and throat are common occurrences. Soon after the first manifestations of the disease, soreness of the mouth and throat was complained of and caused considerable annoyance. At present the voice is very much impaired, complete aphonia sometimes being the case. Deglutition is difficult.

His face is almost black, or of a deep purple hue, covered extensively with nodules varying from the size of a grain of wheat to that of a small hazlenut. The nose, as has been noted, is thick, broad and nodular, while the upper and the lower extremities are covered with cicatrices. The hair, it will be observed, has disappeared from the eyebrows. The left eye shows the existence of an ulcer along the outer canthus. The upper and lower lips are both invaded by the disease, as is shown by their thickness, evidencing extensive infiltration of their structures. The hands and fingers are infiltrated and thickened. The case is typical of nodular leprosy.

Fig. 4 represents a man, also 30 years of age. He is married, but his wife left him on account of his loathesome disease. He has no children, and his wife is not affected. He declares no trace of the disease is to be found in his family. He has been ill for six years and has had sore throat for three.

Unlike the previously described case, this man does not show so characteristically the evidences of leprosy in the face. What is most striking in his condition is the extreme involvement of the upper respiratory tract. His voice is entirely gone and he is enabled only to speak in whispered tones which are imperfectly enunciated and difficult to understand.

The disease of the air-passages is rapidly growing worse. Sleep is much interfered with, owing to impeded respiration. When lying down, he says: "I feel like a dead man." The nose is deformed and obstructed, with pain in the eyes and face. The hearing is unimpaired, his eyes sore, the sight of the right one being affected. The soft palate, on inspection, was found to be entirely destroyed and the larynx was undergoing destructive changes. The right foot is nodular and anesthetic. His arms are affected in the same manner. He complains of poor appetite and intestinal disturbances. The patient is losing ground rapidly and is expected to die soon.

Fig. 5 is representative of a leper, 35 years of age. Leprosy attacked him five years ago, since which time the disease has been running a rather rapid course. It first appeared below the knee of the right leg, and afterward extended up toward the thigh. The second year of the malady the left leg became similarly affected. At first, pain in the legs was a pronounced symptom, while later on anesthesia of the legs became manifest. Now pain and anesthesia seem to alternate. Two and a half years ago the nose became involved, characterized by nose-bleed and expulsion of

Fig. 11.—Early Period of Leprosy.

ulcerative products. Inspection of the patient, as well as of the photograph, reveals the fact that the nose has suffered materially. Deformity is present in consequence of a total loss of the triangular cartilage of the septum narium, thus giving rise to the depressed or broken-down state of the point of the nose. The man experiences trouble in swallowing and says he has had hemorrhages from the nose and throat. It will be noticed that the skin of the face and of the hands is thickened and infiltrated. Examination of the lower extremities showed the effects of leprous ulcerations.

Fig. 6 represents a leper beggar whose picture was is introduced to demonstrate the early facial manifestations of the disease. Observation of the face shows the period of infiltration and discoloration of the skin without, as yet, nodular formations. Under bright sunlight this man's face turned a bright purplish-red.

Fig. 8 is illustrative of a leprous beggar boy 8 years old, who stands ready to receive alms, as is indicated by his outstretched hand. He is still in the early stage of leprosy, which is a family complaint, his mother having had it. Evidences of the disease became manifest two years previously, on the face, which on close inspection of the picture reveals the fact.

Fig. 12.—Large Nodular Variety of Leprosy of Face and Hands.

taken outside the city walls, along the roadside. It is a woman, 21 years of age, who had the disease a few years previously. The only parts affected were the fingers and hands. The picture demonstrates, most interestingly, the peculiar behavior of leprosy, and shows conclusively Nature's effort in effecting a cure. The right hand has entirely disappeared, while on the left nothing is left but the thumb. It is a case in which the process of the disease has spent itself, and a temporary cure at least has been effected.

Fig. 7 illustrates a leper 22 years of age. His picture

Fig. 9 presents a group of lepers taken along the roadside. Each of these four has a history peculiar to himself. The one on the extreme left lost his hands twenty years ago. The one on the extreme right became totally blind eight years ago. The two in the middle are not so far advanced. In two of these individuals excessive hemorrhages from the nose occurred on several occasions. They are Moslems and residents of the village of Siloam.

Fig. 10 is a case of marked development of leprosy of the face and fingers. The patient is a woman and,

so far as she remembers, she has had the malady from early childhood. Her age is 25 years. As seen in the illustration, the nose and face bespeak and indicate how destructive the lesions of leprosy may be. The invasion of the nose has been great, much of it already having been destroyed. The face is covered with leprous nodules, the integument is infiltrated and thickened, which, in combination with the nasal deformity, constitutes a pitiable spectacle of human suffering. The patient is voiceless, both the soft palate and the larynx being very much damaged. The hands and fingers have suffered. Leprosy existed in the family.

13 the face is characteristic of leprosy and illustrates the small nodular form of the disease.

COMMUNICATION OF LEPROSY.

Respecting the communication of leprosy, the following incident, related to me as being authentic, is rather curious and interesting: A physician living in Bogata, Columbia, S. A., after trying in every way to protect his family against leprosy, was very much astonished and grieved to find his wife in the first stage of the disease. After careful investigation to discover how she contracted the malady, he at last thought of the country woman who furnished the family with eggs.

Fig. 13.—Small Nodular Variety of Leprosy of the Face.

Fig. 11 is the picture of a little girl, an inmate of "Jesus Hilfe." The child is 12 years old and has been afflicted for four years. At present there exists a nodular emption of the arms. In addition to this symptom she suffers from an abnormally enlarged abdomen, which perhaps bears no relationship to the disease in question.

Figs. 12 and 13 are copies of photographs presented to me by the authorities of the hospital. They typically portray the ulcerative form of nodular leprosy. Fig. 12 is interesting. An excellent idea is given of the isolation of the nodules and their degenerated state. In Fig.

Going to her place he insisted upon inspecting the poultry yard. There, in a hole in the sand, was the woman's husband in an advanced stage of leprosy, amusing himself by throwing exfoliations from his body to the chickens, which they devoured greedily.

LEPROSY AND TUBERCULOSIS.

Owing to the fact that leprosy and tuberculosis are so nearly allied in many of their characteristics, for purposes of differentiation, I have microscopic slides of the bacilli of the two affections. The leprous specimen was obtained from Dr. Einsler and presents, most charac-

teristically, the bacilli. A striking resemblance exists between the bacillus of the two diseases. The bacillus of tuberculosis is rather long and somewhat bent; this is not the case with that of leprosy. Some authorities think lepra bacilli stain much easier than those of tuberculosis, which accounts for the difference; on the other hand, it is claimed this can not be regarded as a distinction. "But the distribution of the bacilli in the tuberculous and leprous tissue is generally so very different, the tubercle bacilli being usually arranged singly, the lepra bacilli always in large quantities in masses and clumps, that a confusion of the two diseases anatomically can only be possible in exceptional cases."

## CONJUGAL TUBERCULOSIS. A STUDY OF CASE TO CASE INFECTION.

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The notion of the contagiousness of tuberculosis is largely an *a priori* conception and not based exclusively on clinical evidence. It is only within the past two decades that it has been seriously considered by the medical profession, certainly in most countries, and until Koch's discovery of the tubercle bacillus it was, if held anywhere, at least a quiescent theory. Nowadays no one can reasonably question the fact of its communicability to a certain extent, since there is ample evidence of the fact of its occasional occurrence. The question remains, what is the proportionate danger of such occurrence, and does the incidence of phthisis depend so much on direct infection as on constitutional and hereditary predisposition? There is a tendency, of late very manifest, to magnify the former and correspondingly disparage the influence of the latter, and the hereditary element in the causation of the disorder, bids fair to be repudiated by the profession, or in any case to be comparatively neglected. It appears to the writer, therefore, that it might be worth while to collect what data are available to be at least suggestive as regards this question. If we find that ordinary exposure to tuberculosis is not necessarily or as a rule followed by the disease, it would be a fact well worth noting, and if we also find that heredity seems still strongly in evidence, both facts together would go far to reinstate the formerly held notions of etiology of the disease at the expense of the modern notion of its virulent communicability or contagion. There is some authority still for the opinion that direct transmission of the disorder is rare; Sir H. D. Beevor,[1] in a recent article, concludes from an analysis of the mortality statistics of certain English districts, that the local constancy of phthisis mortality does not indicate the action of such a disturbing factor as case to case infection. He also quotes other authorities who have noticed the same facts, among them Andvord who, from a careful inquiry into the tuberculous mortality of five Swedish towns for ten to sixteen years, concluded that in like places special constancy of lung tuberculosis points to no place among infectious illnesses, a view that Beevor himself endorses.

It seemed to me, therefore, that if some other possibly more direct statistical proof of this view could be had it would be of some value. An inquiry as to the incidence of lung tuberculosis in a class in which any common heredity could be excluded and in which the possibilities of contagion or direct case to case communication of the disease are at a maximum would apparently best furnish facts bearing on the question.

1. British Med. Jour., Aug. 18, 1900.

If contact or association could cause the spread of pulmonary tuberculosis, there could be no more favorable conditions found for its transmission than the relations of husband and wife. If one of these is affected it would seem that with the popular teaching as to the contagion of consumption, nothing short of absolute immunity could save the other, the more so since we know that in hardly any case, and in none up to recent years, have there been any special precautions against contagion employed. Therefore, a study of the incidence of tuberculosis in married couples would have some value provided the facts were collected under the proper conditions. The first of these is that any series of cases fairly represents the aggregate experience or observations of the narrator. It is easy to collect exceptional facts that impress themselves upon us, but such are of no value in proving rules; what is wanted is a statement of all cases that conform to certain other requirements of the question. These are that: 1, there should be no question as to the facts, no conjectures as to diagnosis or other points, and 2, the observation should have been sufficiently prolonged to avoid the possible charge of insufficiency and consequent unreliability. It is easy to obtain accounts of apparent infection from husband to wife and vice versa, especially since the discovery of the tuberculosis germ; almost any general practitioner of long experience can report one or two. It is another thing, however, to obtain records of all the cases in one's observation in which one or the other or both have suffered, and to secure at the same time data meeting the above conditions. I have been able to secure thus far the following thirty-two cases, most of them in my own personal acquaintance, and the facts beyond any doubt as regards requirements stated above.

Case 1.—B. J., of good family history except that his father died young, probably not of tuberculosis, married M. C., of considerable neurotic and tuberculous taint. Three sons were born; the oldest died of tuberculosis at the age of 20; the father died two years later of the same disease, the mother following him a few weeks later, after having been recognized as consumptive for a longer time than her husband. The youngest son died of tuberculosis nineteen years later, and the second son in an epileptic attack still later.

In all of these cases there was no question as to the diagnosis and it seems probable that the husband was infected by the wife, though there was a history of something like a possible lung traumatism that may have had its influence.

Case 2.—D. J., the youngest son of B. J. and M. C. (see above), married J. L., whose family history so far as known was good, and died of typical tuberculosis some years later, the exciting cause unknown. There were no children. His wife, who nursed him through all his illness, did not contract the disease and after twenty or more years is still living in good health.

Case 3.—J. W., whose mother and one sister were supposed to have died of consumption, married M. F., whose family history is unknown. She has survived him twenty-one years, in good health. Their children are still living. J. W. died in 1880, of well-marked, typical pulmonary tuberculosis.

Case 4.—P. C. C., whose family history was unknown, died of typical pulmonary tuberculosis in 1861. His wife, H. C. C., never showed any signs of the disease, and died in 1900 of ailments incident to old age. Five surviving children are all well.

Case 5.—W. F. J., whose family history was dubious as to ancestral tuberculosis, and with some alcoholism in the ancestry, married M. C., whose family history was supposed to be good. He died of tuberculosis, nearly twenty years before his wife, who died of senile decay at about 80. Of three children, one daughter died of consumption before her father.

Case 6.—E. F., whose father died of organic brain disease, married G. F., who died of tuberculosis within two years of her marriage. Her husband, who was devoted to her, exhibited

marked symptoms of the disease and was expected to follow her, but made a good and rapid recovery after her death. He is now, several years later, living and in good health.

Case 7.—H. F. J., whose mother died at an advanced age—over 60—probably of tuberculosis, married G. S., whose brother died of tuberculosis, and who followed him herself from the same disease a few years later. Her husband married again, and died suddenly a number of years later from the effects of alcoholism. He was never suspected of being tuberculous.

Case 8.—R. L. C., a physician of good heredity so far as known, lost his wife by consumption and was himself apparently far gone with the disease at the time. He had severe hemorrhages, but recovered rapidly after his wife's death, and lived many years.

Case 9.—W. F. C., another physician, lost his wife over six years ago from tuberculosis. While much depressed by his loss, he showed no signs of the disease so far as known. Her father had been consumptive, carried a lung cavity, recovered by change of climate, and died at an advanced age from another cause. W. F. C. is still living and in good health.

Case 10.—M. L., whose family history was generally good, died of tuberculosis after a long illness, during which he was cared for by his wife under conditions not specially favorable. She kept her health perfectly and is still living, over fifteen years later.

Case 11.—H. J. C., whose family history was good, contracted tuberculosis apparently following a rather severe thoracic traumatism. He was constantly nursed by his wife, who was a daughter of M. L. (Case 10), under depressing conditions. At the time of his death she was considerably run down in health, but there was no suspicion of tuberculosis, and she is now, ten years later, in good health.

Case 12.—T. E. W., a cornet player, whose family history was unknown, died eight years ago of tuberculosis, after a long illness. His sputum was full of bacilli for months. He lived in one room, most of the time sharing his bed with his wife, whose health continued perfect. She is now, after seven years, still living and in good health. Her family history is unknown.

Case 13.—J. A., with a fair family history—somewhat neurotic in the collateral line—died of tuberculosis, the exciting cause unknown. His wife is unaffected, in robust health many years later. Has married again.

Case 14.—W. K. A., whose family history was good, married A. M., whose family history was unknown, but supposed to be good. Her death from tuberculosis occurred many years ago; the husband, unaffected, has married again. Two sons are in good health.

Case 15.—A. B. S., a pharmacist, died after a protracted illness of tuberculosis. He was especially fond of having his children about him during his illness, but neither they nor his wife contracted the disease. All are in good health over six years later.

Case 16.—W. S., died of tuberculosis after a protracted illness, having been attended by his wife. She continued well and is, I believe, still living after thirty years. Her family history is unknown.

Case 17.—W. G. C., married C. A., whose family history was unknown. She died of tuberculosis. He is still living and well after many years.

Case 18.—W. C. R., whose sister was consumptive, died after several years' illness of tuberculosis. His wife, with a good family history, survives him in good health, over seven years.

Case 19.—A. B., married D. C., whose brother died of phthisis, but who had, as far as direct ancestry was concerned, a good record, both parents living to advanced age, one dying from carcinoma and the other from apoplexy. The stock, however, was neurotic and tuberculous in collateral branches. She died of phthisis; her husband survived her many years in good health and married again.

Case 20.—C. J., a first cousin once removed of D. C. (Case 19), died of tuberculosis lasting about a year. His wife is in good health seven years later.

Case 21.—E. G. S., died of tuberculosis. Her husband married again and is living thirty years after his first wife's death.

Case 22.—P. J. married N. S., whose family history was good. He died of phthisis. The wife is well four years later.

Case 23.—C. E. W., whose family history was good as far as known, died of tuberculosis. His wife is well over two years later.

Case 24.—A. H. died of tuberculosis, supposed to be started by trauma. His wife remained well, married again, and is still living after many years. One of her family is said to have died of tuberculous meningitis.

Case 25.—W. F. died of phthisis. He married the sister of the wife of A. H. (Case 24), who died a number of years later from la grippe; no tuberculosis.

Case 26.—A. V., colored, died of acute tuberculosis. His wife and children are well eight years later.

Case 27.—R. D., colored, died of phthisis, and his wife is living and well eight years later.

Case 28.—C. H. died of phthisis. Her husband is living and well five years later.

Case 29.—H. A. died of phthisis, and his wife is living and well several years later.

Case 30.—D. died of phthisis. His wife is well over two years later.

Case 31.—C. J., whose family history was good, married A. P., of a tuberculous family—father, mother and one or more brothers and sisters had died of phthisis. A. P. died of tuberculosis; the only child of the union died young of diphtheria. The husband is well after twenty or more years, and has married again and reared a large family.

Case 32.—E. F. C., a brother of Case 9, lost his wife from tuberculosis some ten years ago, and is still living, with no signs of the disease.

All of the above thirty-two cases were known to me either personally or through the other members of the families, and all meet the conditions stated above. At least half a dozen more might be added, the facts being reasonably certain, but not so absutely assured as in those enumerated. There was some possible uncertainty as to the health of the surviving partner a few years after the others, or the history of the fatal disease, though given as pulmonary tuberculosis, left a possible doubt as to the diagnosis. Some of these cases are interesting as regards the facts of hereditary predisposition, but I have thought best not to use them for the foregoing reasons. In all of them, however, the freedom of the survivor from pulmonary tuberculosis for several years was assured.

As before stated, it is easy to get isolated cases of apparent infection of husband or wife, but it is hard to obtain any large number of them in the observation of a single individual. It is also easier still to obtain accounts of cases where this did not occur. There is a difficulty, however, in obtaining the aggregate observations of any one physician on this point, and it is a good deal to ask of them that they should take the trouble to recall and record them. Dr. Norman Bridge, of Los Angeles, Cal., has, however, kindly furnished me with the following list of cases which he has been able to collect and vouch for as meeting the conditions of the inquiry:

1. A. W. K.'s wife died of phthisis, and the husband is well nine years later. 2. P. C. B.'s wife died of phthisis, and he died nine years later of Bright's disease. 3. G.'s husband died of phthisis, but she is well five years later. 4. V.'s wife died of phthisis, and he is well eight years after. 5. T. lost her husband from phthisis, and is well six years later. 6. E.'s wife died of phthisis, yet he is well five years later. 7. N. lost her husband from phthisis, and is well seven years later. 8. F.'s wife died of phthisis, and he developed the disease one or two years later and suicided. 9. F. lost his wife from phthisis, and is well six years later. 10. A. lost his, and is well two years later. 11. W.'s husband died of phthisis, and she is well ten years later. 12. W. also lost her husband therefrom, and is well three years later. 13. J.'s wife died from phthisis, and he is well five years later. 14. F.'s husband died from phthisis, and she is well ten years later. 15. T.'s husband also died from phthisis, and she is well eight years later. 16. E. lost his wife from phthisis, and is well two years later. 17. M. lost his, and is well four years later. 18. C.'s wife died of phthisis, and he is well five years later; has married and buried another wife with phthisis, and is well a year later. 19. B. lost his wife from phthisis, and is well three years afterward. 20. B.'s husband died from phthisis, and she is well seven years later. 21. B.'s died, and she is well ten years later. 22. G. lost her husband from phthisis, and is well ten years afterward. 23. F. lost hers, and is well two years later. 24. S. lost her husband from phthisis, and she is well eight years afterward. 25. N. lost her husband, also from phthisis,

and is well ten years later. 26. D.'s wife died of phthisis, and he is well two years later. 27. B.'s husband died of phthisis, and she died with the same disease two years later. 28. G. lost his wife from phthisis, and is well nine years later, and remarried. 29. Another lost her husband from phthisis, and is well eight years later. 30. M. lost hers from phthisis, and is well ten years later, and remarried. 31. W.'s husband died from phthisis, and she is well nine years after. 32. B. lost her husband from phthisis, and she is well four years later. 33. T.'s husband died from phthisis, and she is well nine years later. 34. A dentist lost his wife from phthisis, and he died three years afterward, also from phthisis.

Taking the whole of the above series together, certain interesting facts are at once manifest: 1. The comparatively small proportion of apparent direct conjugal infection. Out of a total of sixty-six cases we have only five of possible communication from husband to wife, or vice versa, and only three deaths, a proportion of less than one in twenty. This is the more remarkable in that it is far below the ratio of deaths from consumption to the general mortality, which is estimated by some as high as one in seven, and is probably not less than one in nine or ten at the best. It is true that the majority of the survivors of the pairs above enumerated are not dead yet, and some of them may die of consumption, but the present freedom from the disease does not speak for any actively contagious character of tuberculosis.

Another striking feature is the predominant figure of surviving wives. The wife would naturally be supposed to take more chances of contagion than the husband: she is generally the nurse and close attendant of her suffering partner. Here, however, we find 20 wives surviving their husbands, and only 11 husbands surviving wives (excluding No. 1) in my own series and 18 wives to 16 husbands in Dr. Bridge's, while 2 of the 16 died later of phthisis, and none of the wives. It is true that according to the more recent statistics in Great Britain (Newsholme[2]) the percentage of female mortality from tuberculosis is less than that of males, and the decrease of late years has been much more marked in the former, but this would not be sufficient to account for the condition here presented. So far as the facts appear, considering the probable greater exposure of the wives, they do not prove the extreme contagiousness nor communicability of pulmonary tuberculosis.

The cases of possible infection deserve a few remarks. In Case 1, of my own series, it seems probable that the husband was infected by the wife, or by the wife and the son who died before his parents. Here, however, there is the possibility of a lung traumatism having had some etiologic influence. In Case 8 of the same series, the husband was a physician, who for a time, to my personal knowledge, considered his case hopeless, and yet in spite of all the rational symptoms of phthisis, hemorrhages, etc., he made a good recovery. In Case 6 the symptoms were similar and the recovery even more rapid after the death of the wife. Such cases would appear to support the theories of contagion, but emphasize still more the fact of individual resistance; so soon as the influence of active infectious contact was done away with, the constitutional resistance came into play and the patient recovered. Another curious fact which, however, may be only an accident, is that in both series the cases of infection were exclusively from the wife to the husband. So far as it is indicative of anything it supports the other fact already noticed, of the excess of wives surviving husbands as favoring a lesser predisposition on the part of the female.

2. Elements of Vital Statistics, 1899, p. 237.

There was heredity in ascendants in at least nine of the married couples in my own series of cases, or in about 50 per cent. of those where the family history was known, and in two of these also in descendants. These figures only represent my personal knowledge of the family history, and are not exhaustive. In at least six cases the marriages were childless; in two there was direct ancestral—possible or certain—and in one collateral heredity on the part of the surviving husband or wife.

As already remarked, it is easy to obtain isolated cases of apparent contagion of phthisis, but not a large number from any one physician. Physicians of over thirty or forty years' practice in country towns, where practically every case of the disease during all that time came within their personal knowledge, could give only two or three clearly marked cases of conjugal infection from their experience, and only had a general impression that there might be more were the records available. One or two instances have been reported to me that would seem to indicate a special virulence of the infection or a peculiar coincidence of susceptibility or lack of resistance. The following, reported to me by Dr. N. M. Dodson, of Berlin, Wis., is one of this character. A. of healthy family lost his wife from consumption In two or three years he developed the disease himself, but in the meantime had married another wife with no consumptive family taint. She also contracted the disease and her death preceded that of her husband. In another case, reported to me by Dr. George H. Simmons, of Chicago, a mother attended her married daughter who died of phthisis, contracted the disease herself, apparently communicated it to her husband and one or more of her children, all dying. In this case, however, there would appear to be a family tendency, possibly on both sides, rendering them particularly liable to the infection.

Though sixty-six cases are but a limited material from which to draw conclusions, yet the fact that they represent the full experience of two observers make the data worthy of consideration. I regret that I could not obtain the experience of other physicians, but I do not feel like blaming a busy practitioner for not caring to take the trouble to go over his notes and recollections, and to verify them; it is a task, as I myself discovered. The facts as given are at least suggestive and, so far as they go, indicate a much greater risk so far as personal danger of acquiring tuberculosis is concerned from having a phthisical parent than from having a tuberculous husband or wife.

## KELOID FOLLOWING TRAUMATISM.*

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Keloid, a term first applied by Alibert in the year 1814, to a pathologic condition known as an overgrowth of scar tissue, was so named by reason of its resemblance to a crab. The term is also applied to apparent fibrous outgrowths of the skin of a similar character, formerly believed to be of spontaneous origin, but now the theory is accepted that they are results of lesions in the skin. This is said by some authors to be a somewhat rare disease and affects the colored races more than the white. It is commonest in middle age, but may occur in any age of life. Its favorite sites are the anterior superior sternal region, the shoulders and the neck, but may occur on any part of the body.

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

The so-called keloid of Addison forms contractions of the skin and the fasciæ, thus giving a hide-bound appearance to the part. It rises from no other perceptible causes than cicatrices or other injuries to the skin. Sometimes the growth is imbedded in and on a level with the surface of the skin, but more frequently it is elevated. It is very firm in its consistency and usually remains permanent through life. There has been an attempt by some authors to classify these growths as true and false in accordance with the manner in which their origin seems apparent. But such differentiation is not of clinical value nor is it of any consequence, as it is true that the histologic and anatomic elements are the same in each class.

The growth, in its incipiency, appears to be a flattened and firm, though somewhat elastic thickening of cicatricial tissue. It may cover a very small area of the surface of the body or may assume mammoth propor-

KELOID GROWTHS.

tions. The surface of the growth is frequently a bright-red color or a pinkish hue, but sometimes paler than the surrounding skin. It is usually covered by a thin, smooth, and shining layer of epidermis, which is frequently easily detached. It is often painful on pressure, but may be entirely painless. The crests of the angular ridges over the surface of the tumor often have a tendency to ulcerate and bleed readily.

The rapidity of the growth is by no means symmetrical in all cases; sometimes its development is very slow, while in others it arises phenix-like and covers a large portion of the skin in a very short time. In a case of very severe burn or other severe injury the growth may or may not occupy the entire cicatricial surface. It is not uncommon for a growth of this character to make its appearance in the line of coaptation of the flaps after amputation and this form usually presents the appearance of a red, shining nodule, with an irregular surface, and from the base of the tumor various sized ramifications are seen extending into the healthy skin. This gives the base of the tumor an irregular, serrated, circular appearance. Keloids are most frequently found following wounds that covered over a large area and have healed by granulation with suppuration. The growth occasionally will have a rough, warty and sometimes scaly appearance with the base having a decidedly irregular outline.

The same person may have as high as twenty or thirty growths or may have but one. They are, however, frequently multiple and always non-symmetrical in size. B. Farquhar Curtis, of the New York Post-Graduate School, reports a case of a negress whose entire body was covered with apparently normal cicatricial tissue and presenting some of the usual characteristics of keloid. Hays reports a similar case.

It has been the observation of the author that both sexes are equally liable to attacks of growths of this kind and an apparent hereditary tendency has been noticed. In fact, families who have predisposing tendency to abnormal growths are often victims of the disease. It may occur in several members of the same family. The disease is not alone confined to the skin, but has been observed on the conjunctiva and even has been known to develop on the tongue as well.

The microscopic examination shows a more or less characteristic differentiation of these tumors with regard to their being of a special kind. They are made up of true cicatricial tissue composed of bundles of interlacing white muscular fibers running horizontally just below the upper surface of the corium. Keloid as a rule is devoid of papillæ, but if they are present they are usually perfect. The growth sometimes, however, infiltrates the corium and destroys the papillæ by pressure from beneath. In keloid which follows in the wake of a large wound, papillæ, sebaceous glands, and hair follicles are not present. The blood-vessels of and even beyond the margin of the growth show definite changes. They are surrounded by round cells which form a part of the adventitia. Fusiform cells are also found in close proximity to the vessels. Warren says that the keloid begins by a growth of round cells in some adventitia of the arterioles of the corium; these cells often becoming fusiform, finally developing into fibers and forming the tumor. Though the tumor may occasionally have a sarcomatous appearance it is not usually hard to differentiate keloid from other tumors of the skin or mucous membrane, as keloid has the characteristic cicatricial appearance, the irregular margins and the claw-like projections from the center of the growth into the healthy skin. Another point of differentiation is the tendency to recur after excision or apparent extirpation. In keloid proper the bundles of white fibrous connective tissue run parallel with the length of the growth.

Surfaces that have been denuded of skin or even deep integument by corrosive acids or alkalies are not uncommonly the sites of these growths. In fact, surface wounds of any description may give rise to the origin of keloid proper. There is no apparent specific reason given for the enlargement of cicatrices, but it is believed to be due in many cases to constant irritation of the surface.

Keloid, when located over a movable point, will often impair the motion of the member. It may encircle the mouth, nostrils, ear, eye, or any orifice of the body, and thus to a greater or less degree, impair the use, if not destroy the function of the member.

Some authors believe the growth to be of microparasitic origin.

*Treatment.*—The treatment of these tumors is very difficult. If complete excision is practical, a cure is imminent, yet the same predisposing tendency may promote the production of the second growth that was present in the first, and there may be a recurrence in the new scar where previous extirpation was apparently complete.

The Thiersch method of skin grafting is often successful in avoiding recurrence if excision has been complete. Scarification is worthy of consideration and in fact is often successful. The following method is commendable: Make parallel incisions over the surface of the growth the full thickness and about four lines apart. The incision should extend a short distance into the healthy skin. Cross incisions should be made likewise. For reasons apparent, in order to facilitate the operation, an ethyl chlorid spray should be used until the growth is completely frozen. Not only does this alleviate the suffering attendant on the operation, but the devitalizing effect of the process of freezing has a tendency to retard cellular activity and thus assist in arresting further development of the growth. The use of cocain for an anodyne is also commendable.

Electrolysis is recommended by Hardaway. This is accomplished by making numerous punctures in the surface of the tumor and also the surrounding skin with the needle. Care must be exercised that an extraordinary amount of electrical application may not set up an irritation and thus produce an increase in development of the growth. Firm or elastic pressure will sometimes tend to produce atrophy and thus lessen the size of the growth.

The constant application of flexible collodion, owing to its power of contractility, is said to be of benefit in reducing the growth.

Complete excision is the most rational treatment when practical, but care should be used that the flaps should be properly coaptated or, if this is not possible, the denuded surface should be thoroughly covered with skin graft.

CASE 1.—A. D., a railway fireman, aged 22, a native of Ohio, of German descent, gave a negative history of specific disease. His health at the time of the accident was good, and his weight about 160 pounds. About January 13, while coaling an engine, as he opened the door the crown sheet gave way and gave vent to a terrific escape of steam from the boiler. He was severely scalded about the head and face, neck, shoulders, anterior surface of the chest, arms and legs. Some of the burns were of the third degree. Following the burn there was a large amount of devitalized tissue detached. About June 1 he passed from my notice with the wounds healed, and his condition fairly good.

About July 1 I casually stopped at his residence and found that on the anterior surface of the right arm a keloid growth had made its appearance. It was irregular in outline, its longest diameter from above downward was about six inches and the shortest diameter 2½ inches from side to side. The growth had the characteristic deep-red color and general appearance of keloid. The keloid did not cover all the surface of the arm that was burned over, but some of the claw-like projections extended into the healthy skin. The growth was firmly set in the skin and subcutaneous tissues, and elevated above the surface, at the highest point near the center about one-half inch. At several points on the crest of the keloid were small granular, ulcerating patches that were ready to bleed on the slightest disturbance. The patient complained of intense itching, especially at night. There was some contraction of the tissues between the shoulder and the elbow, sufficient to hold the arm in a semiflexed position. This I had not noticed during his convalescence. He complained of a slight pain and some stiffness of the muscles at the site of the growth. The burn in this region, as I remember, had extended down to the muscles. There were several small keloids near the elbow and on the outer surface of the forearm, having the same characteristic color as the one described. They were nonsymmetrical in size and form, the largest one being about one-half inch in its longest diameter.

The patient has resumed his employment. The disability produced by the stiffness and contraction caused by the growth is not sufficient to interfere seriously with the use of the member.

CASE 2.—A mulatto girl, aged 15, a domestic, received a severe burn at the age of 12, over the outer and anterior aspect of the shoulder. About one year afterward, in the same region, a keloid developed that measured about three inches from above downward and 2½ inches from side to side. Complete excision of the growth and thorough coaptation of the skin with healing by first intention proved to be successful in eradicating the growth, and there has been no return. There was no history of syphilis.

CASE 3.—Mr. A., a railroad fireman, about 30 years of age, was successfully vaccinated in December, 1899. At the site of the scar a keloid developed, oval in form, with regular outline measuring one inch in the longest diameter from above downward, from side to side three-fourths of an inch. The surface was elevated above the surrounding skin. The growth was a bright-red color and nodular, with small ramifications between the nodules and some extending into the healthy skin. Complete excision of the growth followed by coaptation and primary union was successful in this case and there are no signs of return. Prior to the excision the patient complained of stinging pains and occasionally itching sensations about the growth, especially after a hard day's labor. He also complained of some stiffness of the arm and inactivity of the muscles in the region of the growth.

CASE 4.—Miss B., a ballet dancer, by some means came in contact with a natural gas fire, producing burns of the third degree on the posterior aspect of each leg, covering the entire surface from the hip to the ankle. Shortly after a very tedious healing by granulation, keloid occupied the greater portion of the cicatrices. The stiffness of the muscles, with the impaired motion of the knee-joint produced by the growth, owing to its firmness and contractile power, impaired the use of the members to such a degree as to cause her to abandon her profession. At the posterior surface of the knee-joint the motion of the knee kept up a continuous irritation of the abnormal tissues and there was an occasional fissure developing at this point, until she died with pulmonary tuberculosis three years afterward.

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## IMMUNITY AGAINST ZYMOTIC DISEASES.

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It is not my intention to enter into the minor details of the various theories that have been advanced in regard to the production of immunity; but rather to show how this immunity is probably acquired in the majority of cases aside from a description of the exact chemical changes in the organism itself. A brief consideration of the chief theories and factors, however, may not be out of place.

### PHAGOCYTOSIS.

The presence of bacteria within the white blood corpuscles was first noted by Koch in 1878. These bacteria —bacillus of mouse septicemia—according to Koch's statement, penetrated the white blood-corpuscles and multiplied in their interior. Sternberg, in 1884, stated that it was not improbable that the white blood-corpuscles digested or destroyed bacteria. Metschnikoff further elaborated this theory, which is now known under his name. Metschnikoff divided phagocytes or

devouring cells, into two groups: fixed phagocytes, such as endothelial cells, giant cells of tubercular lesions, etc., and free phagocytes. He did not, however, claim that all leucocytes were phagocytes, but divided the white blood-corpuscles into three classes, of which two, the macrophage and microphage, had the power of taking up and destroying bacteria, while the third, the lymphocytes, did not. While there can be no doubt about the ability of the leucocytes to take up foreign bodies, and bacteria must certainly be included among these, still there are many facts speaking against their power to destroy them. It is probably as Koch supposed in the case of the bacilli of mouse septicemia, namely, that the bacilli enter the blood-corpuscles and multiply in their interior. In gonorrhea and epidemic cerebrospinal meningitis the specific organisms certainly seem to thrive and multiply within the leucocytes. The leucocytosis found in many of the infectious diseases, while probably a defensive arrangement of the organism, evidently acts in a different manner than Metschnikoff supposed. Metschnikoff's theory has been widely discussed and still has many adherents; of late years it has, however, been superseded to a large extent by the interest taken in the defensive power of the blood serum itself.

*Alexins.*—This name was proposed by Buchner, for certain antiseptic substances found in extravascular blood serum which destroyed bacteria. According to Buchner, these substances are of an albuminoid nature. Hankin proposed the name "defensive proteids," for these. He divided them into two classes: Those found naturally in normal animals, which he called "sozins," and those found in animals that have acquired an artificial immunity, which he called "phylaxins." According to Emmerich and Loew, this antiseptic substance is a proteolytic enzyme or endoenzyme, as they called it. Both these substances—alexins and endoenzymes—are supposed to be non-specific and act on any species of bacteria. While these substances certainly destroy bacteria experimentally it is rather questionable whether they do so to any extent in the living tissues. The experiments of Lubarsch[1] speak strongly against their protecting power. Lubarsch found that while 1 c.c. of the extravenous blood of a rabbit—an animal known to be very susceptible to anthrax—destroyed 29,200 anthrax bacilli, 620 of these bacilli injected intravenously killed the same animal. On the other hand, Lubarsch showed that the dog, an animal very insusceptible to anthrax, even when considerable quantities of the bacilli are injected intravenously, had but a small amount of bactericidal substance in its blood. These experiments show that there is no connection between the natural immunity of an animal and the bactericidal power of its blood. As far as a natural immunity is concerned, we know no more now than we did in 1884, when Grohman[2] said, in his thesis, that: "In the plasma of the blood the organism *possibly* possessed a disinfecting medium." We now come to the subject of acquired or specific immunity.

*Antitoxin.*—That after passing through an attack of an acute infectious disease the animal organism is to a greater or lesser extent rendered immune against an attack of the same disease is a well-known fact. What causes this immunity, on the other hand, is something we know very little about. Experimenters have shown, however, that some substance is formed in the blood plasma that neutralizes the toxin of the specific germ. Just what this substance is or how it is produced in the body is still largely a matter of speculation. To this immunizing substance the name antitoxin has been given. The experiments of Ogata and others seem to show that it is a globulin. It may, however, be a substance of a different nature that is carried down with the globulin precipitate. Formerly it was believed quite generally that bacteria produced two poisons, one which produced the disease and later another which neutralized the first, both being a sort of secretion of the germ itself. Now, hwever, we know that while the toxin is a product of the bacterium, the antitoxin or neutralizing substance is formed in some way by the tissues of the invaded animal. As before mentioned, the exact manner in which this substance is formed is not known. Ehrlich, Baumgartner[3] and other German authors have, however, built up a very ingenious and plausible theory in regard to its formation, known as the "Seitenketten theory." According to this, we must form in our mind the following picture of a cell: A cell is composed of a nucleus or central group and numerous different atoms or filaments radiating from this nucleus. In order to understand this picture we must think of it not in a histologic, but in a chemical sense, the cell being in this case to be compared with a molecule of a complex organic substance composed of many different atoms. The poison or toxin formed by a given germ has a chemical affinity for a certain filament or atom of the cell and unites with it chemically. Through this union of an atom of the toxin with one of the filaments or atoms of the cell the poison is enabled to act directly upon the central group of atoms or nucleus of the cell. Sickness in a clinical sense depends on the impairment or destruction of the nucleus. If the action of the toxin is very strong the nucleus is destroyed. If, however, the nucleus retains its vitality, it will throw off that atom or filament which has been rendered obnoxious by uniting with the toxin, and replace it by a new one. This is a regenerative process of the cell; now, in regenerative processes as a rule more material is supplied than is needed in repairing the defect, therefore the same thing occurs in the cell. Several new filaments are formed to replace the one that has been discarded; as, however, only one is needed to complete the cell or molecule, those that have been formed in excess of the need will also be thrown off. These latter filaments or atoms floating in the blood constitute the antitoxin. They protect the body because they have a chemical affinity for the toxin. Therefore when the toxin again enters the circulation it enters into chemical combination with these discarded atoms, and in this way its capacity for harming the cells is destroyed. The blood serum of an animal containing such atoms, when injected into another animal, renders the second animal immune, as with the serum are also injected those atoms having the power to combine with the toxin. As this combination of the toxin with the cell atom depends on a certain chemical affinity, the immunity conferred must be specific, as the toxin of any other disease would have no affinity for this particular filament or atom. A different toxin would have an affinity for a different filament or atom out of the many that the cell possesses. This theory, while it shows how the toxin is neutralized, does not explain how the germs themselves are kept from multiplying. The followers of the "Seitenketten theory," just explained, believe themselves, as occurs with their toxin, namely, that the bacterium causes the discarding of a filament or atom having a chemical affinity for it, and that this discarded atom has an affinity for the germ as well as for a ferment-forming body contained in the blood serum.

This ferment-forming body, by uniting with the atom, gives rise to a ferment that in turn destroys the germ. So much for the chemical and histologic factors concerned in the production of immunity.

Let us now consider the matter from another aspect. It is a well-known fact that, during an epidemic of a contagious disease, only a limited number of those who are exposed contract the disease; the remainder for some reason or other appear to be immune. Various factors seem to be concerned in the production of this immunity:

1. *Race Immunity.*—As instances of this might be quoted the comparative immunity possessed by the negro of the South against malaria and yellow fever; and that of the white man against bubonic plague, when compared with the susceptibility of the Mongolian. No satisfactory explanation of this phenomenon is known.

2. *Hereditary Immunity.*—Occasionally persons will be seen in whose family a certain common infectious disease has not occurred for generations, although the members of each generation passed through one or more epidemics of that particular disease and took no special precautions to escape it.

3. *Immunity Conferred by a Previous Attack.*—This has been considered in speaking of the antitoxins.

4. *Age Immunity.*—As is well known, certain of the infectious and contagious diseases attack by preference persons of a certain age. Thus chickenpox and whooping-cugh are essentially diseases attacking children during the first decade of their lives, while typhoid fever and epidemic cerebrospinal meningitis are found chiefly in young adults.

5. *Immunity Conferred by Prolonged Residence.*—As examples of this we may cite yellow fever. Persons who have lived all their lives in a yellow fever region are less apt to contract this disease, and when they do contract it the disease usually manifests itself in a milder form than it would in a new comer.

6. *Temperament.*—This and the state of the general health are factors that appear to be connected with the susceptibility of a person to an infectious disease.

### THEORY FOR IMMUNITY.

We have now briefly considered the chief facts known to influence susceptibility. In none, however, except in the case where a person has acquired immunity by passing through a previous attack, have we been able to find an explanation as to how immunity is really acquired. I will now take the liberty to present a theory which, although the fundamental facts upon which it is based are well known, presents them in a new light, and may possibly aid in dispelling the mystery surrounding this question. This theory is as follows: The majority of persons acquire immunity against the common infectious diseases through the agency of the specific germs of these diseases. The germs entering the body in quantities too small, or of insufficient virulence to produce a typical attack of the disease, but in sufficient numbers and virulence to form an antitoxin within the body, which protects it against a further invasion, Nature, thus protecting the majority of us in a similar manner against most of the infectious diseases as we now try to protect ourselves artificially against typhoid fever and cholera.

Let us now consider the facts upon which this theory is founded. First of all we must consider the protection against smallpox, afforded by vaccination, being the production of an atypical attack of smallpox which protects against a typical one. Before the introduction of vaccination, however, only a small proportion of the population were attacked by smallpox. Why did the others escape when, in those days, the entire population was exposed? The only plausible explanation is that enough of the virus was absorbed by those who escaped to produce an anti-body, but not enough to produce typical smallpox. The infection may have shown itself in the form of a slight illness, diagnosed perhaps as a cold or disturbed stomach or something of that sort. It is not even necessary that this immunization took place during the presence of an epidemic of smallpox. The germ of this disease probably can become attenuated to such an extent that it may be widely distributed in a community without there being any cases of what we call smallpox, although it may possess virulence enough to produce an antitoxin against true smallpox. Of course, in speaking of smallpox we can only consider the matter as a hypothesis, as the germ of this disease is not known, but as we know that other germs may be so attenuated as to produce immunity without the production of a typical attack, there is no reason why this should not occur with smallpox. The protection afforded by vaccination at least seems to indicate the possibility of it.

Yellow fever furnishes a good example of the application of the theory mentioned. It is a well-known fact that during an epidemic of this disease in the tropics, almost every new arrival from parts where the disease never prevails contracts it, while only a small percentage of the natives are so afflicted. How are we to explain this state of affairs? The germs are certainly virulent, otherwise the new arrivals would not contract the disease in its typical form. Some will claim the immunity is inherited through some ancestor who has had the disease, while others will speak in rather a vague manner about "acclimatization," without explaining further.

Acclimatization certainly has considerable to do with the production of immunity against yellow fever, and the way it acts is probably as follows. The germ of yellow fever is probably always, or almost always, present in the countries of the Spanish Main and certain other districts, and is also probably widely distributed. But it is not at all times virulent, only becoming so under certain conditions that we do not as yet fully understand. While it is only at certain times and under certain conditions sufficiently virulent to produce typical yellow fever, it is probably at most other times virulent enough to produce an antitoxin in a susceptible person. This production of an antitoxin may give rise to none or only very slight symptoms, just as the artificial immunization against hydrophobia and typhoid fever with attenuated virus gives rise to only a very slight reaction. Bacteriologists will be very apt to take exception to these statements and say: "If the germ of yellow fever is so widely distributed in those regions, it must sometimes be found in apparently healthy individuals and in the bodies of those who have died of other diseases." In all probability this is the case, and I think the finding of Sanarelli's bacillus icteroides in the bodies of persons who have died of other ailments than yellow fever speaks rather in favor of its being the cause of the disease, although Sanarelli's opponents deny this. It is absolutely unreasonable and illogical to suppose, as is now generally done, that the germ of a contagious disease must only be found in the body of a person having a typical case of this disease, and that finding it in other places shows that it can not be the cause of the affection. I believe that a good many of the inhabitants of Cuba carry the germ of yellow fever in the dirt under their finger-nails. It is probably not viru-

lent, at least not enough so to give rise to typical yellow fever, but it is the specific germ nevertheless, and under certain conditions, can become virulent.

The same rule applies to the germs of most contagious diseases. They are not by any means limited to the person having the disease, but are comparatively widely distributed. Let us consider measles in the light of the theory indicated. During an epidemic of measles on the island of Savai, one of the Fiji Islands, described by Davies,[4] 1000 persons out of a total population of 34,500 died of measles, and not a single inhabitant escaped contracting the disease. This is only one example, as similar ravages have occurred from measules in the Sandwich and other South Sea islands. Again, in Savai the disease had never occurred before and the germs that were introduced came from a typical case. It is significant that not a single native escaped, as this fact shows that the measles' germ had never had its habitat on this island. In this country and in Europe a large percentage of people never contract measles, although practically every one has, at some time or other, been exposed to the contagion. Why is this? Reverting to our theory it is easy to find an explanation. The virus of measles is probably widely distributed and we all come in contact with it, but it is not at all times sufficiently virulent to produce typical measles, however, it is virulent enough that upon entering the body it produces an antitoxin that protects us against a typical attack.

I wish I knew how many of the ephemeral fevers that occur in childhood are in reality an immunizing process against some severe infection in later life. Probably a great number of them would prove to be such. Diphtheria is another contagious disease against which the majority of persons become immune without ever passing through a typical attack of the disease. Hermann, of New York, some time ago made an attack against the specificity of the Klebs-Loeffler bacillus, by claiming that the finding of this germ in apparently normal throats proved that it could not be the cause of diphtheria. There can be no doubt that the Klebs-Loeffler bacillus is sometimes present in normal throats, although not as frequently as Hermann's statistics seem to show. The presence of this germ in healthy throats does not prevent its being the cause of the disease, however. In the majority of these cases it is probably either not sufficiently virulent or not present in sufficient numbers to produce a membrane; but on the other hand it may, and probably often does, produce an antitoxin protecting the organism against a typical attack. Previous to 1892 typhoid bacilli were frequently found in Chicago's drinking water, and probably every native of the city, at some time or other, imbibed some of them; still, only a small percentage contracted typical typhoid. Among the students of Rush Medical College, a considerable number of cases of typhoid fever occurred during this period, but the great majority of them were among new arrivals from outside districts, while of those students who had always lived in Chicago very few were afflicted. How could this be explained? Again reverting to our theory, a plausible answer is that through the entrance, at various times, of small quantities of not very virulent bacilli, most of the natives had been rendered immune very much after the manner in which immunity is conferred artificially through the typhoid vaccinations.

The list of diseases to which this theory would apply could be extended considerably, but I will close the list with a few remarks about scarlet fever; as my best energies, during the past two years, have been devoted to the study of this disease in its different aspects. During the last two winters we have had an epidemic of scarlet fever extending over the entire city almost uniformly. It is safe to say that there was not a school building or a block of houses in the city in which no case of this disease occurred. It was no uncommon occurrence, especially in the poorer districts, to see children who had this disease, on the street, while scaling was still in progress. The contagion was practically everywhere. Still, not every one exposed contracted typical scarlet fever; the great majority escaped; because most of them had probably been previously rendered immune through a slight infection with the scarlet fever germ, which had not been recognized. Thousands of people have been immunized in a similar manner during the last epidemic, by contracting a scarlatinous sore throat. One of the chief arguments advanced against the specificity of the diplococcus scarlatinæ, is the fact that it was frequently found by certain investigators in normal throats and in other places where it seemingly did not belong. It was found in those places during the presence of epidemics of scarlet fever. I do not know how these investigators would have been certain that it was the diplococcus scarlatinæ which they found, as it appears that they went entirely by its microscopic appearance when grown on ordinary media; still, even if this were the case, it would not speak very strongly against this germ being the causative factor of scarlet fever, as the contagion was necessarily widely distributed in the city. As I said before, I think the germs of the common contagious diseases are not confined to the person having the disease, but frequently occur in other places, though those found in a patient having the disease are more virulent and therefore more apt to reproduce a typical attack in a susceptible person whose body they enter, while those from other sources would not do so.

Supposing that immunity is conferred in the manner indicated, it would be interesting to discover how the germs enter the body. Probably their mode of entry is similar to that which occurs in a typical attack of a given infectious disease. Thus, to produce immunity against typhoid fever the germs probably multiply in the gastro-intestinal tract. In yellow fever the germs probably enter by inhalation. In scarlet fever and the majority of the infectious diseases of childhood they undoubtedly have their nidus in the nasopharynx.

In this connection it might be well to anticipate a possible objection against this theory. It might be asked why is it "that very young infants seldom contract scarlet fever, diphtheria and some of the other zymotic diseases? They are certainly not protected in the manner mentioned in the theory." It must be admitted that they probably are not, but they are protected in a different manner. I have just stated that infection in childhood usually takes place through the nasopharynx. In very young infants the crypts of the tonsils where bacteria may lodge and the lymphoid tissue that absorbs them or their toxins are developed to only a slight extent; thus the bacteria are deprived of a suitable breeding-place and do not multiply, while even if they did multiply, they or their toxins could not enter the circulation. That this explanation is plausible will be readily seen if we remember how much more apt children with enlarged tonsils are to contract diphtheria, scarlet fever and measles.

By deducing from the facts known about zymotic diseases, I think the following conclusions are justified:

1. In districts where a certain zymotic disease is endemic the germs of this disease are comparatively widely distributed, although in a very much attenuated form. Epidemics are due to these germs becoming virulent either by repeated passage through the animal body, or in some other manner not as yet known. It is only after attaining a certain degree of virulency that they are capable of producing a typical attack in a susceptible person.

2. Immunity or insusceptibility against a given zymotic disease is usually acquired through the activity of the attenuated germ, which, although not capable of producing a typical attack, is still capable of producing an antitoxic body.

3. The presence of pathogenic bacteria in the normal body, described as a "latent infection" by Adami and others, is in accord with the theory formulated. These bacteria are probably an attenuated species, and their office is a beneficial one, as, through their activity, the animal organism is probably saved from a severe infection. The term "latent infection" is, however, a misnomer, since through this latent infection the possibility of an active infection is precluded in most cases.

Before closing I would like to state that a fairly careful search through the literature on immunity failed to show that the theory described had been anticipated by any one, although the idea is perhaps not original with me. Of course I may have overlooked some of the literature. I might also add that my remarks about yellow fever are not made from personal observation, but by deduction from literature on the subject.

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## YELLOW FEVER AND ITS TRANSMISSION.

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In an editorial in The Journal of February 23, I notice an allusion to some variances between my own views and those of Drs. Reed, Carroll and Agramonte on the subject of the transmission of yellow fever through the agency of mosquitoes. Lest this difference of opinion should be misunderstood or its purport exaggerated, I beg to make the following statements:

My readiness to accept the incontrovertible demonstration brought forward by those gentlemen as to the transmissibility of yellow fever through the agency of the Culex mosquito—wrongly assimilated, it appears, to the C. fasciatus—was a foregone conclusion, inasmuch as I had asserted and experimentally demonstrated to my own satisfaction the identical fact twenty years ago. This circumstance did not influence my judgment, however, in any degree, and only added to my admiration of the very perfect manner in which the recent investigation was carried out. I also have always supposed that this particular species of mosquito must be the natural agent of transmission through which the disease is normally propagated in Havana, probably to the exclusion of the other species, since its biologic requirements agree very thoroughly with the usual course of yellow fever epidemics in this city, whereas those of the other species do not. The point, however, has not been experimentally investigated, and it is quite possible that, in other yellow fever centers other species of that genus may be found to assume the rôle assigned to the Culex mosquito in Havana.

The most important and original discovery made by Drs. Reed, Carroll and Agramonte, in their interesting investigations, and that which, above all other considerations, entitles them to our warmest praise and congratulation, is the fact which they have brought to light showing that, under certain conditions which they have accurately precised, for the particular season of the year in which they were experimenting, it is possible to contaminate a mosquito through one single bite on a case of yellow fever, so that, after the lapse of a proper interval of days, a bite from the same insect will almost certainly develop a mild attack in the non-immunes whom the insect may thereafter sting, and the contaminated mosquito will retain that faculty during the remainder of its life.

The value of this discovery is, to my mind, inestimable, not only for having enabled the experimenters to produce absolutely convincing proofs of the transmission, but for opening the way toward a very great improvement in my former methods of preventive inoculations, so that we may confidently look forward to a process by which immunity will be safely conferred within a brief space of time to new-comers who may be willing to undergo the comparatively slight inconvenience of a mild experimental attack of the disease.[1]

Although this important discovery was made in accordance with precedents derived from certain known facts concerning the malaria infection, it does not follow that the germ of yellow fever must, of necessity, also be an animal parasite. The circumstance that, by allowing a certain interval of time between the contamination of the insect and the inoculation, the efficacy of the latter is undoubtedly enhanced, I had myself surmised, without taking into account that the germ might require to go through any special transformations within the body of the insect; my idea was simply that the prolonged contamination would allow the germ to multiply to such an extent that a more abundant supply would be secured for the salivary and venom glands of the infected mosquito. Regarding the curious fact that the contaminated insect retains the power of reproducing the disease during its life, this is not a privilege appertaining exclusively to animal parasites, since it is also observed with regard to the bacilli of leprosy and of tuberculosis in man.

As a practical demonstration that fomites, in the usual sense of the term, are incapable, per se, of conveying the yellow fever infection, the experiments at Camp Lazear were very significant and most ingeniously devised. The generalization of the principle is, however, only justified by the circumstance that the outcome of those experiments affords a direct corroboration of what actually occurs in nature, experience having repeatedly shown that in localities where the disease appears to be intransmissible—as in the City of Mexico, in Petropolis, and, in 1853, at Memphis, Tenn.—the fomites which should have developed around all the imported cases of yellow fever have been powerless to bring about its pro-

1. The innocuousness of the method would still be grounded upon the same argument which I submitted to Captain-General Blanco, in 1881, when I solicited his permission for my first experiments with contaminated mosquitoes, and which at once appealed to his clear-sighted judgment. "If," I argued, "the mosquito is truly the indispensable agent of transmission which I conceive it to be, the mildest, recognizable attacks of yellow fever that occur in nature must be attributed to the smallest efficient dose of the yellow fever virus that may be introduced into the non-immune, a condition which ought surely to be fulfilled by applying only one mosquito which has only once before stung a yellow-fever patient." The great improvement which results by reason of the recent discovery consists in the facilities which it affords for obtaining direct evidence that the inoculation has been successful.

pagation. The only point, therefore, which remained to be proved was the fact that fomites which might be considered of the worst kind should likewise fail to do so even within the regular yellow fever zone, and that the very men who had been exposed with impunity to their action, would thereafter take the infection through the bite of a contaminated mosquito; all of which the experimenters have demonstrated to perfection.

That not only fomites, but anything that might be considered as a possible receptacle for live mosquitoes, of the infectious kind, should be dealt with in a manner that would ensure the destruction of those insects is a self-evident corollary of the mosquito theory. Precautions should be taken even against the importation of dry eggs of the Culex mosquito into places where that insect is not usually found, lest a brood of those insects should develop during the summer season, thereby greatly increasing the difficulty of controlling the propagation of the disease if a case of yellow fever were accidently introduced.

My objection to some of the conclusions specified in the "additional note"[2] refers merely to their exclusiveness and to the hard and fast rules which have been set down without sufficient evidence in their support. I have elsewhere alluded to these objections as referring to matters of minor importance, and so they appear to be when compared to the all-important facts for which we are indebted to Drs. Reed, Carroll and Agramonte. From a sanitary point of view, however, they require to be looked into. If it be admitted that after the third day of an attack of yellow fever mosquitoes can no longer be contaminated from the patient, the inference must be that after that period it is quite superfluous to keep mosquitoes away from the patient, and if it were true that the contaminated mosquito can never transmit the infection until twelve or more days have elapsed since its initial contamination, non-immunes might visit with impunity, during their illness, the first cases that occur in a locality previously free from infected mosquitoes. I have, indeed, positive evidence to show that, in the summer season at least, those rules do not always hold true. A fresh mosquito was applied on August 13, 1883, to a hemogastric case of yellow fever whose attack had set in on the 8th; two days later, on the 15th, the same insect was applied to a second case of hemogastric yellow fever attacked on the 10th; finally, on the 17th, the insect was applied to a non-immune whose isolation from other sources of infection had been perfectly satisfactory; nine days later, on the 26th, this person was taken sick with a mild, but well-characterized attack of yellow fever, and subsequently resided over ten years in Havana without ever experiencing any illness which could possibly be referred to the yellow fever infection. This case, however, as well as a few others among my 104 inoculated subjects (1881 to 1900), merely shows that the rules set down by Drs. Reed, Carroll and Agramonte are not so absolute as they have imagined. With this reservation, I have no hesitation in admitting that the general principle which they have discovered and which, in their hands, has given such brilliant results, is the right one to work upon, especially when it is desired to contaminate the insect with only one bite upon a mild case and within the first days of the attack. It is more than likely, indeed, that the average time required for the complete contamination of the mosquitoes will be found to vary at different seasons of the year, and I feel certain that, when this point comes to be investigated, the minimum in summer will *occasionally* be found reduced to a limit as low as *two days* for the interval between the initial contamination and the date on which the insect may already be in a condition to reproduce a mild attack of the disease; in such cases, too, the period of incubation, according to my personal observations, is apt to extend beyond its usual limits of two to eight days. This circumstance may, perhaps, be accounted for on the supposition that the quantity of virulent germs inoculated in such cases has been so small that a prolonged incubation becomes necessary before their number can reach a figure which is capable of developing the outbreak of an attack. This diversity in the period of incubation might be considered another point of analogy between the yellow fever germ and the malarial parasite. Major Ronald Ross[3] himself having declared that "there is a well known period of incubation" (after the bite of the malaria-mosquito) "lasting from two days up to twenty, or even longer—the usual period being one or two weeks."

160 Campanario Street.

2. Jour. Am. Med. Assn., Feb. 16, p. 431.

## SOME TECHNICAL SUPPLEMENTS IN COMPLICATED ENUCLEATIONS.

M. F. WEYMANN, M.D.

ST. JOSEPH, MO.

Every neat operator takes pride in delivering an enucleated eye-ball as clean as a peeled onion, but now and then conditions arise which make this result exceedingly difficult, if not entirely impossible. Among the circumstances interfering with neat work are:

1. Venous stasis and edematous infiltration of the integuments of the lids.—The lower cul-de-sac is then almost effaced and does not hold a speculum, eversion of the inferior lid allowing the wire to slip. A Desmarres retractor is equally unsatisfactory, while a sharp tenaculum is apt to inflict damage. In such cases I have worked with the greatest convenience with the help of sufficiently stout suture threads. One is passed through the upper lid and another through the lower about 3 millimeters from the free border and near the center of the palpebral fissure. The ends of each suture are then tied, both to prevent slipping out and to afford a loop for the finger during retraction.

2. Rupture of the eye-ball or ulcerative perforation of the cornea.—All surgeons are familiar with the folding tendencies of a collapsed bulbus and the consequent liability of such folds to be cut by the scissors. This is especially annoying when one attempts the longest possible resection of the retrobulbar portion of the optic nerve, as the disappearance of a well-distended ball removes the only landmark from which to judge distance posteriorly by the touch of the scissors. I remember my keen mortification in one such case (practically the whole cornea had been carried off by a piece of flying bolt), where I cut the nerve, as I supposed, but delivered the remnant of the ball with a hole at the posterior pole large enough to admit a heavy pencil. To avoid such troublesome annoyances I apply two remedies, namely, *a*, suturing; *b*, intrabulbar injections. Whether ulcerative or traumatic, the perforations are closed by firmly tied stitches placed very near to one another. If the loss of the intraocular contents is only slight, enucleation may begin; but if much collapse exists, I inject normal salt solution. A very fine needle plunged obliquely through an uninjured portion of the tunics of the globe will not allow regurgitation after withdrawal. Occasionally the salt solution will escape on account of inefficient suture closing, either

from the nature of the wound or the fault of the surgeon. In such cases paraffin injections are most valuable. The paraffin should be sterilized by boiling, but not be injected too hot. A few drops of a sterile 1 per cent. cocain solution renders the intrabulbar tissues quite tolerant. It should be remembered, however, that the paraffin syringe used must be kept quite hot and that the lumen of the point should equal at least that of a good-sized lachrymal point, otherwise interminable clogging will discourage the operator.

External canthotomy is practiced by me wherever it seems to hold out any advantages during the work.

## Special Article.

### ON THE PLAGUE IN SAN FRANCISCO.

Since March 6, 1900, when the first case of plague was recognized in the city of San Francisco, THE JOURNAL has called the attention of its readers from time to time to the reports of further cases occurring there and has emphasized over and over again the necessity of more active and intelligent measures of suppression than those which, owing to the unfortunate disputes which have arisen among physicians and politicians in California, could be, under the circumstances, undertaken. Thanks to certain reliable correspondents on the Pacific Slope, we have been kept very fully informed of all that has happened there during the past year, especially of everything connected with the plague situation.

#### A PANICKY CONDITION.

The findings of the bacteriologists of San Francisco, confirmed as they were by the careful microscopic studies of one of the most skilled bacteriologists in America—Dr. Kinyoun, of the U. S. Marine-Hospital Service—the latter having made his other observations doubly sure by the obtaining of positive results from animal experimentation, led the Board of Health of the city to undertake active measures to wipe out the disease. For a short time San Francisco was in a somewhat panicky condition. The newspapers were alarmists; the general public and most of the physicians had had no personal experience with plague; the immediate dangers were overestimated by nearly everyone; it was believed by many that a general epidemic was imminent—and measures of suppression were resorted to, which, though shown by experience to have been in some respects too severe, in others imperfect or, perhaps, in the light of later knowledge in certain particulars, actually dangerous, were, when the time, place and state of knowledge of the subject are considered, those that the authorities there, or other authorities similarly placed, might naturally have been expected to undertake. The spread of the disease was positively prophesied; a rope was run around the thirteen or fourteen blocks which constitute the Chinatown of San Francisco; the Chinese were forbidden to pass beyond this rope into other parts of the city.

#### CHINATOWN QUARANTINED.

All sorts of difficulties arose immediately. A large proportion of the Chinese spend the day as servants among the whites, either in private houses or in hotels, and the quarantine not only deprived these Chinese of employment but also led to a most painful embarrassment of the whites, an embarrassment that can be fully appreciated only by those who are conversant with the high degree of dependence on Chinese service which obtains in San Francisco. The quarantine guard had to be hastily recruited; some of the men appointed were, perforce, unsuited for the positions they held and the city officials were accused, in all probability unjustly, of favoring political ward-heelers with billets, the accusers going so far in some quarters as to intimate that the Board of Health had instigated a plague scare partly to permit of the appointment of their political friends to remunerative positions, but more particularly to influence the disposition of several thousands of dollars then under consideration for appropriation. That the quarantine cordon about Chinatown was insufficient to do what was intended, viz.: to keep all the Chinese in Chinatown, there can be no doubt. Our correspondents inform us that despite the measures taken large numbers of Chinese left their quarters daily, appeared at their regular places of service, and returned to Chinatown to sleep at night—irregularities which they attribute partly to numerically insufficient force to man the rope, partly to the corruption of certain members of that force, and partly to the utilization of secret paths of escape over roofs and through underground passages to the world outside. Efforts were made to induce the Chinese to be Haffkinized, but as a rule without avail, even though immunity from quarantine regulations was offered to the inoculated. A murmur arose that the quarantine methods adopted ought really to spread plague if it existed, that the huddling together of all the idle Chinese, day and night, in Chinatown, with but imperfect isolation and disinfection of premises within the district in reality exposed large numbers of individuals unnecessarily to contagion. The Chinese became much disaffected; not only were a great number of them thrown out of employment but the Chinese merchants, dependent in large part upon white visitors to Chinatown for their trade, found themselves suddenly cut off from their income. Above all the great outbreak of disease prophesied did not occur. There were no more deaths in Chinatown than ordinarily; the Chinese ridiculed the idea of the existence of any unusual disease. The diagnosis of plague became doubted because the disease did not spread. Several physicians of the city, among them two or three elderly men of wide reputation, denied that the malady was plague and asserted that the health officers had been misled by certain glandular swellings very common among the Chinese and known to have existed in Chinatown for years.

#### MEDICAL OFFICERS ABUSED.

Dr. Joseph J. Kinyoun and the city Board of Health became the objects of newspaper venom and abuse. Nothing was too vile to be said of them; the most dishonorable motives were attributed to these men. The upshot of the conditions was that, on the application of Mr. Wong Chung, Secretary of the Chinese Six Companies, and others, an injunction was granted by Judge Morrow which compelled the raising of the quarantine about Chinatown. The Federal quarantine official at

once communicated with the Surgeon-General of the U. S. Marine-Hospital Service, in Washington, stating that plague existed in San Francisco and that the local authorities were not dealing adequately with the situation. He received telegraphic orders to place officials on the outskirts of California to inspect outgoing trains. This measure, together with the tying of the hands of the city Board of Health of San Francisco, led to considerable excitement and confusion.

The attitude of the State Board of Health was interesting to observe: for a time many of its members were convinced of the existence of plague and favored measures of extermination. A reaction set in, the *personel* of the board became much altered through the political machine, the new president of the State Board declared against the existence of plague notwithstanding Dr. Ryfkögel's report in the affirmative.

The failure of Dr. Ryfkögel and Dr. Mouser to find plague bacilli in one of the cases was heralded as proof that plague did not exist, though the examination was made under most unfavorable conditions, and Dr. Ryfkögel himself believed the case in question to have been one of plague, and had absolutely demonstrated, beyond fair contradiction, the presence of typical plague bacilli in other cases. A young bacteriologist, Dr. Pillsbury, first decided that the cases alleged to be plague were not true instances of the disease, but on subsequent examinations became convinced that he was in error. The bacteriologist of the city Board of Health, Dr. Kellogg, isolated the bacillus of bubonic plague in case after case and made recommendations to the board in accordance with his findings. The professors of pathology and bacteriology, both in the University of California and in Cooper Medical College, were asked to attend autopsies and to witness the bacteriologic examinations. Both these gentlemen were convinced that the cases under discussion were really examples of bubonic plague and made statements to that effect.

### BUSINESS MEN ACTED WITH WISDOM.

It would be unfair to the commercial interests of California, and the correspondents of The Journal lay emphasis on this, if it were not stated that the representative business men of San Francisco have in this, as such men do on most occasions, displayed rare common sense, a desire to know the truth in full and to act in the best way suited to advance the interests of the community. A group of these men asked Dr. D.W. Montgomery, a leading practitioner of San Francisco and a man in whose skill and integrity they had confidence, to investigate the situation for them and to advise them. His report stated that true bubonic plague existed and advised that means for its extermination be subscribed. The merchants raised $30,000 on the spot and placed it at the disposal of the health authorities. Later, when the disease was found not to be spreading rapidly and the public, in large part, doubted the diagnosis, a part of this money was returned to the subscribers.

The whole question now resolved itself into a bitter political fight. The Governor of the state was at war with the Mayor of San Francisco. The newspapers of San Francisco, for political reasons, hailed every opportunity for besmirching the characters and reputations of the Mayor, his associates and the scientific men who stated that plague existed. In addition some of them at least openly avowed that even if plague existed the best policy to adopt was to deny the fact. The *Sacramento Bee* from the beginning declared that the reports of the bacteriologic examinations should be trusted, and urged that honest confession with proper action would do less harm to the state than suppression of the facts. The Governor of California, it is reported, went so far as to issue a proclamation asserting that plague did not exist. But occasional cases of plague were discovered by the city health authorities, the diagnosis was confirmed by Dr. Kinyoun, and reports were published in The Journal and regularly sent to Washington where they were published by Surgeon-General Wyman in the weekly reports of the Bureau.

### THE FEDERAL INVESTIGATION COMMISSION.

Early in January of this year Surgeon T. H. White, of the U. S. Marine-Hospital Service, reached the Coast and toward the end of the same month a commission appointed by the Secretary of the Treasury to work under orders from Dr. Wyman arrived in San Francisco, as noted in The Journal at that time. This Commission consisted, as our readers know, of three university professors, Dr. Simon Flexner of the University of Pennsylvania, Dr. F. G. Novy of the University of Michigan, and Dr. L. F. Barker of the University of Chicago. Their academic positions, general reputation, and special knowledge of bubonic plague acquired in China and in India by personal investigations insured a thorough, conscientious and reliable report, and one which would undoubtedly, no matter what its character, be accepted by the world at large. The problem set for the commission was to ascertain the existence or non-existence of plague in San Francisco or in other ports or places in California. News of the coming of the Commission coincided with its arrival, and the Governor of the state telegraphed to the President of the United States protesting against it and urging, if the Commission were actually to go to work, that he might appoint a state representative thereto. This telegram was answered by Secretary Gage, who assured the Governor that the Commission represented the highest authority attainable, that it was independent of the goverpments, both Federal and local, and that the request for the appointment of a state representative could not be granted. These telegrams, together with an urgent message from the Governor, were sent to the California legislature, then in session, and used to hasten the passage of the three health bills, one appropriating $100,000 as an emergency fund to be spent by the Governor for the suppression of plague should it arise in the state, a second making it a felony for any one to report the existence of plague in the state before it had been announced by the State Board of Health and a third making it a felony for any one to handle or experiment with germs of plague carelessly within the confines of the state. Through the help of the physicians, the Mayor and the city Board of Health, and particularly the presidents of the various commercial bodies in San Francisco, the members of the Federal Commission got immediately at work. The cooperation of the Chinese was fortunately obtained

through the attorney of the Chinese Six Companies. Proclamations were issued in Chinatown ordering that all cases of illness among the Chinese, no matter what the cause, be reported to the offices of the Six Companies. One or more of the Commissioners, together with the secretary of the Chinese Six Companies, then made daily inspections of all the Chinese sick and dead. During the thirteen days when such inspections were made thirteen deaths occurred, of which six were definitely proved, pathologically and bacteriologically, to have been due to infection with the bacillus of bubonic plague. Three of the patients who died of plague were seen during life, and two of the three were definitely recognized by the inspecting Commission *intra vitam* as instances of true plague infection. One of the cases seen alive—an obscure form of the disease—was not recognized as plague even at the postmortem: it was not until after an animal had been inoculated with a portion of the spleen that the true nature of the case was determined. The six deaths occurred within eight days. The Commission telegraphed an epitome of its findings to the Bureau and subsequently forwarded its full report to Washington. Its members were ordered to communicate the results first to Governor Gage and subsequently to Mayor Phelan, and to a representative of the commercial interests of the city. To the credit of Governor Gage, be it said, he took steps immediately to co-operate on the part of the state with the Federal and city authorities in measures of suppression and extermination. His manner of procedure subsequent to the Commission's report makes it obvious that he has the good of the state at heart and that he regrets the fact that ill-chosen advisers, by their ignorance or malevolence, led him into false paths.

A delegation of prominent citizens representing the governor, the mayor and the business interests immediately proceeded to Washington and made arrangements with the officials of the U. S. Treasury Department that the city and state should take the health matters in hand vigorously and at once, the work to be done under the advice and counsel of Surgeon T. H. White, a Federal officer whose skill and executive ability have more than once successfully stood the test of the emergencies of epidemics. In order that California be not unnecessarily injured by alarmist reports of plague, the delegation urged that the report of the Federal Commissioners be temporarily withheld, and Surgeon-General Wyman appears to have consented to this for the full report has not yet been published, and even the concise statement of the results did not appear in the *Public Health Reports* until April 1—at least a month after the telegraphic report of the Commission was received in Washington.

### RIGID MEASURES NOW IN FORCE.

We are informed by our correspondent that the measures for the extermination will include the institution of a plague hospital, a mortuary and a detention camp. There will be daily inspections with rigid isolation of cases and suspects, and removal of contacts to a detention camp until the incubation period is over. Not only will premises in which plague cases and deaths are encountered be thoroughly cleaned and disinfected, but a systematic inspection of Chinatown will be undertaken, street by street and house by house; rooms insufficiently lighted and ventilated will be condemned and thorough cleansing and, where necessary, disinfecting will be insisted upon. Fortunately the better class of Chinese are most sensible with regard to the affair, and will be advised by their attorney to co-operate with the health authorities, it being understood that no unnecessary measures will be resorted to and that there will be as little interference with the traditions and habits of life of the Chinese as is compatible with the thorough accomplishment of the task. The co-operation of all parties concerned is absolutely essential to the satisfactory completion of the work which has been begun, and the most hopeful feature of the situation thus far is that such co-operation has, thanks to the operations of the Federal Commission, been secured. It will be essential that all sick Chinese be most carefully scrutinized during the period of suppression, and it would seem desirable that every death among the Chinese should, in the light of the findings of the Commission, be regarded as a death from plague until absolutely proved by bacteriologic examination to have been due to some other cause. Surgeon White, in his part of the work, will be assisted by several assistant surgeons of the U. S. Marine-Hospital Service, among others by Dr. G. M. Flint of the University of Chicago, who has had personal experience with the plague both in China and in India.

### PLAGUE IN SAN FRANCISCO FOR TWO OR THREE YEARS.

The fact that the members of the Federal Commission found six cases of plague in eight days, and that since they ceased work only one case has been discovered makes it extremely probable, as we have said above, that many cases of plague occur which are not recognized. The number reported for the last year is about thirty: it is safe to assume that the actual number which occurred would amount to three or four times the number discovered. Indeed, judging from the mortality tables, it seems extremely probable that though the first case was discovered in March of last year, plague has existed in San Francisco among the Chinese for at least two or three years—possibly longer.

### WHY IT HAS NOT SPREAD.

How are we to explain the fact that the disease has not spread more rapidly? There has certainly been no great outbreak and the disease itself has not occurred in violent enough form to excite any great alarm in the district in which it is occurring. The explanation is not easy, but several significant facts may be mentioned. The climate is not favorable to the spread of plague; there is but little poverty in San Francisco; even among the Chinese there is an absence of the marked destitution to be met with in native cities in China; in California the Chinese are clothed, while in China and in India it is said that the people among whom the disease spreads go bare-footed and usually bare-legged, some of them wearing nothing but a breech-clout. It is possible too that owing to factors with which we are as yet unacquainted, the rats in San Francisco have not become infected; our correspondents state that there has been no evidence as yet of an epidemic among the rats in the city, and, as is well known, prac-

tically every great epidemic among human beings has been preceded by an epidemic among the rats of the place. We might think of the possibility of a low-grade of virulence among the bacilli which are at work in San Francisco, an excusable hypothesis in view of the fact that fulminating cases do not seem to have occurred and that in many of the fatal ones the illness lasted for two or three weeks. The experience is not peculiar to San Francisco, however; precisely the same kind of sneaking epidemic occurred in Calcutta for two years or more before the big outbreak and a similar history attaches to various other places.

### SAFETY FOR THE FUTURE LIES IN THOROUGH ERADICATION.

And here lies the importance of the whole situation. Experience has taught us that just such sneaking epidemics as that which now exists in San Francisco can be suddenly and without special warning transformed into violent epidemics of the most fatal and extensive type. The existence of occasional cases of plague in San Francisco is therefore not so much a matter of immediate danger as it is a menace which hovers over the city, the state and the whole of the United States. The people of California and the people of the United States must not be asked to walk about daily under this sword suspended by a hair. The disease, no matter what its present nature, must be stamped out; we wish to sleep well of nights and go about our daily vocations without uneasiness.

### CANDOR AND TRUTH.

A word as to truth telling in connection with this matter. The Mayor of San Francisco, the city Health Board, Dr. Kinyoun, the scientific medical men of San Francisco, certain of the newspapers outside of San Francisco and the higer class of business men in that city have not hesitated to say aloud what they believe to be true with regard to the plague situation. They are right in the view that frank confession of the exact conditions will do less harm to their city and state than will subterfuge, or misrepresentation of the facts. It is a calamity, and owing to the ignorance and panicky nature of the masses, a greater one than it ought to be, to have it announced that plague exists in a city. But Americans, above all others, should be strong enough to meet calamities bravely; if Honolulu, Glasgow, Oporto, and Cape Town have been honest and brave about such matters, ought not San Francisco to show equal candor and fortitude? Her best people are undoubtedly doing so. It is a reflection on California that the press of San Francisco has not only not stated the truth, but, ever since the managing editors of the newspapers have been familiarized officially with the contents of the report of the Federal Commissioners, they have misrepresented even editorially with regard to the situation.

### SCIENTIFIC MEDICINE ELEVATED BY THE RESULT.

A most important by-product, as it were, of this plague experience in San Francisco, will be the elevation of the position of the really scientific men on the Coast. Instead of being grateful that they had in their midst men of skill and training who could diagnose accurately the conditions existing, the press and many of the public vilified these men, clamored for their removal, and did all in their power to ruin their positions and reputations. The report of the Federal Commission will tend to make Californians trust their own good men, and will lead them to hesitate in the future before taking the advice of the inexperienced, the charlatan, a corrupted press or the professional politician.

### EFFECT ON OTHER CITIES.

The limitation of plague almost entirely to the Chinese population of San Francisco—there were only three plague deaths among the whites of the city during the past year—brings up the question as to the existence of the disease in Portland and other places where large numbers of Chinese live. This matter is of the highest importance in view of the fact that little is known or cared about the diseases which prevail among the Chinese in American cities. The inspections by health authorities are perfunctory and, as a rule, utterly inadequate. Death certificates are often signed simply on external inspection of the corpse, any satisfactory clinical history being available only in the rarest of instances. If recent experiences afford us any guide at all, they indicate that we may no longer refuse to be our brother's keeper; however distasteful an acknowledgement of the relation may be to some of us, it is one which for our own protection we must consent to. We understand that the Surgeon-General of the U. S. Marine-Hospital Service has already taken steps to inquire into this matter.

We have dealt somewhat fully with this subject of plague in San Francisco, for it seems to us one of unusual importance not only to the medical men but to the public generally in America. We believe too that a plain statement of the truth may do much to dispel the alarm that vague suspicions excite. We feel sure that the conditions in California at present are not such as to interfere in the slightest way with travel or commercial life in that state. There is no reason, so experts tell us, why tourists should not visit San Francisco and even San Francisco's Chinatown, just as freely as ever. The trade of the city and state should not be materially damaged by the present conditions. No disturbing quarantine measures are necessary and none will be inaugurated. That the disease may, however, be soon stamped out there, every one will hope; that the work be undertaken promptly, thoroughly, energetically and without dilly-dallying, no matter what the cost, the inhabitants of California and the whole people of the United States must insist.

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Fiction and Drug Habits.—The *British Medical Journal* of March 23 takes from the *Academy* the following story, which points its own moral: Professor Wyllie, of Edinburgh, in a recent lecture, related the following case. He was called one day to see a young man. As he was entering the house the patient's sister exclaimed, "Oh, it's all that horrid book!" Inquiry elicited the fact that the patient's favorite reading was "Sherlock Holmes." The young man was in a very low state, and his telltale arm was dotted with hypodermic punctures. His admiration for the most popular of paper detectives had betrayed him into the cocain habit. How many people have been brought under the baleful spell of opium by reading De Quincey's famous book? Théophile Gautier's "Paradis Artificiels" has also much to answer for.

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## THE OPERATIVE TREATMENT OF TYPHOID PERFORATION.

It is a well-recognized fact that there is often a marked want of agreement between the symptoms of a case of typhoid fever and the intensity and extent of the intestinal lesions. The latter, as has now been abundantly shown, may even be entirely wanting. It is, therefore, impossible to predicate in the individual case the occurrence of or the escape from perforation of the bowel and consecutive peritonitis. The latter event, it is believed further, may occur even without the intervention of actual perforation. In some instances perforation has been due to gangrene resulting from vascular occlusion and in others exceptionally also to rupture of other viscera than the intestines, as, for instance, the spleen, the mesenteric glands, the gall-bladder and to abscess of the liver.

Perforative peritonitis is one of the most common fatal complications of typhoid fever. Occasionally it occurs as the first pronounced manifestation in a latent case; or it may develop suddenly in an apparently mild case. Nevertheless, it is usually the accompaniment of cases grave from the outset. The perforation generally is single, although it may be multiple, and, in correspondence with the preferable seat of the typhoid ulceration, it is most commonly situated in the lower portion of the ileum. It is of great importance—particularly from the diagnostic standpoint—to realize that the vermiform appendix may also be the seat of typhoid perforation.

Perforation of the bowel in the course of typhoid fever is most likely to occur during the stage of sloughing of the intestinal lesions, therefore toward the end of the second or the beginning of the third week of the disease. It may, however, occur at a much later period. The ultimate or exciting cause may be distention of the bowel, constipation, excessive peristalsis, vomiting, straining at stool, or other undue muscular exertion.

The frequency with which intestinal perforation occurs in the course of typhoid fever is variable, an average of from 1.5 to 3 per cent. of all cases or from 9 to 12 per cent. of all deaths representing a fair estimate. The distinctive symptoms are sudden abdominal pain with retching and vomiting, and intestinal paresis. The features soon become drawn, the nose sharp, the extremities livid and cold, and the body covered by cold sweat. The pulse becomes frequent, irregular and small, while the temperature may be but little affected. Death is pretty sure to follow unless relief is afforded by prompt surgical intervention, although it can not be denied that in rare instances adhesive inflammation may prevent extension of the inflammatory process and thus avert a fatal issue. Keen[1] has emphasized the importance of prompt operation in cases of typhoid perforation, expressing the belief that such a course in every case—except the moribund—would result in the saving of at least one-third of the cases and possibly more. He prefers[2] as the time for operation not that of immediate primary shock, but rather within the second twelve hours.

In an important communication presented at a recent meeting of the Philadelphia County Medical Society, Dr. Wm. Osler[3] reports 3 cases of perforation in the course of typhoid fever in which operation was performed, with recovery in 1, while in 1 of the fatal cases death resulted rather from the intensity of the primary disease than from the effects of the perforation, and in the other the patient died in the course of the operation. He adds, further, that of 11 cases of typhoid perforation operated on for him while at the Johns Hopkins Hospital recovery occurred in 5, while, of 5 other cases operated on, recovery ensued in 1. Dr. Osler, in his paper, dwells especially, however, on the necessity for careful and constant observation in order to secure an early diagnosis, at times under most difficult conditions. To this end he has drawn up a schedule of specific instructions to be followed in all cases of typhoid fever in which perforation is suspected and in which special attention is directed to complaint on the part of the patient of abdominal pain, to hiccough, to vomiting, to special acceleration of pulse or respiration, to sweating or signs of collapse. With regard to the pain there should be noted the mode of onset and the situation. The state of the abdomen should be examined with regard to form, respiratory movement, the results of palpation, percussion, and auscultation, and the rectum and the character of the stools. Also the general condition of the patient should be noted, the facies, the pulse, the temperature, the respiration, the presence of sweating, vomiting and hiccough. Finally, the blood-count may yield important information, the leukopenia of an uncomplicated attack of typhoid fever being replaced in the presence of perforation and peritonitis by leukocytosis.

1. Surgical Complications and Sequels of Typhoid Fever: W. B. Saunders, 1898, p. 319.
2. Loc. cit., p. 225.

## BOVINE AND HUMAN TUBERCULOSIS.

The greater virulence of bovine over human tuberculous infection is well known, but fears are sometimes expressed that the latter may be an exciting cause of the disease in the lower animals, and thus give rise to especially dangerous conditions for the human subject. This vicious circle has been repeatedly reported as

occurring, though in many of the cases at least no very thorough investigation has been made, the conclusions being purely *post hoc* in their character. It would be presumptuous to say that this infection from man may not occur as stated, but the danger may not be as great as is feared. This would certainly appear to be the case if we are to accept as correct the findings of the pathologist and bacteriologist of the Arkansas Agricultural Experiment Station, Dr. Dinwiddie, as given by him in the December Bulletin (No. 63) of that institution. He sought to elucidate the following points: 1, the degree of insusceptibility and the possibility of inducing a progressive or permanent infection in cattle by the bacilli of human pulmonary phthisis; 2, the nature of the excess of virulence of the bacilli of bovine tuberculosis over that of human origin, whether selective or general, directed toward cattle only or toward other species of domestic animals as well.

Two series of experiments were carried on under similar conditions, consisting in inoculations with cultures obtained from human sputa and from bovine tuberculous lesions respectively. Eight or more animals of each species tested—cattle, sheep and pigs—were inoculated, and this performed with large doses into the most vulnerable regions, viz., the peritoneal cavity and lungs. Cattle inoculated with cultures from human sputa proved very resistant and in no case was there what appeared a progressive or even permanent infection. Only in pigs was it possible to obtain a genuine tuberculosis, in most cases chronic, leading to emaciation; in others generalized, though not necessarily fatal. Sheep were rather more susceptible than cattle, as shown by the more permanent tuberculin reaction and the larger local lesions, but suffered no general impairment of health. With bovine cultures all three species proved highly susceptible; a generalized rapid tuberculosis was the rule. In cats, two of which were tested, the effects were comparatively slight. Dr. Dinwiddie remarks that the susceptibility to inoculation tuberculosis in domestic animals does not correspond to the incidence of the naturally acquired disease, and he thinks other factors of contagion are in a large measure answerable for the great prevalence of tubercular disease among cattle. He is inclined to attribute the greatest importance to the influence of stabling and vitiated air. The animals tested were subjected to the ordinary conditions of cattle in the country. They had access to overhead shelter and were well fed. Massive inoculations of recently-isolated cultures were made into the lungs as well as the peritoneal cavities of calves of different ages, and the animals kept under observation for long periods and subjected to repeated tuberculin tests before their final dissection. These results and conclusions correspond with the experience of the Adirondack Sanitarium, where the cattle were found absolutely free from tubercular taint, notwithstanding the greater chances of contagion from human sources. It is quite possible that occasionally conditions of susceptibility or, as Dinwiddie says, of exceptional virulence of human sputa, may exist that would make it possible for cattle to become tuberculous by contact with tuberculous human beings. But these experiments of Dinwiddie do not indicate any excessive danger of this kind. It is well that they are placed on record and they are a valuable contribution to the sum of knowledge on the subject.

There are a large number of exaggerated statements going about, many of these from medical sources, that may seem to some justifiable in view of the real peril that exists and the need of popular education in regard to it. Their publication, however, is not scientific, and it is just as well to have our attention occasionally called to facts that seem to indicate that some of the expressed views may not be as scientifically accurate as the impression created by their utterance would imply. Tuberculosis is enough of a peril; its real dangers, when stated, are formidable enough; there may, therefore, be some little consolation in occasionally recognizing facts which indicate that in some ways and in some cases the danger of infection may be less serious than some commonly-uttered statements would lead us to suppose.

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## THE AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS.

The first annual meeting of this Association took place in Boston, April 5 and 6. According to the program 31 papers and demonstrations were presented, practically all embodying the results of original work in pathology and bacteriology. The requirements for admission include evidence of the accomplishment of creditable research in pathology or bacteriology, and the purpose of the Association is the "advancement of knowledge of disease." There are now in this country three or four associations of national scope with more or less similar aims, namely, the Section of Bacteriology and Chemistry of the American Public Health Association, the Society of American Bacteriologists which meets in conjunction with the American Naturalists, the Section on Pathology and Bacteriology of the American Medical Association, and this new Association. There is, therefore, certainly no lack of organizations for the promotion of pathology and bacteriology. Indeed there seems to be a superabundance. Two of these bodies are, however, sections of larger associations, and the Society of American Bacteriologists is exclusively bacteriological, so that the field might be considered open for the new organization, of pathologists and bacteriologists, the members of which probably felt the need of an independent organization.

The formation of organizations of this kind and scope points to healthy activity in the more purely scientific fields of medical study and investigation. But it is hoped that the differentiation and specialization made evident by this banding together of scientific workers may not be carried so far as to eliminate men of this stamp from participation in the societies and associ-

ations patronized by the practitioners of medicine who are particularly benefited by direct contact with teachers and investigators in pathology and bacteriology. And the scientific worker can not afford to isolate himself from association with practitioners who carry into clinical work the results of the laboratory. Healthy, general development of medicine rests upon thorough and sympathetic co-operation of these two groups of men, an important common meeting-place of which should and must be our local, state and national general societies. In a country of such extent as ours it is probably well that there are several associations of the kind here discussed, meeting at various places and at different times of the year. This tends to keep the interests alive in the various sections of the country, and brings it within the easy reach of all to frequently co-operate actively in the important work of medical societies. The AMERICAN MEDICAL ASSOCIATION, the representative one of all medical associations in the United States, ought to receive the hearty co-operation of all engaged in medical work, be it scientific or practical; for only then can the ASSOCIATION best represent the interests of the American medical profession. The Section on Pathology and Bacteriology, recently organized as one of the scientific branches of the ASSOCIATION, ought to receive the support of the best workers in these departments. These Section meetings will be attended by general practitioners who are interested in all that pertains to the highest development of scientific medicine, and to assist these is worthy of the best efforts of those who are working in the special branches.

## POST-GRADUATE STUDY.

As ordinarily used post-graduate study means a course of study by means of which the practitioner may catch up, as it were, with the advances medical practice and knowledge have made since he graduated or since the last opportunity presented itself for polishing off the rust and tarnish supposed to form in the brain of the busy practitioner, especially in the country. The number of flourishing post-graduate schools in the large cities of the country indicates that there is a real demand for opportunities of this kind. By taking short practical courses in such institutions, the practitioner from the small towns and the rural districts not only places himself in touch with recent advances, but he gets a much needed and on that account enjoyable rest and diversion. He returns to his post of duty not only with a new medical polish, but the whole man has been revivified in a certain measure. All need seasons of rest and recreation, and the man from the country is inclined to seek the city for that purpose, while the city physician more often is inclined to go to the country. This is as it should be. Certainly the interesting and forceful personalities of leading teachers, the medical societies, the libraries, the hospitals, and the clinics of large medical centers must be attractive to the practitioner whose work tends to keep him more or less isolated with but few opportunities for the inspiration and stimulus that come from personal contact with other workers in the same field. And it can not be denied that the present state of medical education, with its numerous, utterly inadequately equipped, medical schools renders post-graduate study necessary in order that one may learn what he ought to have learned as a medical student. Viewed in this light the post-graduate schools constitute a poor comment upon our system of medical education. Post-graduate study of this sort ought to be rendered unnecessary by rapidly raising the general standard of undergraduate work.

There is, however, another kind of post-graduate study to which Sir Michael Foster has recently called attention.[1] This is the study which fits one for the task "of inquiring after new truths, of grappling not with the known, but with the unknown." It is the duty of every teacher to teach the beginner what is known, to carry on researches of his own, to train those who are no longer beginners in the way of inquiring after new truths, says Foster. This is the highest kind of post-graduate study. We have too few post-graduate students of this kind. The majority of our large hospitals are not yet organized in such a way as to render this kind of study practicable and inviting. They are not furnishing opportunities for training men for research. Undoubtedly the sick are healed and the beginners trained, to some extent, but the hospitals are not to any great degree put to that higher scientific use that Foster has in mind.

## "FOOLS MAKE A MOCK OF SIN."

That a disreputable resort should find the name Paresis Hall an attraction, assuming that the designation was adopted because of the supposed connection of the disease with the orgies there conducted, seems at first sight a little odd. Nevertheless, such appears to have been the idea in the name of a noted New York dive that has just closed its doors under the stress of police surveillance and regulation. It is not, however, so difficult to appreciate how a little spice of bravado such as this may have suited a certain class of dissolute patrons. Paresis, so far as its causes are known or suspected, is only a remote danger, and the name has just enough of oddity in it to draw. Other specific names a little more familiar would perhaps have the opposite effect. The comment of a religious journal on the case—that "fools make a mock of sin"—applies to physical as well as to moral transgressors, and this is a case in point.

## HINDOO ZOOPHILY AND SNAKE-BITES.

According to the government statistics no less than 24,621 persons died as the result of snake-bites in India in the last year covered by the reports. To balance this 94,548 snakes were killed by human agency. This is a remarkable showing and can hardly be explained except by the heathen Hindoo's reverence for

1. The Nineteenth Century and After, 1901, 57-63.

animal life even in its most objectionable forms. A snake is one of the easiest of all animals to kill, a venomous one no more difficult than any other. In this country hundreds of thousands are annually slain at the least estimate and no bounty given, and poisonous varieties are practically exterminated in most thickly settled districts. With all allowance for special difficulties that may exist, the less than one hundred thousand snakes killed in India is a most extraordinary fact. India is the paradise of vegetarians and anti-vivisectionists, but it is a paradise with altogether too much of the presence of the serpent.

### REPORTED CASE OF PLAGUE IN ANN ARBOR, MICH.

An authoritative statement is printed in our news columns in regard to the reported case of bubonic plague in Ann Arbor. This seems to be especially noteworthy as a case of laboratory infection and as the only one thus far occurring in the inland region of our country—that is, assuming it to be a genuine case of plague. Its early recognition and the prompt action in treatment and disinfection should reassure any who have felt any apprehensiveness in regard to the spread of the disease; the experience that has been gained since the Vienna incident shows that the excessive fear of the extension of the disorder is unfounded. The present case, however, indicates the risks that may occur in laboratory work and the precautions that ought to be taken to avoid any possible contagion. While the actual method of the infection is not known, it may easily have occurred from some almost imperceptible and unconscious oversight, perhaps due to a very little lack of full realization of the risks incurred in the daily handling of the cultures. Thus far, however, the proof that this is a case of plague is not positive.

### THE ST. PAUL MEETING AND YELLOWSTONE PARK.

The Chairman of the Committee of Arrangements notifies us that arrangements have been completed for an excursion of the members of the American Medical Association to Yellowstone Park. The Committee has finally succeeded in pursuading the officials to open up the park a week earlier than usual in order to accommodate the Association. A special train will be run from St. Paul to the Yellowstone Park and the railroad officials have promised to do everything in their power to make it satisfactory to all concerned. The rates will be very low, but how low can not at this time be definitely stated. Those who attended the meeting in 1882 will remember with much pleasure a similar excursion that was run at that time, and these will not need to be informed that the one now proposed will be full of enjoyment. Further announcements will be made later. The Yellowstone National Park contains more natural wonders than are to be found anywhere else in the world, and this will be a rare opportunity for our Eastern friends to see what this portion of our Great West possesses.

### INTERPRETATION OF WISCONSIN'S LAW.

A Wisconsin judge has, if the press reports are correct, rendered a decision that affects the state medical practice act much in the same way as did that of the Texas judge who made any diploma without discrimination a qualification in that state. If his words are correctly reported—and the text is given in quotation marks—the only questions are, has the candidate a diploma from an incorporated medical college and was it properly obtained? An incorporated medical college now needs a judicial definition, but we fear the technical turn of the judicial mind would probably see in the seal and signature of the secretary of state all that is required. The Armstrong manufactories were all duly incorporated according to law; a desk and a little ink, parchment and ribbon will meet the other requisites. These being supplied, it matters not whether any other qualifications exist; the holder of the sheepskin, in the alleged words of the judge, "is entitled to practice under the law of the state although he may be a rogue." "We have got to take the law as it stands." We are sorry for Wisconsin if this is to be its law, but hope some higher court will see another possible interpretation of the statutes.

### SMALLPOX AND VACCINATION IN PORTO RICO.

Letters of inquiry addressed to the Secretary of the Superior Board of Health of Porto Rico, concerning the prevalence of smallpox among the people of the island, have elicited a reply which shows in the most decided way the benefit conferred on the population by the general vaccination instituted and carried out under military auspices in 1899 by the health board. Major J. Van R. Hoff, surgeon, U. S. Army, president. This vaccination was begun in January and ended in June. Since then, until recently, no case of smallpox was reported to the Board. During December, 1900, the occurrence of 2 cases at Mayaguez, and 1 at Sabana Grande was noted. In January, 1901, 12 cases were reported from Ponce, which has continued to be the principal focus of the infection, 67 having been reported in February and 72 in March up to the 26th. The total number of cases in Ponce during this outbreak has been 151. The total number reported from all other places in which smallpox has prevailed is 288, and of this number only one case proved fatal. This alone shows to what extent the susceptibility of the natives to the influence of smallpox has been modified by the general vaccination. In fact the death-rate is so exceedingly low as to suggest a doubt as to the identity of the disease; but in the first place chicken-pox is seldom officially reported as smallpox, and in the second place Dr. W. Fawcett Smith, the present secretary of the Superior Board of Health, certifies to the nature of the cases and remarks that it was interesting to notice the regularity with which the severity of the eruption corresponded with the greater or less perfection of the scars of the previous vaccination.

### THE ROLE OF ALCOHOL IN THE CAUSATION OF INSANITY.

That alcohol is not without utility will not be denied by any unprejudiced mind, but that it is likewise a powerful influence for evil can not be disclaimed even by those who advocate most earnestly its legitimate and intelligent employment. Apart from the effects of

acute intoxication the deleterious influence of long-continued indulgence in alcohol is witnessed in chronic visceral changes principally of a degenerative character. In speaking of the increase in the number of cases admitted during the year 1900, to the Royal Edinburgh Asylum, the physician-superintendent, Dr. Clouston, in his annual report was unable to avoid the conclusion that this was due to a large extent to the excessive use of alcoholic stimulants during times of prosperity, attended with brisk trade and high wages. The number of alcoholic insane admitted to the Asylum has increased from an average of 15.5 per cent. in the period between 1874 and 1888 to 21.5 per cent. in the period between 1889 and 1898, and to 22.5 in 1899. Of 472 new cases received during the year 1900, drink was assigned as either the sole or contributory cause in 115, or about one-quarter of all. In the men alone 81, or about one-half, were alcoholic patients. Besides, for every man in whom excessive drinking causes absolute insanity there are 20 in whom it injures the brain, blunts the moral sense and lessens the capacity for work in varying degree. Dr. Clouston makes an earnest plea for legislative or state means for the diminution of alcoholism. He rightly contends that it is an irrational application of the doctrine of liberty to grant to every man the inalienable right to render himself a burden to others and a source of degradation and danger to the community.

## "CHRISTIAN SCIENCE" AND LEGAL CONSENTING CAPACITY.

A Detroit newspaper, *To-Day*, recently published, with some comment, an account of a death from influenza under "Christian Scientist" treatment. This called out an indignant protest from a friend who claimed that, as all had been done that the patient and his family desired, it was, as the widow is quoted as expressing it, "nobody's business." The man had a right to die under "Christian Science" if he wished to, and any comments on it were impertinent in this correspondent's opinion. He admits apparently that there is such a thing as "grippe," for he says "Christian Science" has had to "wrestle" with it. The editor, in reply, congratulates the sectaries on the progress this indicates in their recognition of the existence of such a disease, and says if they will cease advertising their alleged successes, he will keep silence on what he considers their failures. It may perhaps be conceded by some, as it is by him, that if a person of full age and legal consenting capacity chooses to follow "Christian Science," even to death, he has a right to do so, but this involves a possible medicolegal question. Has this faith in the non-existence of disease with its consequences as deduced by its believers such a recognized legal standing as to authorize this kind of passive suicide? If so, we should stand quietly by and see a severed artery bleed a man to death while a "Christian Scientist" applied the present or absent treatment of his sect, provided the sufferer demanded it. This is only an extreme logical application of the idea and is well within the bounds of "Christian Science" claims. On the whole, it seems more than doubtful whether fanatical or fatalistic beliefs can legally justify sins of omission involving human life. Of course, if they are held by a large number of more or less influential individuals, including even judges, it may be difficult to punish or prevent them, but that does not affect the principle.

## THE PROPAGATION OF YELLOW FEVER.

In the *Philadelphia Medical Journal* of April 6, Dr. H. R. Carter, of the U. S. Marine-Hospital Service, reviews, with apparent effort at fairness, the objections to the mosquito theory of the propagation of yellow fever. He takes up seriatim what he considers the admitted facts as to the method of infection, noticing at most length those that seem most difficult to reconcile with the Finlay theory. The strongest point he offers against it seems to be the apparent retention of infection in an environment without a chance at reinfection; for example, he cites cases of vessels leaving infected ports and developing yellow fever after lapses of time that preclude the belief in the survival of infected mosquitoes. It is true that their eggs laid above water are capable of germination for long periods, but he thinks that, even were the eggs themselves infected from their parents, it is improbable they could find the proper conditions for their development after such a lapse of time. His recognition of only three possible explanations—1, the prolonged life of the germ-bearing insect beyond the present known limits; 2, the occurrence of unrecognized cases; 3, the survival of infection in their eggs—seems somewhat insufficient. Assuming a parallelism between malarial and yellow fever infection, it is not at all beyond the bounds of belief that there may be a like variability in the duration of the periods of incubation. In fact this is noticed by Finlay in his article in this issue of The Journal, as an analogy with the malarial infection. The mosquito theory of malaria is practically accepted, and there are many facts of delayed appearance of the disease quite as striking as those occurring in yellow fever. These latter, therefore, do not seem to be as important as evidence against the mosquito infection theory as he seems to think, certainly not if we are to utilize the most obvious analogies. Aside from the omission of this possible view of the case, Dr. Carter's summary of the objections seems very fairly stated. Reed and Carroll's experiments have placed the Finlay theory of the propagation of yellow fever in the position of the most probable working hypothesis in our present knowledge of the disease. It is certainly the most hopeful one as regards our future control of it, and it is to be sincerely hoped that it may be fully confirmed by further bacteriological and clinical studies.

## SAN FRANCISCO'S PLAGUE.

We present on another page a comprehensive and authoritative résumé of the bubonic plague conditions that have prevailed in San Francisco, our conclusions having been drawn only after a careful review of the various phases of the question, these latter having been presented in detail through The Journal, from time to time, from data furnished us by efficient correspondents on the ground. This "Special Article" summarizes the conditions to date, and merits the careful reading of every medical practitioner.

# Medical News.

## CALIFORNIA.

**Dr. Helen O. Anderson,** Los Angeles, is at the head of a movement to establish a hospital for children in that city.

**The Oakland College of Medicine and Surgery,** incorporated in October last, will be ready to accommodate 500 students in its new building which will be ready for the fall term.

**The California Eye and Ear Hospital,** San Francisco, established four years ago, has outgrown its present quarters and will erect a new $20,000 building. Dr. Tenison Deane is president, and Dr. Redmond W. Payne, secretary.

**Loma Linda Sanatorium,** near Redlands, was formally opened March 30. The visitors were taken from Los Angeles on a special train, and both the main building and cottages are fitted up in accord with the most modern requirements of sanitary science.

**Recording of Certificate Not Essential.**—Superior Judge Kerrigan has reversed the decision of the lower court and holds that the defendant, in the case of J. S. Reid vs. A. J. Raisch, must pay the amount sued for with interest from 1897. In the part of the state law which provides for the issuance of a certificate by the State Board, the certificate is declared to be conclusive evidence of the right of the person to whom it is issued to practice in any part of the state. This right is not lost by failure to record the certificate. The provision for having it recorded is in a section of the law apart from the other provision. There is a general provision making a violation of any part of the law a misdemeanor, and Dr. Hopkins might have been prosecuted for not having his certificate recorded, but his right to recover for services would remain good.

## DELAWARE.

**Dr. Florence Watson** has been elected assistant superintendent to succeed Dr. John H. Hammond, resigned, at the State Hospital for the Insane, at Farnhurst.

**Smallpox in the State.**—Sixteen cases of smallpox have been reported at Concord, 3 at Seaford, 2 at Bethel, 1 near Bridgeville, and 1 near Portsville. On April 4 the State Board of Health of Maryland notified the State Board of Health of Delaware that unless pest-houses were built in Sussex County to care for the cases of smallpox and persons in quarantine persons from this county would not be allowed to cross over into the adjoining counties of Maryland.

## GEORGIA.

**A health officer** was provided for by an ordinance passed by the Atlanta City Council, April 1, despite opposition from the Board of Health.

**The University of Georgia Medical Department,** Augusta, held its annual commencement exercises April 1, and graduated a class of thirty. Dr. James B. Morgan delivered the doctorate address.

**The Atlanta College of Physicians and Surgeons** held its third annual commencement, April 2. Hon. Dupont Guerry, Macon, delivered the address of the evening and diplomas were given to a class of 67.

**The Atlanta City Council** has voted to refuse to allow Dr. Charles F. Benson $195, and Dr. Thomas D. Longino $190, for services rendered as members of the Board of Health in connection with smallpox cases.

**An electrotherapist** of Atlanta, who declined to comply with the law specifying that before practicing medicine in the state an examination must be passed, and who was on trial for practicing medicine without a license, has been acquitted.

## ILLINOIS.

**Dr. A. David Steele,** Chester, has been reappointed physician of Randolph County.

**Dr. Henry P. Beirne,** Quincy, has been elected alderman of the third ward in that city.

**Dr. Samuel E. Munson** has been appointed physician and pathologist to the Springfield Hospital.

**An ambulance** has been presented to the Ryburn Memorial Hospital, Ottawa, by Messrs. James and J. D. Oliver, South Bend, Ind.

### Chicago.

**The College of Medicine and Surgery** has increased its capital stock from $10,000 to $50,000.

**Dr. Hezadiah Todd Crabtree** has gone to San Francisco to become house physician of the Children's Hospital.

**Dr. Ellon S. Smith,** Southwick, Mo., who had never been vaccinated, was taken to the Isolation Hospital, April 5, suffering from smallpox.

**Dr. Mary H. Thompson's memory** is to be perpetuated by a marble bust to be made by Daniel Chester French, the sculptor, and to be placed in the Art Institute.

**Mortality of Chicago.**—For the week ended April 6, the mortality was at the rate of 13.37 per 1000 per annum, which compares favorably with that of the corresponding week of last year, which was 17.56. Of the 451 deaths, 70 were from pneumonia, 55 from consumption, and 35 from violence. While there were 22 more deaths reported to the health department last week than the week previous, the total number was 121 fewer than for the first week in April, 1900. The record of exceptionally low mortality has now continued unbroken for eleven weeks, during which period there have been 933 fewer deaths than during the corresponding period last year. Only the mortality from such chronic maladies as nephritis, and diseases of the nervous system shows any material increase; while, on the other hand, deaths among the aged, those over 60 years, are but about one-half the number recorded a year ago—77 against 140. Similarly as to infant and child mortality, the total deaths among those under 5 years of age were 117 last week, 127 the week previous and 134 last year. Public health conditions, as indicated by the mortality figures, were never more satisfactory than at present.

## INDIANA.

**A quarantine** has been established at Freelandville, Knox County, by Dr. Lyman M. Beckes, Vincennes County health officer, on account of smallpox.

**Dr. George F. Edenharter,** superintendent of the Central Hospital for the Insane, Indianapolis, has been re-elected for a third term of four years, by the trustees of the institution.

**Smallpox in March.**—The State Board of Health reports, for March, 472 cases of smallpox with 3 deaths. It is estimated that 200 of the cases were in Switzerland County; 100 in Lawrence County and 75 in Ohio County.

**Osteopaths** are asking for license to practice in the state. At the meeting of the Board of Medical Registration and Examination, April 3, at Indianapolis, 25 applications to practice under the new law were received. This law provides that graduates of regularly established osteopathic colleges are entitled to practice their profession, providing they administer no medicine.

## IOWA.

**Iowa University College of Medicine,** Iowa City, held its thirty-first annual commencement on April 4. Hon. A. B. Cummins, Des Moines, delivered the annual address, and a class of thirty-six received diplomas.

**Measures against smallpox** at Waterloo have been taken by the State Board of Health, which issued an order on April 3 closing schools, the opera house, forbidding the holding of public meetings and requiring general vaccination.

## KANSAS.

**Stormont Hospital,** Topeka, is being rebuilt.

**The Smallpox Situation.**—Dr. W. B. Swan, secretary of the State Board of Health, reports a decrease of smallpox in the southern part of the state, but in the northern part it is increasing. During March there were 1336 cases, with a mortality of eight. Smallpox has broken out at the Topeka Insane Asylum, and a number of the attendants have resigned. An isolation hospital has been established on the grounds and at present there are three cases. Smallpox is still prevalent in Topeka. Eight new cases were reported April 6. The disease has been prevalent all the winter in Pleasant Valley township, Saline County. There have been about 40 mild cases with no deaths.

## KENTUCKY.

**Dr. Hugh Edward Prather,** as the result of competitive examination, has been appointed interne at the Louisville City Hospital.

**Commencement exercises** of the Medical Department of the University of Louisville were held March 28, and a class of thirty-five graduated. On the previous day twenty-eight were graduated from the Louisville Medical College.

**Quarantine against Tennessee** has been proclaimed by the State Board of Health, with a view to stamping out the smallpox which now exists in the border counties and which, it is

claimed, is directly attributable to the unrestrained ingress of negroes from Tennessee.

**Dr. Reynolds to Resign.**—As a result of serious difficulties in the faculty of the Hospital College of Medicine, Louisville, Dr. Dudley S. Reynolds, professor of diseases of the eye, ear, nose and throat and of medical jurisprudence, will in all probability shortly retire from the faculty. Professor Reynolds is chairman of the judicial council of the Association of American Medical Colleges, and his term as a member of the council expires at the next meeting.

## MICHIGAN.

**A summer course** at the University of Michigan medical department is now under discussion by the faculty.

**Mercy Hospital,** better known as Emergency Hospital, Iron Mountain, has been closed by order of the bishop of the diocese.

**Health in Michigan.**—The report of the secretary of the State Board of Health, based on the sickness statistics, shows that in March, 1901, compared with the average in the ten years preceding, scarlet fever, typhoid fever and smallpox were more than usually prevalent; and consumption, intermittent fever, remittent fever, measles, whooping-cough, cerebrospinal meningitis and diphtheria less than usually prevalent.

**Dangerous Laws.**—The secretary of the State Board of Health, Dr. Henry B. Baker, has petitioned the legislature against the passage of two bills introduced, and recommended by the committee on public health. The first of these proposes to place the entire responsibility for the proper preparation for transportation of "every dead body," including those infected with dangerous diseases, in the hands of the registrars of deaths, who are usually the clerks of cities, villages and townships, and who, as a class, can not be supposed to know one disease from another, nor how to disinfect any dead body. He says that if this bill becomes a law, the interests of no locality can be guarded against this mode of introduction of disease, by any official, not even by a registrar of the locality directly interested; but every locality is then to be at the mercy of any non-professional registrar "at the point of shipment" in any other part of the state, and wholly irresponsible in the locality most interested. The present law places the responsibility for the introduction of corpses infected with dangerous diseases with the health officials of the locality endangered thereby, which is certainly the correct principle. The second bill proposes to amend the law so that corpses infected with dangerous diseases may be sent into any township, city or village in Michigan without the permit of any officer of that township, city or village, and without the permit of any health officer of that place, provided only that "said corpse is accompanied by a removal permit duly issued by the register of deaths at the point of shipment." Dr. Baker understands that this bill is instigated by an undertaker who wants to take or send corpses infected with dangerous diseases into localities without taking the trouble to obtain permission of the health officers of the places to which the infected bodies are sent.

## LOUISIANA.

**The State Board of Health** has appointed Drs. H. L. Ballome, D. C. Anderson and T. B. L. Layton marine inspectors.

**Charity Hospital Visiting Staff.**—At the monthly meeting of the board of administrators, Charity Hospital, April 1, the following visiting staff was appointed to serve during the ensuing six months: Visiting physicians—Drs. W. W. Butterworth, L. G. LeBeuf, A. Nelken, A. Weber, J. M. Soniat, N. Thiberge, J. Laurans, W. H. Seeman, J. A. Storck, P. E. Archinard, E. M. Dupaquier, I. I. Lemann, O. Lereh, G. K. Logan, J. Barnett, J. M. Elliot, C. H. Tebault, Jr., G. S. Bel, G. F. Patton, C. N. Chavigny, L. L. Cazenavette, T. S. Kennedy, E. W. Huhner, and F. Loeber, Jr. Visiting surgeons—Drs. P. Michinard, J. Lazard, J. L. Burthe, J. F. Oechsner, J. B. Guthrie, H. S. Cochran, H. P. Jones, A. S. Yenni, E. H. Walet, C. L. Horton, E. D. Martin, W. M. Perkins, L. Thibaut, S. P. Delaup, J. B. Elliott, Jr., M. H. McGuire, C. J. Miller, S. M. D. Clark, W. E. Parker, E. L. McGehee, H. B. Gessner, M. Souchon, L. Perilliatt, F. W. Parham, F. A. Larue, E. Moss, C. Chassaignac, P. Gelpi and C. A. Borey. Visiting aurists, rhinologists and laryngologists—Drs. E. W. Jones, O. Joachim and J. P. O'Kelley. Visiting oculists—Drs. P. Reiss, E. W. Jones and E. Jowers. Visiting dermatologists—Drs. I. Dyer, R. Hopkins. At the same meeting a bid of $41,864 for the erection of the Nurses' Home was accepted. This does not include the putting in of washstands, for which a special contract will be made.

## MARYLAND.

### Baltimore.

**Dr. Louis McLane Tiffany** is convalescing from an attack of appendicitis.

**The building fund** of the Maryland University Hospital has been increased nearly $1000, by the concert given March 23.

**Maryland Medical College** has bought, for $14,000, two buildings which it proposes to convert into a hospital as the present one is inadequate to the needs of the institution. The remodeling of the buildings will involve an expense of about $5000.

**Tuberculosis Map.**—Assistant Health Commissioner C. Hampson Jones has completed the first tabulated tuberculosis map ever compiled here. It will be distributed among physicians. It shows that there were 1151 deaths last year from tuberculosis of the lungs and larynx; 781 were white, 370 colored, and 1 a Chinaman. The deaths between 20 and 40 years of age were more than half of the total. The death of 142 between 5 and 20—the school age—suggests a far greater number of school children infected. The leading occupations were: housewives, 192; laborers, 114; servants, 63; clerks, 63; merchants, 23; saloonkeepers, 17; drivers, 16; waiters, 16; school children, 16; tailors, 15; sailors, 14; painters, 13; laundresses, 12; carpenters, 10; seamstresses and school teachers, each 9. Typhoid and diphtheria maps are also being prepared. In addition to giving the number of deaths, the age and occupation, they will show the exact location in the city where each death occurred and where the diseases are most prevalent.

## MISSOURI.

**Barton County** has 118 cases of smallpox, 67 of which are at Vernon.

**Columbia Medical College,** Kansas City, elected the following officers, April 1: Dr. Winn F. Morrow, president; Dr. Philip C. Palmer, vice-president; Dr. A. F. Jones, secretary; Dr. James E. Moses, treasurer, and Dr. John L. Robinson, dean.

**University Medical College,** Kansas City, elected the following officers, at the annual meeting of the trustees, April 3: Dr. James E. Logan, president; Dr. Samuel C. James, dean; Dr. Jabez N. Jackson, secretary; Dr. Albert H. Cordier, treasurer, and Dr. John Punton, curator.

**The annual banquet** and conferring of degrees, the last event in the history of Beaumont Hospital Medical College, St. Louis, before its consolidation with the Marion-Sims Medical College, was held March 27. Dr. M. Goldstein delivered the annual address and Dr. Frank J. Lutz, dean of the college, presented diplomas to a graduating class o f 48.

## NEW JERSEY.

**Dr. George B. Philhower** has been re-elected president of the Franklin Board of Health, a position which he has held for sixteen years.

**Orange Memorial Hospital** has appointed Drs. William B. Brooks and G. A. Holdredge, both graduates of Bellevue Hospital Medical College, members of its house staff.

## NEW YORK.

**The Board of Health** of Kingston has ordered all day and Sabbath schools closed on account of the rapid increase of scarlet fever.

**The "Christian Science" bill,** known as "the Bell bill," has been recommitted to the Committee on Public Health. Assemblyman Henry, chairman of this committee, very pertinently remarked that the "Christian Scientists" had had a great deal to say about the efficacy of prayer, and of the wonderful cures they could effect by absent treatment, but for reasons best known to themselves they had not tried that kind of treatment on the legislature, but had done all their praying in the lobby or assembly chamber.

**Incorporation of Inebriates' Home.**—A bill has been introduced to incorporate the Inebriates' Home of New York City. It is to be empowered to receive and retain inebriates under rules provided by the State Board of Charities for periods varying from six months to a year. The city is to provide for the maintenance of the home. It is contemplated that those who are unable to pay will be treated free. Drs. William T. Jenkins, A Campbell White and I. N. Love are said to be among the trustees.

**Gift to Loomis Sanatorium.**—Mr. J. Pierpont Morgan, before sailing for Europe, purchased the plant of the Liberty Electric Light and Power Company for about $40,000, and pre-

sented it to the Loomis Sanatorium for Consumptives. The sanatorium uses about 600 lights, and the village of Liberty about 700. This gift will not only enable the sanatorium to secure its lighting at small expense, but the plant will be a source of a steady income. Mr. Morgan had previously presented to the institution its administration building at a cost of $80,000.

**Regulation of Hypnotism.**—The senate committee on public health has reported a substitute for the bill of Senator McCabe to regulate the practice and teaching of hypnotism, mesmerism, suggestive therapeutics and other kindred sciences. The substitute relates only to hypnotism and mesmerism, and provides that any person who practices such, is not a duly licensed physician or graduate from some educational institution for the teaching of such sciences duly licensed by the regents of the state, shall be deemed guilty of a misdemeanor.

**Abolition of Coroners.**—A bill has been introduced into the assembly, by Dr. Nelson H. Henry, of New York City, to abolish coroners, a reform which was contemplated by the Constitutional Convention some years ago, but which has not yet been effected. It is contended that the present coroner system is antiquated and inefficient, involving as it does two functions which are naturally distinct; namely, ascertaining the cause of death, and determining whether or not a crime has been committed. The bill seeks to have the second function referred to the police, and the first, which is purely medical, vested—as in Massachusetts—in a medical examiner of experience and standing. Incidentally the proposed change would effect an annual saving of upwards of $100,000.

### Buffalo.

**The University of Buffalo** Medical Department will hold its commencement exercises April 27. There are about fifty in the graduating class.

**Dinner to Dr. Bissell.**—Dr. William G. Bissell, bacteriologist of the health department, has recently conducted a course of lectures and laboratory instruction for graduates in medicine and dentistry, at the University of Buffalo. The members of this class, including many of the prominent physicians of Buffalo, extended to Dr. Bissell a complimentary dinner April 10. Dr. A. H. Briggs and J. H. Thompson of this city, and Dr. Walter Scott, former health officer of Niagara Falls, had the dinner in charge. Dr. Briggs acted as toastmaster.

### New York City.

**Dr. C. C. Fite,** general manager of the Malt-Diastase Company, has resigned, to take effect May 1.

**Dr. James T. Burdick,** of Brooklyn, has gone to Bath to assume charge of the hospital of the State Soldiers' Home at that place.

**Anti-Expectoration Crusade.**—An official crusade against persons who expectorate in public conveyances and on the floors of public buildings was recently begun by John B. Sexton, president of the board of health. By Mr. Sexton's orders 180 policemen from the sanitary squad were detailed in plain clothes to ride up and down and across town in each of the five boroughs, to detect and take into custody any one expectorating in the cars. Nineteen arrests were made, and of this number only one offender was discharged. The others were held on from $100 to $500 bail for examination, were fined and discharged, or were paroled for examination.

**Dr. Jacobi's Semi-Centennial.**—On the evening of April 5, at the invitation of Dr. Abraham Jacobi, nearly a hundred of his friends gathered at the New York Academy of Medicine to help him celebrate the semicentennial anniversary of his graduation in medicine. He was graduated from the University of Bonn, Germany, in 1851. Dr. Jacobi was formally introduced by the president of the academy, Dr. Robert F. Weir. He then read a paper entitled "German Text-Books Half a Century Ago; History and Reminiscences." Most of the text-books to which he referred were volumes bearing many annotations in Dr. Jacobi's handwriting, and as they were piled up before him they made an interesting collection. They have been presented to the library of the academy. At the close of the address, a collation was served, and Dr. Jacobi received the congratulations of his many personal friends.

**Special Courses.**—The New York School of Clinical Medicine is giving, on Friday evenings, to June 7, lectures, including the following topics: "Examination of the Male Urethra by the General Practitioner: Clinical Demonstrations," by Dr. Ferd. C. Valentine; "Medical Questions of the Responsibility of Alcoholics, Opium and other Drug Takers," by Dr. Thomas D. Crothers, Hartford, Conn.; "Complicated Fractures: Diagnosis and Surgical Treatment of Prolapsed Kidney: With Clinical Demonstrations," by Dr. Augustin H. Goelet; "Treatment of Strangulated Hernia," by Dr. Carl E. Pfister; "Pelvic Trilogy in the Diagnosis of Diseases of Women," by Dr. A. Ernest Gallant; "The Technics of Major and Minor Amputations," by Dr. Robert H. Cowan; "Treatment of Obesity," by Dr. Heinrich Stern; "Diseases of the Stomach: Practical Examinations and Treatment. Demonstrations on Patients," by Dr. Freeman F. Ward, and "Psoriasis and Acne. Effective and Practical Methods of Treatment: Clinical Demonstrations," by Dr. W. R. Inge Dalton.

### NORTH CAROLINA.

**Dr. Richard H. Lewis,** Raleigh, secretary of the State Board of Health, has appeared before the house judiciary committee to protest against the passage of the bill introduced to repeal that section of the law of 1899 requiring a three years' course in medical colleges. The committee reported unfavorably on the bill.

**County Sanitary Committee.**—Under the new law Dr. Thomas S. Burbank, Wilmington, has been appointed a member of the committee from that city, and Dr. Lionel H. Love, Wilmington, as representative for New Hanover County. These gentlemen, together with the county commissioners, constitute the committee and are required to meet May 6 and elect a county superintendent of health to serve two years.

### OHIO.

### Cincinnati.

**Dr. Christian R. Holmes** has been elected president of the Cincinnati Society of Natural History, and Dr. Arch I. Carson, secretary.

**New internes** at the German Deaconess hospital are Drs. Byron Sharkey and J. C. McGinnis, of Miami Medical College, Drs. Gustav Haeusser and George A. Buttermiller of the Ohio Medical College are alternates.

**Tetanus.**—Jacob Tiller, motorman of one of the traction cars, who was struck by a railroad train at a crossing, has died of tetanus. This is the fourth man within a few years wounded and dragged along the cinders of this tract who has died of tetanus. It is significant to note in this connection that every day numerous stock trains going to and from the stockyards pass over these rails.

### OREGON.

**The University of Oregon** medical department, Portland, conferred degrees on a class of eleven April 1. The address to the graduates was delivered by W. D. Fenton.

**A bill** introduced by Senator Josephi, to establish state and county boards of health, and to provide for quarantine restrictions between counties, has passed the senate.

**Health Commissioner Menefee** claims that Portland is the healthiest large city in the United States, its mortality for 1900 having been at the rate of 10.05 per 1000.

**Williamette University Medical College,** Salem, held its annual commencement exercises April 3. Hon. William Kaykendall delivered the charge to the class, and president Willis C. Hawley conferred degrees on a class of five.

### PENNSYLVANIA.

**The Chester Board of Health,** recently reorganized, elected Dr. S. V. Hoopman president, and Frank Innis vice-president.

**Reorganization of State Medical Council.**—The State Medical Council met for the purpose of reorganization, in Harrisburg, April 2, the following named being elected: President, Dr. Henry Beates, Philadelphia; secretary and treasurer, Dr. H. S. McConnell, New Brighton.

### Philadelphia.

**Samaritan Hospital** has received $2500 through the will of Mr. George Widener, recently deceased.

**Mount Sinai Hospital** is to be given a benefit ball, April 13, by the Jewish friends of the institution. The proceeds will be added to the building fund.

**Dr. Frederick A. Packard** has been elected a member of the board of trustees of the University of Pennsylvania, to fill the vacancy caused by the death of Dr. J. M. Da Costa. Dr. Packard was graduated from the college department in 1882, and from the medical department three years later, at which time he won the Beates prize for the highest general average in final examinations.

**The Committee on Appropriations,** of the state legislature, visited Jefferson Medical College Hospital, April 1. The trustees have asked for an appropriation of $300,000 for the

purpose of increasing the facilities of the hospital. The properties between the present institution and the old college building have been acquired and a new maternity building will be erected on this site.

**Presentation of Dr. Keen's Portrait.**—The presentation of the portrait of Dr. W. W. Keen, by 750 members of the different classes of Jefferson Medical College, to their Alma Mater, occurred in the clinical amphitheater April 4. The presentation speech was made by Dr. J. Chalmers DaCosta, and the address of acceptance by William Potter, president of the board of trustees. The portrait will be hung in the trustees' room in the new college building. It was painted by William M. Chase, of Philadelphia, and is nearly full length in size. It represents Dr. Keen wearing the robes of a Fellow of the Royal College of Surgeons.

**Dr. Thomas Bond's Grave Found.**—After a period of 108 years, the grave of Dr. Thomas Bond, Jr., of Philadelphia, has been found in the Presbyterian churchyard at Morgantown, W. Va. The brass plate on the coffin bore the inscription: "Hic jacet, Thomas Bond, Jr., of Philadelphia. Died July 17, 1793." Dr. Bond was the son of Dr. Thomas Bond, a well-known surgeon. Having studied medicine under his father he went to the front as a surgeon and was with Washington in the retreat through New Jersey, and was at the battle of Princeton. In 1776 he was made assistant surgeon of the First Troop, Philadelphia City Cavalry. In 1781 the Continental Congress appointed him medical purveyor, a commission which he held until 1793, when he contracted typhoid fever, which caused his death. His ashes will be brought to Philadelphia and interred in the cemetery at Fifth and Arch streets, where his father and uncle are buried.

## WISCONSIN.

**Z. G. Simmons** has decided to present the city of Kenosha with a hospital, which will cost $30,000.

**Dr. George W. Koeppel,** Milwaukee, has been appointed an interne at the Emergency Hospital, Milwaukee.

**Incipient Consumptives** will be cared for in a home erected at a cost of $100,000, if Assemblyman Karel's bill is passed.

## GENERAL.

### Ann Arbor Plague Case

In regard to the reported case of plague at Ann Arbor the following authoritative statement may be made. The accounts mentioned refer to Mr. C. B. Hare who has been doing special work in the hygienic laboratory for nearly two years. He was considered a very careful and intelligent worker, and after having had a year's experience in ordinary bacteriologic work he was allowed, last July, to cultivate the plague bacillus for the purpose of making Haffkine's vaccin for the firm of Parke, Davis & Co. Since last summer he has been engaged upon this and similar work, and it is probable that he became infected while thus engaged, although he does not know of any accident whereby he might have been infected. It is but proper to state in this connection that Mr. Hare has been the only student who has ever been allowed to work with the plague bacillus in that laboratory. Although medical students in their practical course work with the other well-known pathogenic bacteria, it has never been deemed advisable to trust a culture of the plague bacillus to even ordinary advanced students.

On Wednesday evening, April 3, Mr. Hare complained of numbness and of backache. His temperature rose during the night to 103 F., and he vomited once toward morning. He was seen that night and on Thursday noon by Dr. Spitzley, who made a provisional diagnosis of pleurisy. Thursday afternoon Drs. Vaughan and Novy learned of the condition of Mr. Hare and at once visited his room. The temperature was still at 103, and, although there was no glandular enlargement, it was deemed best as a precautionary measure to inject Yersin's serum: 20 c.c. of this were injected subcutaneously. Swabs made from the throat gave negative results. Shortly afterward he coughed up two or three bits of thick mucus, slightly streaked with blood, and in this material a few suspicious organisms were found. He was at once removed to the isolation hospital and his room closed up and disinfected with formaldehyde. On arrival at the hospital he was given another injection of serum and this was repeated on Friday morning and also in the afternoon. The temperature began to fall and, since Saturday morning, April 6, it has remained below 100 F. The condition of the patient at the end of the sixth day is very favorable. The early recognition of the case has rendered it possible to take every known precaution to prevent the infection spreading. All persons who have been in contact with the patient have received injections of Yersin's serum and rigorous disinfection methods are being carried out.

**"Rudolf Virchow Fund."**—On October 13, 1901, Rudolf Virchow will be 80 years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolf Virchow Fund" were furnished by those in all countries interested in progressive medicine, as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large committee has been formed to call for contributions which are to be added to the original "Rudolf Virchow Fund" so as to increase its efficiency. The committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and asks for the co-operation of all those engaged in the study and practice of scientific medicine all over the globe. A subcommittee has been formed for the purpose of making the American profession acquainted with the intentions of the Berlin Committee, and urges participation in honoring the very man who has done more, these fifty years, than any other to make medicine a science, and international. Subscriptions should be sent to the subcommittee's secretary—who will receipt therefor—Dr. A. Jacobi, 110 West 34th street, New York City. Other members of this subcommittee are: Drs. Charles A. L. Reed, president of the AMERICAN MEDICAL ASSOCIATION, Henry P. Bowditch, president of the Congress of American Physicians and Surgeons; William K. Welch, Johns Hopkins University, and Robert F. Weir, president of the New York Academy of Medicine.

## CANADA.

**Dr. Francois Martigny,** formerly of Montreal, has been appointed assistant surgeon at the Hospital Peau, Paris.

**A metrical association** is being formed in Quebec, to further the work of introducing and adopting this system in Canada.

**Smallpox** has broken out near Halifax, N. S., and one death is reported. A general vaccination of that city began on April 7.

**All non-vaccinated pupils** in the schools of Kingston, Ont., are being dismissed in response to an ultimatum passed by the Board of Education.

**Dr. Harold Thomas,** Montreal, who has spent the last year studying in Germany, returns to his native city early in May to commence the practice of his profession.

**The National Sanitarium Association** has secured a building site about three miles from the center of Toronto, for the erection of a building for advanced cases of consumption.

**The Ontario government** is considering the advisability of erecting isolation hospitals at several lake ports, such as Collingwood, Sault Ste. Marie, Fort William and Port Arthur.

**Dr. Price Brown,** Toronto, has returned to the city from Asheville, N. C., and New Orleans, La., where he has been all winter in search of health. Dr. Brown returns much improved.

**Queen's medical convocation** took place on April 10. A pleasing feature was the presentation of the Dean Fowler scholarship, for which subscriptions are steadily being received.

**Dr. J. Stafford,** who has been associated with the biological department of Toronto University for the past three years, has been appointed lecturer in zoology at McGill University, Montreal.

**Dr. W. C. Laidlaw,** who has been connected with the Ontario Asylum service for the past five years, has left for Europe, to take a special course in the hospitals of the old land.

**Dr. T. J. W. Burgess,** superintendent of the Protestant Hospital for the Insane, Quebec, has been granted three months' leave of absence, which he will spend in the old country, recuperating his health.

**The Presbyterian Hospital,** Atlin, B. C., is progressing. All the work on the building has been done without charge but there is still a small amount owing for materials. There is no other hospital within many miles of Atlin.

**Montreal General Hospital.**—During March there were 218 patients admitted to the wards of this institution, and 257 discharged. Twenty deaths occurred. There were 3244 prescriptions and minor operations in the out-door departments.

**Counter Prescribing.**—Recently several druggists were fined for this in Toronto, and appealed to the sessions. The presiding judge has granted their appeal. The conviction was upset because of an irregularity in the form. Four other cases are now before the police magistrate, who states he will convict and keep on convicting along these lines.

**New Medical Organization.**—An association of practitioners in medicine and surgery has just been formed in the province of Ontario, under charter issued by the Ontario government, having its headquarters in Toronto. Stock can only be held by medical men, and the association will deal with supplies of all kinds. It has a board of nine directors, representing various sections of the province.

**Vaccination Statistics.**—The Hamilton Board of Education recently sent out circulars in regard to vaccination and in response thereto have received over 7000 replies. The figures show that about 33 per cent. of children attending the schools have been vaccinated. About 600 notified the Board that they object to vaccination. The Board of Education considered the matter and decided to have all those who did not object vaccinated.

**Ontario Provincial Hospitals.**—There are between fifty and sixty of these institutions in Ontario, and there has been a great increase in the number of patients during the past year. Two new hospitals, those at Sault Ste. Marie and Parry Sound, have been put on the government pay-roll. The number of patients remaining in the various hospitals on October 31, 1900, was 1893. The number admitted during the past year was 27,061; and the total number of patients under treatment during that time 29,761. The number of deaths during the year was 1451. The revenue from all sources, other than the government grants, was $498,579.17; and the provincial grant for the past year was $110,000. The average cost per patient per day was 83½ cents.

**Medical Boards.**—The Secretary of State for War having approved of medical boards composed of medical officers of the Canadian militia, being assembled to report upon cases of Canadian militiamen for pensions for services in South Africa, has authorized the following boards to investigate and report upon any such cases: In western Ontario, Surgeon-Major, J. N. Piper, London, and Surgeon-Captain, A. N. Hayes, Sarnia; for Toronto, Surgeon-Major Nattress, Surgeon-Major J. E. Elliott and Surgeon-Major J. T. Fotheringham; for Kingston and the East, Surgeon-Major H. R. Duff, Surgeon-Major R. W. Garrett and Surgeon-Major H. R. Abbott; in Quebec, Surgeon-Major J. G. Roy, Surgeon-Major C. W. Wilson and Dr. J. M. Elder, Second Regiment C. A., Montreal.

**McGill Medical Faculty Changes.**—An important change will come into effect in the Faculty of Medicine of McGill University in September, 1902, which will be an increase in the requirements for medical matriculation. At present McGill has as hard an examination as any of the medical faculties in Canada, but after the date specified, candidates will be required to pass in English, mathematics, and either French, German, Greek, chemistry or physics. They will all be required to show a practical knowledge of chemistry and a sound acquaintance with physics, statics and dynamics. The only optional subjects after that date will be French, German or Greek, of which one will have to be taken. Dr. Ruttan, registrar of the faculty of medicine, states that they want to make McGill the best medical school in the world. Some time ago the course was extended from six to nine months; and more recently a combined arts and medical course was introduced.

**Cremation in Quebec.**—Some months ago Sir William Macdonald, of Montreal, offered to bear the expense of a crematory if the Mount Royal Cemetery would conduct it thereafter. It was found that for this purpose legislation would be required, so a bill was introduced into the last session of the Quebec legislature, and after a somewhat bitter and stormy discussion on its merits it became a law. The strongest opposition came from the Roman Catholics, but it was pointed out that the purposes of the measure were not to seek power to cremate Catholics but for the erection of a crematory in a Protestant cemetery, at the request of protestants; and even then the legislation would not be compulsory. This law reads: "That the deceased at the time of his death is entitled to be buried in Mount Royal Cemetery and has expressed by his will a wish that his body be cremated." This is the first instance of the principle of cremation becoming law and a legal process in the Dominion of Canada.

**Medical Service Legislations.**—There is a bill now before the imperial parliament, so the Canadian Militia Department has been advised, which will open the door to Canadian doctors who may wish to enter either the imperial, naval, military or civil services. The measures will apply to medical men in all British colonies; and provides that where the examinations and courses of study at the leading colonial schools of medicine are in all respects equal to those of the United Kingdom, and subject to the supervision of the General Medical Council, that the medical men from Canada and other colonies of Great Britain may be permitted to serve the empire in these aforesaid services. This measure is said to be the outcome of the South African war, for which several Canadian surgeons of the highest repute offered their services, but they had to be refused owing to the medical law of England, and even a field-hospital from Canada had to be declined for the same reason. It is presumed that after the passage of this act the medical schools of Canada will require to have imperial approval of their examinations and courses of study, providing they wish that their graduates be accorded these privileges in the naval, military and civil services of the British Empire.

## LONDON LETTER.

### The Struggle Between the Board and Staff of the National Hospital for the Paralyzed and Epileptic.

This controversy, referred to last week (p. 976), at last seems to be approaching a satisfactory termination. The Board, or rather the "secretary-director," who has practically taken the control of the hospital into his own hands, has received a decided check. A special meeting of the governors and subscribers has been held to consider the question of holding an independent inquiry into the allegations of the medical staff as to the diet and condition of the patients, and the administration of the hospital, as a condition precedent to any reconsideration of the demand of the staff for direct representation on the Board, and also to lay down the conditions essential to such inquiry. The Lord Chancellor, who presided, said that the situation was most injurious to the hospital. One of the Board moved a resolution that an inquiry into the accuracy of the allegations of the staff ought to precede the reconsideration of the demand for representation. As an amendment it was then moved "That a full and independent inquiry be at once instituted by the governors into the statement of the medical staff, the facility of communication between the staff and Board, the demand for representation, the position, functions and acts of the secretary-director, and the constitution, rules and management of the hospital generally. The Board so far capitulated by accepting this amendment, which was therefore adopted unanimously. It was finally agreed that the committee of inquiry should consist of at least one physician or surgeon, one eminent lawyer, one business man and one other person, none of them being governors or members of the staff of the hospital. The nomination of this committee and other preliminary arrangements were entrusted to a committee including Sir John Paget, Mr. Jonathan Hutchinson and others.

### The British Congress on Tuberculosis.

A preliminary program of this Congress, which will be held in London from July 22 to 26, has been issued:

*Section I. State and Municipal.*—In this section the following questions will be discussed: *Division I. Statistical.*—What conclusions may be drawn from statistics as to the connection between the mortality from phthisis and the condition contributing to it. In this connection regard will be had to the following points: 1, mortality during the late Queen's reign; 2, geographical distribution; 3, incidence of mortality in particular occupations; 4, age and sex distribution; 5, distribution in several sanitary areas of London: 6, heredity; 7, tabes mesenterica and milk-supply; 8, phthisis and soil; 9, indications for future research. *Divisions II and III. Notification.*—How can voluntary notification of advanced tuberculosis be best encouraged and effected? What is the experience of compulsory notification in New York, Buffalo and Washington? *Influence of Housing and Aggregation:* 1. How can a higher standard be attained of personal cleanliness, and of cleanliness of houses invaded with phthisis? How far are additional lighting and ventilation necessary to ensure a higher standard of bacteriologic cleanliness? How may cleanliness and sufficiency of light and air be secured in factories and workshops, ships, railway carriages, etc. *Division IV. Control of Milk and Meat.*—What changes are requisite for improving cowsheds and health and cleanliness in milch cows? What is the value of the tuberculin test? How may it be used to eradicate tuberculosis? What advantages in the prevention of tuberculosis are secured by sterilized milk, pasteurized milk, and milk obtained from herds free from tuberculosis and kept cool from the time of milking to reaching the consumer? How is the sale of tuberculous meat to be prevented? *Division*

V. *Sanatoria.*—What are the best means of promoting the erection of sanatoria for phthisical patients in which: 1, the curable may have the best chances of recovery; 2, the incurable may have their lives prolonged and cease to be a source of danger to the community. Among those who are expected to take part in this section are Dr. Herman Biggs, of New York City, and M. Monod, director of the French Public Health Service.

*Section II. Medical.*—Drs. Theodore Williams and Burney Yeo will open a discussion on :"What Influence Has Climate on the Treatment of Consumption and How Far can Cases be Grouped for Treatment in Certain Climates?" There will be a discussion on the "Therapeutic and Diagnostic Value of Tuberculosis," in which Koch is expected to take part.

*Section III. Pathological.*—A discussion on the "Morphological and Physiological Variations of the Bacillus Tuberculosis and Its Relations to Other Acid-fast Bacilli to the Ray-Fungus and to Other Streptothrices," will be opened by Dr. Moeller, of Berlin. A discussion on the "Tissue Changes and Constitutional Effects of the Various Constituents of Tuberculin" will be opened by Koch. Another on the "Varieties of Tuberculosis," will be opened by Professor Benda, of Berlin, Délépine, of Manchester, and Hamilton, of Aberdeen. There will also be a discussion on "Mixed Infection in Tuberculosis." Dr. Roux and Professor Metchnikoff, of Paris, are expected to take part in the work of this section.

*Section IV. Veterinary.*—The subjects are diagnosis of tuberculosis in animals, milk and meat supply.

*Museum.*—There will be a temporary museum illustrating the pathology, treatment and prevention of tuberculosis. It will consist of: 1, pathologic and bacteriologic preparations and specimens illustrating tuberculosis in man and animals; 2, plans and models of hospitals and sanatoria, and charts and documents bearing on the historical, geographical and statistical aspects of the subject.

### The Open-Air Treatment of Tuberculosis.

Good results of the open-air treatment of consumption were narrated at the annual meeting of the Manchester Consumption Hospital. Of 141 patients, 121 were discharged improved, 6 remained stationary, and 14 became worse. There was an average gain of 9 lbs. in weight in the patients. The results compare favorably with those of continental public sanatoria from which percentages of 60 to 70 of cures are reported, against the Manchester's 85. The hospital is situated eight miles from the center of Manchester, in the Cheshire village of Bowdon.

### The Epidemic of Arsenical Poisoning.

The following finding of the coroner's jury in a case of death from arsenical poisoning in Liverpool fairly apportions the blame: Bostocks' directors (the sugar manufacturers who supplied the whole of the contaminated sugar which caused the epidemic) are not culpably negligent, but to blame for not notifying that the acid was required for food purposes; Nicholson (sulphuric acid manufacturer, who supplied Bostocks with sulphuric acid contaminated with arsenic, which was used in converting starch into sugar) are not culpably liable, but displayed extreme indifference. Bostocks' chemist is negligent but not culpably so. Messrs. Bostocks have become bankrupt in consequence of the epidemic. The claims made by brewers and others for compensation for supplying impure glucose are sixty-seven in number, and amount to $650,000. On the other hand they have an action against the sulphuric acid manufacturers for $750,000.

### Enucleation of the Tonsils.

At the Medical Society of London, Dr. St. Clair Thomson exhibited two cases showing the desirability, in certain cases, of removing the tonsils by enucleation. The first patient was a woman aged 38. In 1894 she noticed cheesy collections in her tonsils, of offensive taste and fetid odor. For this condition she was under continuous treatment three years. During two years she attended Dr. Thomson's clinic and was actively treated with gargles, paints, lozenges, caustics, the galvanocautery and incisions laying open the crypts. She remained unrelieved. Accordingly, two years ago, the tonsils were enucleated under chloroform and the patient was cured. Some regeneration of lymphoid tissue between the pillars of the fauces had taken place. The patient's voice was not in any way injured and was even improved for singing. The second patient was her son, a boy aged 10½ years. At 4 his tonsils were enlarged and were removed. He was not again troubled with them until after scarlet fever at the age of 6 when they were again enlarged and were removed with the guillotine. A few months later cheesy concretions were noticed in the crypts of the tonsils. Since that time they have increased without intermission. He was under treatment from September to December last. The chief complaint was of foul breath. The tonsil stumps were deeply imbedded between the faucial pillars. They were riddled with crypts, some of which were one-half inch deep. From these, dirty white fetid cheesy matter was easily extruded. It was impossible to thread these tonsillar stumps into the ring of the guillotine. The tonsils were enucleated under anesthesia, chiefly with a pair of curved scissors and the fingers.

## FOREIGN.

**The French** department of public instruction has officially reaffirmed that the diploma of a technical school does not entitle the holder to admission to the university courses of literature, law or medicine.

**Testimonial.**—On the occasion of the election of Dr. R. Galvao to the chair of bacteriology at Rio de Janeiro, the *Brazil Médico* gave a luncheon in his honor at the offices of the journal. A superbly bound edition of his work, "Noções de Bacteriologia," with a dedication and the autographs of the guests, was presented to him.

**Rumpf's Resignation.**—Quite a sensation has been caused in Germany by Professor Rumpf's resignation of his position as director of the great Eppendorfer Hospital at Hamburg, on account of differences with the Oberin or matron of the institution, which were decided by the authorities in favor of the latter. He intends to move to Bonn.

**Commemorative Monographs.**—Professor von Coler, general staff surgeon to the German army and president of the Prussian Council of Health, celebrated his seventieth birthday recently. His friends, to commemorate the occasion, have collected a number of medical monographs by noted writers, which will be published in turn and known as the Coler Library. Subjects interesting army surgeons are especially numerous in the collection.

**Diphtheria in Hospital.**—Diphtheria broke out recently at the Paris hospital of la Salpêtrière, in a ward containing 145 epileptic or idiot children. Twelve cases occurred in two days. These were treated by antidiphtheria serum and 7 to 15 c.c. were injected in every inmate of the ward. Only four new cases developed and all were mild, although the first case was promptly fatal.

**Medical Students Abroad.**—The statistics of the medical students in France, published by the *Semaine Médicale*, show that the total number is 8078, which includes 881 foreigners. The United States furnishes only 4 in 1901, to 5 in 1900; 1 in 1899; 6 in 1898; 10 in 1897; 14 in 1886. Roumania, Bulgaria and Turkey average over 100, and Russia 333. There are 44 students from Central and South America, 38 from Greece and none from China or Japan. The editorial urges the authorities to allow foreign students the privilege of taking their medical course in Paris, instead of being distributed among the provincial universities to prevent overcrowding. The attractions of Paris, it claims, would bring many more foreigners for the medical course if they were sure they could remain in the capital.

**Damages for X-ray.**—The Paris lower court has recently condemned a physician to 5000 francs damages and expenses on account of a severe X-ray burn that developed on a patient after three long exposures in the course of three weeks. The *Semaine Méd.* comments that physicians must bear in mind that when they apply these new physical therapeutics they step out of the domain of medicine and pass into the jurisdiction of common law. According to this French decision, a fault or negligence is not necessary—the mere application of physical measures which resulted in injury renders the physician liable to damages. The editorial concludes with the remark that justice, as practiced in the courts, is not partial to the medical corps in these days, and it behooves physicians to be wary.

**Progress of the Plague.**—For the week ending March 23, 46 cases of plague were admitted to hospital at Cape Town, S. A., and there were 21 deaths, 3 suspects and 394 contacts. According to advices of April 6, it is spreading among Europeans, although in a mild form. Five corpses were found concealed and 12 cases of recent origin were evenly divided between natives and Europeans. The rooms of the Young Women's Christian Association have been closed on account of a case discovered on the premises. This makes the total cases 315, and the deaths 107, including 22 Europeans. In Mauritius, for the week ending March 14, there were 5 new cases and 6 deaths. In Western Australia there are 8 cases of plague in whites—7 adults and 1 child, and 1 among the Chinese.

### Government Report of Sydney's Plague.

A government report on the outbreak of plague at Sydney in 1900 has been issued. Between January 19 and August 9

there were 303 cases, Prodromal symptoms were rarely observed. Within a period of from one to twelve hours the patient became severely ill. Rigors, headache, vomiting, flushing of the face, and suffusion of the eyelids were almost constant symptoms, while the temperature ranged from 100 to 102 F. Constipation was the rule, but diarrhea sometimes occurred. In some cases during the early stages the glands were painful. Coma and delirium supervened and lasted to the fifth or sixth day. Improvement then began. On the tenth day, convalescence was initiated and the bubo suppurated. Such was the ordinary course, but in some cases the patients simply complained of feeling ill and died unexpectedly without definite symptoms. The form of the disease was almost exclusively bubonic, but 17 cases were septicemic and one pneumonic. The mortality was 34 per cent. Only 10 of the patients were Chinese, and they showed the high mortality of their race to plague; 8 died. For protective inoculation Haffkine's serum was employed on 10,700 persons, including the members of the various staffs. No illness occurred among the latter, excepting in the case of a scavenger who escaped inoculation. In the inoculated public 13 cases occurred, all of which were slight. Yersin-Roux serum was used in the treatment of 71. It was found to possess antitoxic properties, but was not to be relied on as a curative agent. The disease was not communicable from man to man, and was not conveyed in any important degree by clothing, merchandise or excreta. The infection originated in rats and is presumed to have been conveyed to man by fleas. The best and only defense against epidemic plague is declared to be good sanitation.

# Correspondence.

## Prof. Osler and the Assistant Surgeon in the Spanish American War.

Louisville, Ky., March 25, 1901.

*To the Editor:*—In view of the many adverse criticisms of the diagnostic abilities of the surgeons in charge of the sick during the Spanish-American War, I consider it a duty to show that only an entire misapprehension of the facts could possibly excuse such severe and unjustifiable indictments as exemplified in the following quotation from Dr. Osler's paper on "Medicine in the Nineteenth Century." The quotation, which is only one of many similar in tone, is as follows: "The worst indictment ever brought against the medical schools of this country is contained in a report by Reed, Vaughan and Shakespeare on the prevalence of typhoid fever during the Spanish-American War. Shades of W. W. Gerhard and of Austin Flint! The young doctors to whom we intrusted scores of valuable lives, had practically not gotten beyond the nosology of Rush. Of the total number of 20,000 cases of typhoid fever, only about 50 per cent. were diagnosed by the regimental or hospital surgeons." Then follows a reference to a number of cases, originally recorded as malarial fever, diagnosed as typhoid fever after having been transferred to a civil hospital.

It is easy to take a few cases transferred to a civil hospital, arriving perhaps with hasty diagnoses appended to the transfer slips, and upon careful observation, after a full maturation of the disease, decide that the appended diagnoses were often wrong. But what about those hundreds, indeed thousands, of cases that never reached a civil hospital, that never passed under the keen and careful observation of the great diagnosticians, cases that ran as a rule an atypical course with a lower mortality rate than was reasonable to expect in typhoid fever under camp conditions. Was the element of doubt not sufficient to deter the prudent surgeon from immediately condemning them to the strict regime of undoubted typhoid cases, by putting them at once in that class? Have these critics considered the conditions which made the careful and extended observation of these cases quite impossible?

I submit the following as a summary of the conditions under which we labored; this may enlighten our critics sufficiently to show that our work was, on the whole, as accurate as the conditions permitted. 1. The medical officer—I refer to the volunteer and contract surgeon—in the unfamiliar environments of a large military camp, overwhelmed with a constantly augmented mass of routine work only indirectly concerning the sick, found that the time available for the actual observation of his cases was quite inadequate for satisfactory work.

2. Cases were transferred without history charts, or at best with incomplete and comparatively valueless records. That it was practically impossible to correct this evil is explained by the condition of the hospital corps. In the handling of a large number of cases a doctor requires the assistance of intelligent attendants; yet we found ourselves with a hospital corps, deficient at best, disorganized by sickness and overwork and soon replaced with detachments of men, few of whom had ever seen a clinical thermometer, and who, because of general unfamiliarity with hospital work, demanded the constant attention of the surgeon to prevent their being an absolute menace instead of a meager help. This will explain the confusion of records and neglect of case histories.

3. The surgeon, without reliable histories, did not often remain long enough in charge of a given group of cases to be enabled to make careful personal observations to determine the accurate diagnosis. This was due to the continual redistribution, made necessary by the increasing sick-rate among the troops and the sick leaves granted surgeons themselves, resulting in the constant movement of a large number of junior medical officers to close up, as well as possible, the ever-recurring hiatuses in the service. These officers became often, in fact, medical nomads. In addition to this, there was a necessity of frequent redistribution of the patients on account of overcrowding, the movement of camps, commands, etc. This greatly increased the difficulty of making continued and competent observations.

4. The method of administration of medicines must not be overlooked. Obviously, to facilitate transportation and administration, most drugs were provided in tablet form; many of these tablets proved to be quite insoluble, and from personal observation I am sure that two-thirds of the quinin thus administered could have been recovered unchanged from the stools. Until the general attention was directed to this fact, it is not inconceivable that many atypical cases of typhoid fever were classed with cases of undoubted malarial origin which refused to respond to the administration of quinin; the insolubility of the tablets not being generally known rendering this important test negative.

5. Prodromal symptoms were not to be relied on in the face of the epidemic of "camp-malaise," which may be described as a varying combination of the following symptoms: pains in the back, abdomen and limbs—headaches, diarrheas, and gastric disturbances—physical and mental depressions; with temperature incidental to these symptoms and the frequent complications of acute venereal diseases. The surgeon found it difficult, indeed often impossible, to determine whether or not this train of symptoms was to denote the invasion of typhoid fever or was the result of the enervating camp work, drills, etc.—the penalty for absolute neglect of the simplest requirements of personal hygiene, or for the frequent intemperance in food and drink obtained outside of camp, or, perchance, an expression of the invincible combination of all these forces of morbidity.

6. Besides this train of functional disturbances, obscuring the prodromal symptoms of enteric fever, there existed the graver conditions of aggravated diarrheas and other severe intestinal disorders, combined with fevers of malarial or other origin, which often simulated the various stages of typhoid fever and gave clinical pictures, so anomalous that it became a matter of extreme difficulty to separate the real from the pseudotyphoid cases.

7. Another consideration of importance, though not directly concerning the subject in controversy, is the effect a sweeping diagnosis of typhoid fever would have had on the people in the home states. Every one officially interested was sufficiently aware of the alarming prevalence of this great camp disease to be alive to the necessity of taking every precaution of camp hygiene to check its progress. But a wholesale verdict of typhoid fever would have only served to increase the panic that took possession of those people who thought that there should be no mortality in an army save that inflicted by the bullets of the enemy; and in consequence we would have had

more examples of the deplorable interference due to public hysteria and misdirected sentiment, exemplified by the sending of special trains to convey the sick many hundreds of miles to civil hospitals. Certainly these cases stood a better chance of recovery, left quietly in any field-hospital, than after transportation on long journeys in ill-ventilated and ill-equipped trains with the attendant excitement and shock of removal to and from cars, ambulances, etc.

8. To leave the consideration of those unfortunate, though unavoidable, conditions which are so closely associated with all large military camps in time of war, and in which it is made clear that a careful and scientific study of any but selected cases was quite out of the question, I wish to refer again to the general peculiarities of camp fevers. Personal observation has convinced me that diseases, developing under such unusual conditions and environments, will rarely present the clinical picture seen in the disease in private practice. This may be explained by the marked physical and psychic modifications induced in the patient before the invasion of actual disease, by the changed conditions of nutrition, habitat and activity. These have certainly a strong influence on the metabolic mechanism of the body, producing in those patients observing hygienic precautions and suited for the radical change, a beneficial influence, enhancing vitality and resisting power and modifying favorably the disease; in others, neglectful of hygiene and unsuited for the radical change, assisting the evolution of the gravest and most complicated types. Perhaps this will explain the difference of mortality in the Civil War between the so-called "typhomalarial" fever—about 7 per cent. and the cases classed as typhoid (about 39 per cent.). I venture to suggest that in the nimble plasmodium of Laveran and the ubiquitous bacillus of Eberth, it is possible we may not have the only bacterial agents capable of producing the symptoms so universally associated with paludal and enteric fevers; although it is undeniable that an enhanced tissue resistance or an attenuation of the specific organism of a disease may adequately account for the striking modifications of a large series of cases originating in military or other camps, and resulting in a great and uniformly reduced mortality.

It was therefore my opinion, and that of most surgeons, that a large number of cases recorded as malarial fever were really typhoid fever of a modified form; they were what the older doctors—those dominated by the nosology of the Civil War—would have called "typhomalarial fever" inasmuch as they failed to conform clinically to either typical typhoid or typical malarial fever, but maintained a middle ground with a low rate of mortality. Bacteriologic investigation in the field was practically out of the question. We refused, therefore, to perpetuate that unjustifiable term "typhomalarial," and used the term "malarial" in filling out the morning sick reports, rarely changing the diagnosis thus recorded unless undoubted symptoms proved this in error. We were justified in this as it was easy enough to point to a group of cases and say, "These are probably modified typhoid cases," yet for the reasons enumerated it would have been practically impossible to say of a single case in such a group, "this is *certainly* typhoid" or "this one is *certainly* a case of malarial fever." Therefore I think it is not to be regretted that we classed such doubtful cases with the malarias and administered antiperiodics, using as far as possible the dietetic precautions observed in typhoid fever, rather than to have classed them with undoubted typhoid cases and withheld quinin or at least a sufficient dosage to have made an impression on the paludal disease. It is to be remembered that most of these camps were in the South and constantly subjected to conditions favorable to the propagation of malarial fevers and the development of grave types.

However, eliminating all consideration of the analogy between these alleged *undiagnosed* cases of typhoid fever and the old Civil War quibble "typhomalarial fever," a consideration of the conditions which I have enumerated will make our work appear highly creditable; especially when we compare our low mortality rate with the best results of private and hospital practice, and more especially with the high rate in the African and other wars. Are not results, after all, the best criterion? Do they not testify that "the young doctors to whom we entrusted scores of valuable lives" fulfilled that trust about as well as their imperial medical majesties—our patronizing critics—could have done? I do not wish to be understood as criticizing the higher officers of the army—every one acquainted with the facts is aware that the obstacles and shortcomings were, in a large measure, not to be forseen; they were the inevitable consequences of organizing and equipping, on short notice, an army so large that the nucleus of trained officers and men, provided by the regular establishment, was but a meager leaven for the vast concourse of volunteers whose experience—when they had any—generally gained in those regimental picnics, called state camps, was entirely inadequate for the serious business of large encampments during actual war. The wonder is that they did so well. The ideal camp provisions that later shaped themselves with a riper experience and ampler opportunity certainly carried with themselves a vindication of the much maligned officers in command of the various departments concerned.

I am writing this for the edification of those doctors who fail to see an inestimable advantage in their opportunities for the extended examination and careful study of their cases, and who seem to have a confused idea of the difference between a modern health resort and a hastily prepared military camp.

ALEXANDER NETTELROTH, M.D.,
Late Acting Assistant Surgeon, U. S. Army.

## Original Papers Used for Advertising.

CHICAGO, March 30, 1901.

*To the Editor:*—I notice in the advertising columns of THE JOURNAL of March 30, an advertisement which states: "Official Figures Reported to the AMERICAN MEDICAL ASSOCIATION by the Chairman of Section on Pediatrics," and then it goes on to give statistics where 6325 cases of diphtheria were treated with the advertiser's antitoxin, with a mortality of only 4.11 per cent., and 859 cases treated with all other American and foreign serums with a mortality of 7.46 per cent. These figures are taken from an article which is furnished to whoever applies to the manufacturer of the antitoxin referred to, and on the inside of the cover it states that "this is presented with the compliments of the author." I wish to ask if it is possible that this article was written as an advertisement for this particular antitoxin? If this is a fact, is it not a prostitution of the position of a chairman of a Section in the AMERICAN MEDICAL ASSOCIATION? Very truly,

ROBERT H. HARVEY, M.D.

**Fatalities of Spinal Cocainization.**—P. Reclus states that spinal cocainization now has a record of six deaths in Europe. Goilav and Jonnesco, of Bucharest, have each reported a fatality. In the former's case 1.5 cg. of cocain was injected and a leg amputated. Two hours later the temperature rose to 38 and 40 C., pulse 125 and death in twenty hours. Juilliard has also reported a death the second day after an operation for hydrocele and inguinal hernia. The autopsy showed a ruptured aneurysm of the Sylvian artery. The vasoconstriction induced by the cocain may have been a factor in the premature rupture of the aneurysm. Even in Tuffier's case, in which a mitral lesion and acute edema of the lung have been assigned as the cause of death, Reclus queries whether the action of the cocain may not have been a factor in the evolution of the edema. Heumberg has also reported the death of a man of 30 in coma fifteen days after an operation under spinal cocainization. The autopsy disclosed hemorrhage in the cauda equina. In Dumont's case a febrile, tuberculous lad in bad general condition died two days after spinal cocainization, and no direct cause for the death could be discovered at the autopsy unless it were the cocain. This total of six deaths to less than 2000 applications of spinal cocainization, is not an encouraging record, he remarked, in the conclusion of his address to the Paris Académie de Médecine, March 19.

# Deaths and Obituaries.

**William R. Hall, M.D.,** major and surgeon, U. S. Army, Jefferson Medical College, Philadelphia, died from osteomyelitis, at Manila, P. I., April 2, after an illness of three weeks, aged 51. He was appointed assistant surgeon in the army in 1875, served in Alaska and the West, was attending surgeon at Washington, D.C., in 1898, chief surgeon at Camp Meade, Pa., and Key West Hospital during the Spanish-American War. He then requested to be assigned to active field duty in the Philippines. In November, 1899, he succeeded Major W. P. Kendall in command of the First reserve hospital in Manila, the largest hospital in the Philippines. During his regime, and largely through his efforts, the hospital was transformed from a huge insanitary and cumbersome institution into one of the best hospitals in the army service. He installed an ice plant, an electric lighting system and a plan of plumbing and drainage.

**Edwin C. Baldwin, M.D.,** University of Maryland, 1844, a member of the American Medical Association, for many years a practitioner of Baltimore, some time vice-president of the Maryland Medical and Chirurgical Faculty, and president of the Northeastern Dispensary, died at Dover, N. J., March 25, aged 87.

**William Fleet Luckett, M.D.,** University of Louisville, Ky., 1860, a surgeon in the confederate service during the Civil War, and thereafter a practitioner in Frederick County, Maryland, and since 1885 in Washington, D. C., died at his home in that city, March 30, after an illness of three months, aged 63.

**John S. Scofield, M.D.,** Jefferson Medical College, Philadelphia, 1850, for many years a practitioner in Hillsboro, Texas, a charter member and several times president of Hill County Medical and Surgical Association, died at his residence near Hillsboro, March 23, after a long illness, aged 74.

**John Dudgeon, M.D., C.M.,** Glasgow, Scotland, 1862, died recently at Pekin, China, where he had lived for more than thirty years. He went to China to take charge of the British Legation Hospital at Pekin, and continued in that position for more than twenty years.

**Benjamin Franklin Wright Hurdman, M.B., C.M.,** McGill University, Montreal, 1882; L.R.C.P., L.R.C.S., Edinburgh, Scotland, 1883, formerly a resident of Ottawa, died at his home in Brandon, Manitoba, from pneumonia, March 30.

**Joseph S. McCord, M.D.,** Chicago Medical College, 1872, who practiced for three years after his graduation and then abandoned medicine for the ministry, died at his home in Iowa City, Iowa, March 30, aged 51.

**Henry C. Martin, M.D.,** University of Louisville, Ky., 1882, an early settler of Wichita, Kan., and for many years a practitioner in Harper, Kan., died at his home in that city, March 26, from pneumonia, aged 70.

**Alfred S. Spearman, M.D.,** Jefferson Medical College, Philadelphia, 1852, who had practiced in Milwaukee for nearly half a century, died in Philadelphia, after a surgical operation, April 1, aged 68.

**Charles E. Coates, M.D.,** University of Pennsylvania, Philadelphia, 1850, died at the residence of his son in Abilene, Texas, March 25, suddenly, aged 73. He practiced for many years in Baltimore.

**John M. Glasgow, M.D.,** University of Iowa, Iowa City, 1874, a pioneer physician of South Omaha, Neb., died March 30, from carcinoma of the liver, at St. Joseph's Hospital, Omaha, aged 65.

**George Hayward, M.D.,** Harvard Medical School, 1843, who practiced in Boston until 1875 and then retired on account of ill-health, died at his home in that city, March 30, aged 81 years.

**Henry A. Roberts, M.D.,** Harvard University Medical School, Boston, 1896, died from tuberculosis, at the home of his father in Wakefield Corner, N. H., January 19, aged 32.

**E. F. Meacham, M.D.,** University of Tennessee, Nashville, 1881, who practiced for several years in Nashville, and then retired, died at his home near Nashville, March 24, aged 49.

**R. E. Johnson, M.D.,** aged 35, assistant physician at the State Hospital for the Insane, at Danville, Pa., was stabbed April 3, by an insane patient and died in a few minutes.

**James H. Calvin, M.D.,** University of Wooster, Cleveland, Ohio, 1881, died at his home in Salem, Ohio, March 29, after a long illness caused by a spinal injury in 1892, aged 51.

**James R. Nelan, M.D.,** University of Pennsylvania, Philadelphia, 1877, died suddenly at his residence in East End, Pittsburg, Pa., from heart disease, March 28, aged 50.

**James Daton Gallagher, M.D.,** died April 1, at his home in Steubenville, Ohio, from tuberculosis contracted while an interne at Lakeside Hospital, Cleveland, aged 27.

**Henry S. Clemens, M.D.,** University of Pennsylvania, Philadelphia, 1861, died at his home in Allentown, Pa., of pneumonia, March 28, aged 62.

**William R. Warner, M.D.,** senior member of the firm of William R. Warner and Company, died April 3, from apoplexy, at his home in Philadelphia.

**Thomas Couturier Robertson, M.D.,** University of South Carolina, Charleston, 1872, died at his home in Columbia, S.C., March 21, from pneumonia.

**John Powell Hunter, M.D.,** University of Pennsylvania, Philadelphia, 1893, died at his home in West Chester, Pa., March 27, aged 35.

**James T. Krepps, M.D.,** Jefferson Medical College, 1875, died at his home in Pittsburg, Pa., from cerebral hemorrhage, April, aged 54.

# Societies.

Medical Association of the State of Alabama, Selma, April 16, 1901.
Medical Society of the State of California, Sacramento, April 16-18, 1901.
South Carolina Medical Association, Florence, April 17, 1901.
Medical Association of Georgia, Augusta, April 17, 1901.
Louisiana State Medical Society, New Orleans, April 18-20, 1901.
Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
Texas State Medical Association, Galveston, April 23, 1901.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.
American Gastro-Enterological Association, Washington, D. C., May 1, 1901.
Kansas Medical Society, Pittsburg, May 2-4, 1901.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

**Pawtucket (R. I.) Medical Association.**—The sixth annual meeting of this body was held March 21, when Dr. George H. Stanley was elected president; Dr. Charles H. French, vice-president; Dr. Charles A. Glancy, secretary; and Dr. Charles A. Stearns, librarian.

**Medical Association of the State of Alabama.**—The annual session of this Association will be held in Selma April 16-19, under the presidency of Dr. Russell McWhorter Cunning-

ham, Ensley. Dr. Samuel G. Gay, Selma, is chairman of the committee of arrangements.

**Silver Bow County (Mont.) Medical Association.**—At the annual meeting of this organization, held in Butte, Dr. John W. Gunn was elected president; Dr. Donald Campbell, vice-president; Dr. John A. Donavan, secretary; Dr. William L. Renick, corresponding secretary, and Dr. Thomas A. Grigg, treasurer, all of Butte.

**Afro-American Medical Association for Harris County (Texas).**—On March 29 the colored physicians of Houston met for the purpose of organizing a medical association, and elected the following officers: Dr. John H. Wilkins, president; Dr. Samuel M. Lyons, secretary, and Dr. Fountain L. McDavid, treasurer.

**North Central Ohio Medical Society.**—The twentieth annual session of the Society was held in Mansfield March 29 and 30, when the following officers were elected: Dr. Arthur M. Duncan, Bucyrus, president; Drs. Josiah S. Hedges, Mansfield, and A. Melville Crane, Marion, vice-presidents; Dr. J. Lilian McBride, Mansfield, secretary, and Dr. S. Edwin Findley, Mansfield, treasurer.

**Tri-State Medical Society of Iowa, Illinois and Missouri.**—The meeting of this Society, in Keokuk, Iowa, April 3 was marked by the official sanction of the movement to pass legislation preventing the marriage of mental and physical degenerates, and that favoring the unsexing of habitual criminals. The following officers were elected: Dr. John C. Murphy, St. Louis, president; Drs. Bayard Holmes, Chicago, and Ellet O. Sisson, Keokuk, Iowa, vice-presidents; Dr. James F. Percy, Galesburg, Ill., treasurer, and Dr. William B. La Force, Ottumwa, Iowa, secretary.

**National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.**—The first annual session of this organization will be held in Washington, D. C. May 14 and 15. Many papers of value from European and American students, and full reports of the progress that is being made in the care and treatment of epileptics in this country are promised for this meeting. The president of the Association is Hon. William P. Letchworth, LL.D., Portage, N. Y.; first vice-president, Dr. Frederick Peterson, New York City; secretary, Dr. Wm. P. Spratling, Craig Colony, Sonyea, N. Y., either of whom, on request, will give further information of the coming meeting.

**American Gastro-Enterological Association.**—The fourth annual meeting of this Association will be held in Washington, D. C. May 1. Among the papers to be read are those by Dr. Max Einhorn, New York, on "Syphilis of the Liver"; Dr. John C. Hemmeter, Baltimore, on "The German Clinics of Today"; Dr. A. L. Benedict, Buffalo, N. Y., on "Etiology of Hepatic Sclerosis"; Dr. Fenton B. Turck, Chicago, on "Experiments in Peristalsis"; Dr. George W. McCaskey, Fort Wayne, Ind., on "Some Clinical Studies in Gastric Secretion," and Dr. Charles D. Spivak, Denver, Colo., "Report of a Case of Cancer of the Cardiac End of the Esophagus at a Distance of two inches from the Incisor Teeth in a Man 5 ft. 3 in. tall."

**Ontario Medical Association.**—The annual meeting of the Ontario Medical Association will be held in Toronto, June 19 and 20, these dates having been specially arranged so as not to conflict with the meeting of the AMERICAN MEDICAL ASSOCIATION and also with that of the American Association of Railway Surgeons. The president, Dr. Angus McKinnon, of Guelph, has appointed Dr. Henry T. Machell, Toronto, chairman of the Committee on Papers and Business, and Dr. Bruce L. Riordan, of the same place, chairman of the Committee of Arrangements. There will be three leading discussions: "Gastric Ulcer," "Empyema" and "Extra-Uterine Pregnancy." The leading part in the discussions will be assigned to members from outside points, such as Hamilton, Ottawa, Kingston, London, etc.

**American Academy of Medicine.**—The twenty-sixth annual meeting of the Academy will be held at the Hotel Aberdeen, St. Paul, Minn., June 1, 1901, and continuing through June 3. The principal features of the meeting will be a symposium on "Institutionalism"; and another on "Reciprocity in Medical Licensure." Papers on both topics have been promised, as well as others on different subjects. The address of the president, Dr. S. D. Risley, Philadelphia, will be delivered on the evening of June 1 and the annual social session is to be held on the evening of June 3. Members of the profession are always welcomed to the open sessions of the Academy. The secretary, Dr. Charles McIntire, Easton, Pa., will send the program, when issued, blank applications for fellowship, etc., on request.

## CHICAGO MEDICAL EXAMINERS' ASSOCIATION.

*Meeting held March 18.*

President, Dr. Denslow Lewis, in the chair.

### Interstitial Nephritis.

DR. EDWARD F. WELLS read a paper on "The Diagnosis and Prognosis of Chronic Interstitial Nephritis." He stated that middle-aged or older men, who are robust, actively and energetically aggressive, and good livers, are peculiarly apt to develop this malady. These are the successful men of affairs, who often take out large lines of life insurance, and who from many points of view are desirable policy-holders. But it is in this class that the largest and most unexpected losses occur. In private practice they are patients who give their physicians much concern and anxiety. They do not bear the severe acute infections well, and are peculiarly liable to chronic interstitial nephritis. This disease and the associated cardiovascular changes have their beginning at the time when the essential chemico-toxic causative agent appears in the blood in such quantity as to irritate, in the peculiar manner necessary to bring about the characteristic lesion in the capillary endothelia, particularly in the kidney. There may be, therefore, a distinct premonitory stage, and there is certainly a very early stage of the disease in which the lesions are very slight, but these stages must elude observation until we shall have at our hands more definite information as to the essential cause of the malady, together with the means of detecting it in the blood, secretions or excretions, or until certain symptoms which are now of doubtful significance shall have been given a more definite value. Every person, middle-aged or over, should have the urine examined twice a year, and in the case of a robust, active man who is a good liver, and who is engrossed in business, such examination should be made three or four times a year. The prognosis of chronic Bright's disease is in every way bad, as to recovery. However, on an average the prognosis for prolonged life is much better than is ordinarily supposed. Even after uremic symptoms have become manifest, if such patients are surrounded with every device at command, their lives may be prolonged for many years. With all this, physicians must not under-estimate the gravity of such cases or lose sight of the fact that in many instances death occurs within a comparatively short period after the recognition of the affection.

DR. JOHN M. DODSON stated that it is an established fact that certain well-recognized diseases of the kidney and of the vascular system are due to toxic agents circulating in the blood, which normally are eliminated in the urine. The question which the examiner is called upon to determine is not how long the individual is likely to live, but whether he is or is not absolutely healthy at the present time. In regard to uric acid disorders, it is difficult to determine the presence or absence of them in an ordinary examination. The examination of a single specimen of urine is of very little value. The most important features are the total quantity and the total solids. These two factors considered jointly furnish a measure of what the kidneys are doing. In the early stages of the disease the vascular system is of especial importance. Slight disturbances of the heart and blood-vessels are likely to occur early in the group of disorders. He thoroughly agreed with Dr. Wells that the view popularly held by the laity and even among physicians, as to the gravity of prognosis, is a mistaken one, especially with proper treatment, provided the patient is tractable and willing to follow directions. It is not a question of drugs, but of dietetic and hygienic management.

DR. JOHN A. ROBISON said there is one point of importance to the examiner and the insurance company, namely, that they obtain from the family physician a detailed history of each patient in whom they suspect kidney disease. He did not think it would be a breach of confidence on the part of the family physician to give this information, if agreeable to the applicant, and it would also be to the interest of the applicant. There is no applicant for insurance who wishes to be turned down. He would rather be told beforehand that he can not pass, so that he may go to some other company whose rules are not so rigid.

Dr. Frank Billings has long had in mind the following division of chronic interstitial nephritis as he sees it clinically: 1. The classical nephritis which is associated with the anatomical changes in the kidney with the cardiovascular fibrosis so common to the disease and often the fibrosis extending to other organs, such as the liver—a chronic hepatitis. 2. Another set of cases in which the kidney has fibroid changes going on in it probably from the beginning, while the cardiovascular changes are but slight, so slight that a cursory examination would not reveal them. 3. Those cases in which the cardiovascular changes are marked and the kidney but little involved at first, as is evidenced by the excretion of solids. Then another class of cases which occurs, especially in women, and which he has not yet definitely classified. They are cases in which the urine is markedly insufficient and deficient in solids of all kinds and almost classical as far as the relation of the solids go to each other, with diminution in urea, phosphates, in chlorids and sulphates, and low specific gravity. There are no cardiovascular changes, but marked nutritional ones, as shown by the flabby musculature and the secondary anemia. These patients have but little endurance for mental or physical work. They go on for a long time until proper hygienic measures are instituted. Sometimes a small amount of albumin is found with hyaline casts, etc. These are the four classes of cases. The first is easily recognized. The second, in which the kidney is doubtless involved without much vascular change, the essayist had referred to as the insufficient kidney—insufficient not only in solids, but in fluids as well. The urine is not increased in amount because the cardiovascular changes are perhaps coincident with the kidney change. Then comes the third class in which there is insufficient urine both in quantity and quality, but without the cardiovascular changes. He is satisfied that these different classes of cases exist, and that there must be some toxin which differs in each; some difference in the quality or quantity of toxin in the one case affecting the whole cardiovascular system or kidney, and in another affecting chiefly the kidney, selective in character. The cardiovascular system finally reaches a condition in which the whole vascular tone is diminished, because of faulty digestion, assimilation, metabolism, or what-not.

One of the signs indicative of a bad prognosis is hemorrhage. If it occurs in chronic interstitial nephritis, such as a real hemorrhage into the retina or elsewhere in the body, in the skin, etc., the patient will die in two years or less time. He is at the beginning of the end. He has observed albuminuric retinitis in patients for as long as five or six years. In one patient it was present for over seven years, but if there be real hemorrhages, subcutaneous, submucous, into the eye, or stomach, or from the bowel, in any amount, then we may expect death within two years.

Dr. Denslow Lewis said that the increase in mortality during middle life in Chicago and other large cities is due, in his judgment, chiefly to a change in the mode of life among business men. The concentration of energy, the accumulation of wealth, the development of club life, with all that implies, produce often errors of digestion and a faulty metabolism which may manifest themselves in kidney lesions. In most cases the advent is insidious and the true condition of affairs can only be recognized by repeated examinations extending over some little time. When it is appreciated that large policies are taken out as a rule by men in middle life, whose actual state of health is not easily determined without very careful investigation, the absurdity of the usual methods is apparent. If physicians are to be consistent, something more is necessary than the determination of the presence or absence of albumin and sugar or the recognition of a few casts.

Dr. Wells, in closing, thought Dr. Robison's plan of inviting the family physician to join in insurance examinations, or to obtain information from him, impractical. The information obtained by the family physician should be inviolate. If he should furnish such information, he would necessarily do so as the advocate of the patient and not as an aid to the insurance company. He believes that the sphygmograph is the most valuable instrument for measuring and recording the tension and elasticity of the artery. It is certainly much more reliable than the finger, and it will show everything that the finger will, and more. In addition to this, it is a matter of record and can be referred to later. He said cases referred to by Dr. Billings as being rapidly fatal are those which every physician has met. The reason, probably, is that in such cases the heart and vascular system is hypertrophied to such a degree that when it once begins to lose the balance which has only been kept up by extraordinary efforts, the downward course is more rapid than where the balance has been kept up by a very much less cardiac effort. His own experience as to hemorrhages is entirely in accord with that of Dr. Billings.

### Methods of Examination for Industrial Insurance.

Dr. W. S. Royce read a paper on this subject. Industrial insurance was defined as an insurance on healthy individuals, covering all ages for 2 years next birthday to 70 years inclusive, in amount ranging from $8 to $1200 per policy, with premiums running five cents a week and multiples thereof up to $1 collected weekly by the company's agents at the applicant's house, with four weeks of grace in the payment, with proceeds of the insurance payable at death or at the end of the endowment period, and with all claims paid immediately upon proof and with paid-up policies, cash dividends and extended insurance.

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## PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Meeting held March 27.*

Dr. F. M. Perkins in the chair.

### Funnel Chest.

Dr. C. A. E. Codman read a paper entitled "The Acquired Form of Funnel Chest, with Report of Cases." The speaker has found that many writers regard this condition as a somewhat rare one. Ebstein believes that the funnel-shaped chest may be due to injuries or disease of the osseous system, or that it may arise from certain changes occuring during fetal life. The condition therefore may be either acquired or congenital. Diseases of the respiratory system, such as pneumonia and bronchitis, may play an important part in its development. The reason it does not occur more frequently in rickets is because in this disease all the bones are equally involved in disturbances of nutrition. The treatment is gradual exercise, and respiratory practice. The speaker detailed a series of cases he had treated.

Dr. Thomas J. Mays spoke of the etiology. As to the mechanism of its production, one should remember that the external chest adapts itself to internal pressure. If there be an adhesion to the sternum, for instance, the chest will be pulled inward.

Dr. J. T. Rugh has seen the funnel-shaped chest result from adenoids, also other cases in which there has been an arching forward of the spine due to traction exerted within the chest.

### Treatment of Arthritis Deformans.

Dr. M. G. Tull reported a "Case of Arthritis Deformans Successfully Treated by the Application of Ice to the Spinal Column." The patient was first admitted to the Orthopedic Hospital for treatment for flat-foot, and at that time was also suffering from deformity of the neck, ankles, fingers and other joints. The flat-foot was partially relieved, but she was discharged as incurable. She was 22 years of age, and stated that when 10 years old she suffered from rheumatism affecting the joints and accompanied by swelling. Some time ago there was so much deformity that braces were applied to the knees and her condition was almost helpless. The treatment consisted in the application of an ice-bag about eighteen inches long down the spinal column, renewed three times during the twenty-four hours. Internally she was given carbonate of guaiacol—5 gr.—three times a day, together with tablets of citrate of lithium. This treatment was continued for some time and a marked improvement in her condition occurred. The anchylosis of the fingers almost disappeared, and she is able to walk and to do general housework.

Dr. J. A. Scott thought the results obtained were good, but

that arthritis deformans and allied conditions should be more accurately studied and properly classified. As to the cause of rheumatism, he pointed to the findings of certain micro-organisms by different investigators.

DR. A. A. ESHNER referred to a case of arthritis deformans which had been presented before the Society several years ago.

DR. RUGH spoke of cases of this disease in which he tried the hot air treatment for a year, but without any improvement whatever.

### Fango-therapy

DR. W. C. HOLLOPETER read a paper on this subject. The speaker had become interested in this from the good results reported from Italy. "Fango" is a kind of mud or clay obtained in certain hot springs in Italy. The material rises to the surface in bubbles of air, which on bursting deposits this soft greyish, or brownish material around the edges of the springs. Chemically it is composed of iron, alkalies, phosphates, carbonic acid gas, etc. The material may be exported in barrels. The material may be laid directly on the body and is easily removed by warm water. As the patient lies upon the bed a hot moist blanket is slipped under him, this being protected by a rubber sheet. Fango is then applied in a layer, and afterward the parts are wrapped up and allowed to remain for half to one hour. The parts are then douched and massage and Swedish movements applied thoroughly. The speaker reported certain cases of arthritis and rheumatism in which this treatment brought about marked amelioration of the symptoms. The treatment is indicated in such conditions as neurasthenia, peripheral neuralgia, etc.

DR. F. SAVARY PEARCE said he had noticed good results from this treatment in cases of neuritis, and it might be of considerable value in patients suffering from uric acid poisoning.

DR. CHARLES W. BURR stated that through the invitation of Dr. Hollopeter he had seen the methods used. He is under the impression that it might be indicated in all those conditions in which a poultice of any kind is indicated. He does not believe that the chemical constituents of fango would have any influence in bringing about the good results. He could see how good results might be obtained by the methods in certain types of neuritis.

### Antipneumococcic Serum.

DR. I. NEWTON SNIVELY read a paper on "The Treatment of Croupous Pneumonia by Antipneumococcic Serum." The speaker had written to the various health departments in five of our largest cities, to find out the total number of deaths from pneumonia and tuberculosis—about 4000 more from the former than from the latter disease. In Philadelphia there were 240 more deaths from pneumonia than from tuberculosis. The speaker reviewed the literature on the subject, from the time of the discovery of the pneumococcus by Fraenkel. In about 75 per cent. of the cases the disease is caused by the pneumococcus. A considerable percentage is due to a mixed infection. In this disease the things to be most dreaded are endocarditis and toxemia. If a mixed infection exists, the condition is more or less of a septic one. The speaker detailed a series of cases of croupous pneumonia in which the antipneumococcic serum was used with marked benefit. The usual dose was 20 c.c. given hypodermically, and repeated every three hours. The serum itself appears to be practically harmless. Dr. J. C. Wilson had given as much as 400 c.c. without causing dangerous symptoms. One of his patients was given 360 c.c. within sixty hours. The good results of the remedy will doubtless be obtained in those cases of pneumonia due to the pneumococcus only, and it should be given early. He had collected a series of 113 cases of pneumonia treated by the serum, with 13 deaths.

DR. J. M. FISHER had recently tried antipneumococcic serum in 2 cases of pneumonia, but he could not say that good results had followed.

DR. EDWIN ROSENTHAL uses both antipneumococcic and antistreptococcic serum in children, with benefit.

DR. W. E. HUGHES referred to some experiments along this line made by Dr. W. S. Carter and himself, years ago. They used human serum from cases of pneumonia. No erises ever took place from the serum so used.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Meeting held March 18.*

DR. Parker Syms, president.

### Primary Carcinoma of the Tip of the Appendix.

DR. J. RIDDLE GOFFE presented this specimen, which had been removed from a girl of 17, who had suffered from a chronic appendicitis. The growth appeared to be primary in the appendix. Specimens from the tumor and adjacent structures were exhibited under the microscope.

### Operative Treatment of Hemorrhoids.

DR. WILLIAM DUFF BULLARD read a paper on this subject. He said that the only methods of treatment worthy of serious consideration are the injection method, the Whitehead operation, the ligature operation and the clamp and cautery operation. He does not approve of the injection treatment, and consequently has had no personal experience with it. If cleverly done, it gives temporary relief, but is the stock in trade of charlatans. From 5 to 30 drops of the solution are injected at a time, the object being to secure contraction of the blood-vessels and adhesions betwen the mucous membrane and the submucosa. Sometimes these injections cause the formation of ulcers or fistulæ, or give rise to diffuse inflammation. They have even been charged with causing pyemia and death, but he has been unable to find a well authenticated case of death from this cause. He thinks the Whitehead operation is a difficult one, and liable to be followed by various mishaps, and that, fortunately, its popularity is waning. In the ligature operation the sphincter is first dilated with the fingers and then the first hemorrhoids to be attacked are those lying on the posterior wall close to the anus. Where the attachment of the hemorrhoid is broad, it should be cut loose from the skin and cubcutaneous tissue in a line parallel to the long axis of the gut. The patient should be kept in bed until the ligatures have come away, or about one week, the bowel being confined for the first two or three days by the use of an opiate. In doing the clamp and cautery operation, the hemorrhoids are successively seized with the clamp, cut off, and the stump thoroughly seared with a hot iron, care being taken to leave a thick eschar lying in the direction of the long axis of the bowel. Three grasps of the clamp are usually sufficient, but more might be made if thought desirable, provided precaution is taken to see that the eschars lie in the long axis of the gut. The patient is usually out of bed in five days. The speaker is disposed to think there is more danger of recurrence after the use of the ligature than with the clamp and cautery.

DR. JAMES P. TUTTLE said that a rather extensive experience with the injection treatment justified him in asserting that a large number of cases of hemorrhoids, if not too advanced, can be radically cured in this way, although the method is certainly not applicable to all varieties. Many cases of hemorrhoids in the early stages are quite amenable to simple local treatment combined with dietetic and hygienic measures. In these cases, if the sphincter is gradually dilated on alternate days, with a bougie, and the patient directed to use cold applications and injections of such astringents as krameria, the patient will be greatly benefited. Occasionally the injection treatment was followed by the formation of a slough, but this may be said against either the ligature or the clamp and cautery operation. In performing the Whitehead operation the error of removing the tissue too deeply is often made.

DR. JOHN F. ERDMANN said that he had used the injection method in several cases, but there is just as much discomfort attendant on its use as if cocain had been injected; hence, it would be better to do a more radical operation under local anesthesia. Nor does he approve of the Whitehead operation. He prefers the ligature to the clamp operation, though he has used both. After either, the patient is only required to remain in bed a sufficient length of time to guard against secondary hemorrhage; hence the period of confinement should be the same after both operations. Secondary hemorrhage sometimes follows either of these. The Whitehead operation is more liable to be followed by stricture than are the other two, but this accident might occur after any one of these operations.

Dr. Goffe thought the Whitehead operation had been too harshly criticized. He has found it advantageous, when doing this operation, to make use of four sustaining sutures.

### Arteriosclerosis.

Dr. Isaac Adler read a paper on this topic. He thinks that while Thoma's theory affords a sufficient explanation for the lesions in the larger and largest vessels, it does not adequately account for the alterations observed in the smallest vessels and in the parenchyma. The arteriosclerosis is not confined to the blood-vessels, but manifests itself in the organs and tissues as a hyperplasia at first, and ultimately as a more or less diffused fibrosis. It is by no means a disease of senility, but makes its appearance at all periods of life, even in infancy. Local and general arteriosclerosis are often associated with certain intoxications, e. g., gout. Hereditary predisposition is probably an important factor in the etiology of arteriosclerosis. The clinical recognition of this pathologic process is not always easy. The accentuation of the second aortic sound is pathognomonic, but its absence proves nothing. Hypertrophy and dilatation of the left ventricle of the heart are only present in a limited number of cases, and increased blood pressure is not a constant symptom. The cardiac type often begins in the smallest branches of the coronary arteries. The renal type apparently commences in the interstitial tissue of the kidney, and in the early stages even the examination of the urine leads to no positive results. At a somewhat later stage it is characterized by a urine of low specific gravity, the occasional presence of a trace of albumin and the constant presence of granular casts. Still another class of cases may be denominated cerebral, and it is possible to distinguish clinically a spinal and a gastro-intestinal type. The cases of spinal type in a general way resemble tabes, but lack the progressiveness of that disease. Under the head of gastro-intestinal he would include arteriosclerosis of the liver and pancreas, many cases of arteriosclerosis showing an advanced stage of this process in the pancreas. The most that the physician can hope to accomplish by therapeutic measures is to arrest the process, and fortunately this is within his power, especially in those cases dependent on some form of intoxication. In every case of arteriosclerosis he would urge the systematic and persistent use of the iodids.

Dr. C. E. Quimby said he believes that anything which affects tissue nutrition may lead to arteriosclerosis by weakening its effective forces. Aortic accentuation means only high arterial tension, and unless it is persistent it is not an indication of arteriosclerosis.

Dr. N. E. Brill referred to a case of arteriosclerosis occurring in a girl of 12. When admitted to the hospital in 1888, there was marked hypertrophy of the heart, the temporal arteries tortuous and the radials hard. The urine contained a trace of albumin and numerous hyaline and granular casts. An infarction had formed in the spleen, and shortly afterward intestinal hemorrhage and death followed. The autopsy revealed an arteriosclerosis of astonishing extent and degree.

Dr. Louis Faugères Bishop remarked that he had found arteriosclerosis exceedingly common and well marked in the negro race.

## Association News.

### Annual Announcement.

The fifty-second annual session (54th year) of the American Medical Association will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, commencing on Tuesday at 11 a. m.

#### DELEGATES.

The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies as are recognized by representation in their respective state societies, from the medical department of the Army, the Navy and the Marine-Hospital Service of the United States, and from oral and dental societies in good standing. *Provided*, however that no state, county or other auxiliary body sending representatives shall receive into its membership any one who may, after 1901, have received the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent requirement.

Each delegate shall hold his appointment for one year, and until another is appointed to succeed him, and shall participate in all the business and the affairs of the Association.

Each state, county and district medical society, entitled to representation, shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number. *Provided*, however, that the number of delegates from any affiliated society shall not exceed the ratio of one in ten of the members of such society. The Army and Navy, and the Marine-Hospital Service of the United States shall be entitled to the same proportionate representation as that of affiliated medical societies.

No individual who shall be under sentence of expulsion or suspension from any state or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by such state or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the American Medical Association.

No one expelled from this Association shall be received at any time thereafter as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed.

#### PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the Association. Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the Association, so long as they shall continue to conform to its regulations, but without the right of voting.

#### MEMBERS BY APPLICATION.

Members by application shall consist of such members of the state, county and district medical societies entitled to representation in this association as shall make application for admission, in writing, to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the annual fee, $5. They shall have their names on the roll, shall have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms.

#### MEMBERS BY INVITATION.

Members by invitation shall consist of distinguished practitioners of foreign countries who may be invited by the officers of Sections or of the Association. They shall hold their connection with this Association until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of delegates, but without the right to vote.

#### RIGHT TO VOTE.

Every member-elect, prior to the permanent organization of the annual meeting, or *before voting on any question*, after the meeting has been organized, *must exhibit his credentials to the proper committee*, and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment.

#### DELEGATE BADGES.

*No one can be registered as a delegate without a certificate as called for by the above clause in the Constitution. Delegates will be furnished with delegate badges on presentation of their credentials.*

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

ADDRESSES IN SECTIONS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall not occupy more than twenty minutes.

LENGTH OF PAPERS.

No paper, the reading of which occupies more than twenty minutes, shall be read before any Section.

ORATIONS.

The following annual orations will be delivered: On Medicine, Dr. N. S. Davis, Jr., Chicago; on Surgery, Dr. John A. Wyeth, New York City; on State Medicine, Dr. Geo. M. Kober, Washington, D. C.

Chairman, Committee of Arrangements, Dr. John F. Fulton, St. Paul, Minn.

PROPOSED AMENDMENTS.

Amendment to the Constitution and By-laws, offered by Dr. D. Benjamin, Camden, N. J.: A committee on statistics shall be annually appointed by the president.

Amendment to the Constitution and By-laws, offered by Drs. Guy Hinsdale, Philadelphia, and L. B. Tuckerman, Cleveland, Ohio: RESOLVED, That Article I, Section VIII, of the By-laws, be changed, so that the Nominating Committee shall include a delegate to be elected by each one of the component Sections.

OFFICERS OF SECTIONS, 1900-1901.

Practice of Medicine—Chairman, J. M. Anders, Philadelphia; Secretary, Wm. Britt Burns, Memphis, Tenn.

Obstetrics and Diseases of Women—Chairman, Henry P. Newman, Chicago; Secretary, C. L. Bonifield, Cincinnati, Ohio.

Surgery and Anatomy—Chairman, A. J. Ochsner, Chicago; Secretary, Martin B. Tinker, Johns Hopkins Hospital, Baltimore, Md.

Hygiene and Sanitary Science—Chairman, Ernest Wende, Buffalo, N. Y.; Secretary, J. N. Hurty, Indianapolis, Ind.

Ophthalmology—Chairman, J. A. Lippincott, Pittsburg, Pa.; Secretary, E. C. Ellett, Memphis, Tenn.

Diseases of Children—Chairman, Samuel W. Kelley, Cleveland, Ohio; Secretary, Wm. E. Darnall, Atlantic City, N. J.

Stomatology—Chairman, R. R. Andrews, Cambridge, Mass.; Secretary, Eugene S. Talbot, Chicago.

Nervous and Mental Diseases—Chairman, H. A. Tomlinson, St. Peter, Minn.; Secretary, F. Savary Pearce, Philadelphia.

Cutaneous Medicine and Surgery—Chairman, W. L. Baum, Chicago; Secretary, R. R. Campbell, Chicago.

Laryngology and Otology—Chairman, John N. Mackenzie, Baltimore; Secretary, George C. Stout, Philadelphia.

Materia Medica, Pharmacy and Therapeutics—Chairman, N. S. Davis, Jr., Chicago; Secretary, J. N. Upshur, Richmond, Va.

Physiology and Dietetics—Chairman, Elmer Lee, New York City; Secretary, R. Harvey Cook, Oxford, Ohio.

Pathology and Bacteriology—Chairman, Ludvig Hektoen, Chicago; Secretary, Frank B. Wynn, Indianapolis, Ind.

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## Medical Societies Entitled to Representation in the American Medical Association

April 1, 1901.

In accordance with the Constitution, this list is prepared as certified by the secretaries of the State and Territorial medical societies.

ALABAMA.

Alabama State M. S., and all County Societies.

ARIZONA.

Arizona M. A.
Maricopa County M. S.
Pima County M. S.
Yarapai County M. S.

ARKANSAS.

Arkansas State M. S.
Baxter County M. S.
Benton County M. S.
Boone County M. S.
Craighead County M. S.
Crawford County M. S.
Eureka Springs, Carroll County, M. S.
Hempstead County M. S.
Hot Springs M. S.
Independence County M. S.
Jefferson County M. S.
Lee County M. S.
Little Rock M. S.
Phillips County M. S.
Polk County M. S.
Sebastian County M. S.
Washington County M. S.
White County M. S.

CALIFORNIA.

M. S. State of California
Alameda County M. S.
California Acad. of Med.
California Northern District M. S.
El Paso M. S.
Fresno County M. S.
Humboldt County M. S.
Kern County M. S.
Lake County M. S.
Los Angeles County M. S.
Marin County M. S.
Medico Chirurg. M. S.
Monterey County M. S.
Orange County M. S.
Pasedena M. A.
Placer County M. S.
Pomona Valley M. S.
Riverside County M. S.
San Diego County M. S.
Sarcamento S. for Med. Improvement.
San Bernandino County M. A.
San Francisco County M. S.
San Francisco Clin. S.
San Joaquin County M. S.
San Joaquin Valley M. S.
San Louis Obispo and Northern Santa Barbara County M. A.
Santa Barbara County M. S.
Santa Clara County M. S.
Santa Cruz County M. S.
Society of German Physicians of San Francisco
Sonoma County M. S.
Southern California M. S.
Tulare County M. S.
Ventura County M. S.
Yolo County M. S.
Yuba and Sutter Counties M.S.

COLORADO.

Colorado State M. S.
Alumni Ass'n of the Gross College.
Denver Clin. S.
Denver Clin. and Path. S.
Denver and Arapahoe M. S.
Denver Med. Col. Alumni Association.
El Paso County M. S.
Lake County M. S.
Las Animas County M. S.
Otero County M. S.
Pueblo County M. S.
Weld County M. S.

CONNECTICUT.

Connecticut State M. S.
Bridgeport M. A.
Danbury M. A.
Fairfield County M. A.
Hartford County M. A.
Hartford M. S.
Litchfield County M. A.
Middlesex County M. A.
New Haven M. A.
New Haven County M. A.
New London County M. A.
Norwich M. A.
Stamford M. S.
Tolland County M. A.
Waterbury M. A.
Windham County M. A.

DISTRICT OF COLUMBIA

Med. Ass'n of D. C.

DELAWARE.

Delaware State M. S.

FLORIDA.

Florida State M. S.
Alachua County M. S.
Duval County M. S.
Hillsborough M. S.

GEORGIA.

Georgia State M. A.
Atlanta Soc. of Med.
Macon M. S.

IDAHO.

Idaho State M. S.

ILLINOIS.

Illinois State M. S.
Adams County M. S.
Æsculapian S. of Wabash Valley.
Alton M. S.
Aurora M. S.
Belleville M. S.
Brainard Dist. M. S.
Bond County M. S.
Bureau County M. S.
Cairo M. S.
Capital Dist. M. S.
Central Dist. M. S.
Champaign County M. S.
Chicago Acad. of Med.
Chicago Gynecological S.
Chicago Laryngological Soc.
Chicago M. S.
Chicago Medico-Legal S.
Chicago Neurological S.
Chicago Ophthal. and Otol. S.
Chicago Orthopedic S.
Chicago Pathological S.
Chicago Pediatric Society.
Chicago Physicians' Club.
Chicago Soc. Internal Med.
Chicago Soc. Med. Examiners.
Chicago Therapeutic Society.
Clay County M. S.
Clinton County M. S.
County Hosp. Alumni S.
Crawford County M. S.
Jo. Daviess Co. M. S.
Decatur M. S.
Dewitt County M. S.
Douglas County M. S.
E. St. Louis M. S.
Egyptian M. S.
Fox River Valley M. S.
Fulton County M. S.
Galva Dist. M. S.
Galesburg M. S.
Gallatin County M. S.
Hancock County M. S.
Hardin County M. S.
Iowa and Ill. Cent. Dist. M. S.
Jacksonville Med. Club.
Jefferson Co. M. S.
Jersey County M. S.
Kankakee County M. S.
Lake County M. S.
La Salle County M. S.
Lawrence County M. S.
Macoupin County M. S.
McDonough County M. S.
McHenry Co. M. S.
McLean County M. S.
Med. and Sur. S. of Western Ill
Military Tract M. A.
Monroe County M. S.
Montgomery Co. M. S.
Morgan County M. S.
Moultrie County M. S.
North Central Illinois M. S.
North Chicago M. S.
Ogle County M. S.
Ottawa City M. S.
Peoria M. S.
Perry County M. S.
Pike Co. M. S.
Pullman Dist. M. S.
Quincy Med. and Lib. Ass'n.
Rock River Valley M. A.

Saline County M. S.
Sangamon County M. S.
Scandanavian M. S. Chicago.
Shelby County M. S.
Southeastern Illinois M. S.
Southern Illinois M. S.
Springfield Med. Club.
St. Clair County M. S.
Stephenson County M. S.
Tri-County M. S.
Twin City Clin. Ass'n of Champaign and Urbana.
Urbana S. of P. & S.
Vermillion County M. S.
Wabash County M. S.
Warren County M. S.
Western M. and S. S.
White County M. S.
Whiteside County M. S.
Williamson County M. S.
Winnebago County M. S.
Woodford County M. S.
Will County M. S.

INDIANA.

Indiana State M. S.
Allen County M. S.
Bartholomew County M. S.
Benton County M. S.
Blackford County M. S.
Boone County M. S.
Carroll County M. S
Cass County M. S.
Clark County M. S.
Clay County M. S.
Daviess County M. S.
Dearborn County M. S.
Decatur County M. S.
Dekalb County M. S.
Delaware County M. S.
Dubois County M. S.
Elkhart County M. S.
Fayette County M. S.
Floyd County M. S.
Fountain County M. S.
Franklin County M. S.
Gibson County M. S.
Grant County M. S.
Greene County M. S.
Hamilton County M. S.
Hancock County M. S.
Hendricks County M. S.
Henry County M. S.
Howard County M. S.
Huntington County M. S.
Jackson County M. S.
Jay County M. S.
Jefferson County M. S.
Jennings County M. S.
Johnson County M. S.
Knox County M. S.
Kosciusko County M. S.
Lagrange County M. S.
Lake County M. S.
Laporte County M. S.
Lawrence County M. S.
Madison County M. S.
Marion County M. S.
Marshall County M. S.
Martin County M. S.
Miami County M. S.
Monroe County M. S.
Montgomery County M. S.
Morgan County M. S.
Newton County M. S.
Noble County M. S.
Orange County M. S.
Owen County M. S.
Parke County M. S.
Perry County M. S.
Pike County M. S.
Porter County M. S.
Posey County M. S.
Putnam County M. S.
Rush County M. S.
Randolph County M. S.
Ripley County M. S.
Shelby County M. S.
St. Joseph County M. S.
Steuben County M. S.
Sullivan County M. S.
Switzerland County M. S.
Tippecanoe County M. S.
Tipton County M. S.
Vanderburg County M. S.
Vigo County M. S.
Wabash County M. S.
Warrick County M. S.
Washington County M. S.
Wayne County M. J.
Wells County M. S.
White County M. S.
Whitley County M. S.

INDIAN TERRITORY.

Territorial Ass'n.

IOWA.

Iowa State M. S.
Austin Flint M. S.
Blackhawk County M. S.
Boone Valley M. S.
Botna Valley M. S.
Buchanan County M. S.
Buena Vista Co. M. S.
Cedar Rapids M. S.
Cedar Valley M. S.
Central District M. S.
Cherokee County M. S.
Clark County M. S.
Clinton County M. S.
Council Bluffs M. S.
Dallas County M. S.
Decatur Co. M. S.
Delaware County M. S.
Des Moines County M. S.
Des Moines Valley M. S
Dubuque M. S.
Eastern Iowa M. S.
Fayette County M. S.
Fort Dodge M. S.
Fremont County M. S.
Gate City M. S.
Guthrie District M. S.
Hummiston & Shenandoah M.S
Iowa Central M. S.
Iowa Union M. S.
Iowa and Illinois M. S.
Jasper County M. S.
Jefferson County M. S.
Johnson County M. S.
Julien M. S.
Julien Med. & Surg. Ass'n.
Keokuk County M. S.
Keokuk M. S.
Lyon County M. S.
Marion County M. S.
Missouri Valley M. S.
Mitchell County M. S.
Muscatine M. S.
North Iowa M. S.
Northwestern M. A.
Plymouth County M. S.
Pocahontas District M. S.
Polk County M. S.
Ringgold County M. S.
Scott County M. S.
Sioux City M. S.
Sioux Valley M. S.
Southeastern Iowa M. S.
Southwestern Iowa M. S.
Spirit Lake Med. Association.
Story County M. S.
Upper Des Moines M. A.
Wapello County M. S.
Wapsie Valley Med. Ass'n
Warren County M. S.
Washington County M. S.
Winnebago County M. S.
Worth County M. S.

KANSAS.

Kansas State M. S.
Bourbon County M. S.
Golden Belt M. S.
Leavenworth County M. S.
Lyon Co. M. S.
South-East Kansas M. S.
N. W. Kansas M. S.
Shawnee Co. M. S.
Wyandotte M. S.

KENTUCKY.

Kentucky State M. S.
Anderson County M. S.
Bourbon Co. M. S.
Boyle County M. S.
Brashear M. S.
Breckenridge Co. M. S.
Carlisle County M. S.
Carter County M. S.
Central Kentucky M. S.
Clark County M. S.
Fulton County M. S.
Garrard County M. S.
Hardin County M. S.
Henderson County M. S.
Kentucky Valley County M. S.
Lexington and Fayette Counties M. S.
Lincoln County M. S.
Louisville Clinical Society.
Louisville M. S.
Marion County M. S.
Mason County M. S.
Midland District M. S.
Muhlenberg County M. S.
Muldraugh's Hill M. S.
Nelson County M. S.
Northeast Kentucky M. S.
Owensboro M. S.
Paducah M. and S. S.
Pulaski County M. S.
Scott County M. S.
Southeast Kentucky M. S.
Southwestern District M. S.
Union County M. S.

LOUISIANA.

Louisiana State M. S.
Attakapas M. S.
Avoyelles M. S.
Baton Rouge M. S.
Morehouse M. S.
N. Louisiana M. S.
Ouachitta M. S.
Orleans Parish M. S.
Shreveport M. S.
Tensas M. S.
Warren Stone M. S.

MAINE.

Maine State M. S.

MARYLAND.

Maryland Med. and Chir. Faculty (the State Society).
Baltimore Med. & Surg. A.
Clinical Society of Maryland.
Washington County M. S.

MASSACHUSETTS.

Massachusetts M. S.
Barnstable District M. S.
Berkshire District M. S.
Bristol North District M. S
Bristol South District M. S.
Essex North District M. S.
Essex South District M. S.
Franklin District M. S.
Hampshire District M. S.
Hampden District M. S.
Middlesex South District M. S.
Middlesex East District M. S.
Middlesex North District M. S.
Norfolk District M. S.
Norfolk South District M. S.
Plymouth District M. S.
Suffolk District M. S.
Worcester District M. S.
Worcester North District M. S.

MICHIGAN.

Michigan State M. S.
Bay County M. S.
Berrien County M. S.
Calhoun County M. S.
Cheboygan County M. S.
Detroit Acad. of Med.
Detroit Gynecological Society.
Detroit M. S.
Grand Rapids Acad. of Med.
Grand River Valley M. S
Kalamazoo Acad. of Med.
Marshall Acad. of Med.
Northeastern District M. S.
Pontiac M. S.
Upper Peninsula M. S.
Washtenaw County M. S.
Wayne County M. S.

MINNESOTA.

Albert Lea District M. S.
Cannon Valley M. S.
Crow River Valley M. S.
Fillmore County M. S.
Minneapolis Med. Club.
Minnesota Acad. of Med.
Minnesota Valley Med. Ass'n.
Hennepin County M. S.
Interurban M. S.
Olmstead County M. S.
Ramsey County M. S.
Southern Minnesota M. S.
South-Western Minn. M. S.
Steele Co. M. S.
St. Louis County M. S.
Wabasha County M. S.
Winona County M. S.

MISSISSIPPI.

Mississippi State M. S.

MISSOURI.

Missouri M. A.
Atchison County M. S.
Andrain Co. M. S.
Boone County M. S.
Buchanan County M. S.
Callaway County M. S.
Carroll County M. S.
Cedar County M. S.
Central Missouri District M. S.
Chariton County M. S.
Clay County M. S.
Dade County M. S.
Franklin County M. S.
Grand River District M. S.
Harrison County M. S.
Henry County M. S.
Hodgin M. A.
Howard County M. S.
Jackson County M. S.
Jasper County M. S.
John McDowell M. A.
Joplin Academy of Medicine.
Kansas City Acad. of Med.
Kansas City District M. S.
Lafayette County M. S.
Linton District M. S.
Lynn County M. A.
Macon County M. S.
Med. Society of the City Hospt Alumni.
Missouri alley M. S.
Montgomery County M. S
North Missouri District M. S
Northeast Mo. Dist. M. S.
Northwest Missouri M. S
Pettis County M. S.
Pike County M. S.
Putnum County M. S.
Rolla District M. S.
Saline County M. S.
Shelby County M. S.
Southeast Mo. Dist. M. A.
Southwest Mo. Dist. M. S.
Springfield M. S.
St. Louis Acad. of M. & S. Sci.
St. Louis M. S. of Missouri.
St. Charles County M. S.
St. Joseph M. S.

MONTANA.
Montana M. S.
Park County M. S.
Silver Bow County M. S.

NEBRASKA.
Nebraska State M. S.
Elkhorn Valley M. S.
Lincoln M. S.
Loup Valley District M. S.
Omaha M. S.
Otoe County M. S.
Southeastern Neb. M. S.
York County M. S.

NEVADA.
Nevada State M. S.

NEW HAMPSHIRE.
New Hampshire State M. S.
Carroll District M. S.
Central District M. S.
Cheshire County M. S.
Conn. River Valley M. S.
Manchester M. A.
Nashua M. A.
Rockingham District M. S.
Strafford District M. S.
White Mountain M. S.
White River District M. S.

NEW JERSEY.
New Jersey State M. S.
Atlantic County M. S.
Bergen County M. S.
Burlington County M. S.
Camden County M. S.
Cape May County M. S.
Cumberland County M. S.
Essex County M. S.
Gloucester County M. S.
Hudson County M. S.
Hunterdon County M. S.
Mercer County M. S.
Middlesex County M. S.
Monmouth County M. S.
Morris County M. S.
Passaic County M. S.
Salem County M. S.
Somerset County M. S.
Sussex County M. S.
Union County M. S.
Warren County M. S.

NEW MEXICO.
New Mexico M. S.
Bernalillo County M. S.

NEW YORK.
New York State M. A.
Chautauqua County M. A.
Cortland County M. A.
Erie County M. A.
Genesee County M. A.
Kings County M. A.
New York County M. A.
Oneida County M. A.
Orange County M. A.
Rensselaer County M. A.
Saratoga County M. A.
Sullivan County M. A.
Warren County M. A.
Westchester County M. A.
Wyoming County M. A.

NORTH CAROLINA.
North Carolina State M. S.
Buncombe County M. S.
Charlotte M. S.
Raleigh Acad. of Med.
Rowan County M. S.

NORTH DAKOTA.
North Dakota State M. S.

OHIO.
Ohio State M. S.
Adams County M. S.
Allen County M. S.
Ashland County M. S.
Ashtabula County M. S.
Belmont County M. S.
Brown County M. S.
Butler County M. S.
Central Ohio M. S.
Champaign County M. S.
Cincinnati Acad. of Med.
Clarke County M. S.
Clermont County M. S.
Cleveland M. S.
Clinton County M. S.
Columbus Acad. of Med.
Cuyahoga County M. S.
Darke County M. S.
Defiance County M. S.
Delaware County M. S.
Eastern Ohio M. S.
East Liverpool M. S.
Erie County M. S.
Gallia County M. S.
Greene County M. S.
Hancock County M. S.
Hempstead Mem. Acad.
Highland County M. S.
Holmes County M. S.
Jackson County M. S.
Jefferson County M. S.
Lorain County M. S.
Lucas County M. S.
Mahoning County M. S.
Mansfield Acad. of Med.
Marion County M. S.
Meiggs County M. S.
Miami County M. S.
Miami Valley M. S.
Montgomery County M. S.
Morrow County M. S.
Muskingum County M. S.
North Central Ohio M. S.
Northwestern Ohio M. A.
Perry County M. S.
Pike County M. S.
Portage County M. S.
Ross County M. S.
Shelby County M. S.
Springfield Acad. of Med.
Stark County M. S.
Stillwater M. A.
Toledo M. A.
Tuscarawas County M. S.
Union M. A.
Union M. A. of N. E. Ohio.
Warren County M. S.
Washington County M. S.
Wayne County M. S.

OKLAHOMA.
Oklahoma Territorial M. S.

OREGON.
Oregon State M. S.
Portland M. S.
South Oregon M. S.

PENNSYLVANIA.
Pennsylvania State M. S.
Allegheny County M. S.
Armstrong County M. S.
Beaver County M. S.
Bedford County M. S.
Berks County M. S.
Blair County M. S.
Bradford County M. S.
Bucks County M. S.
Butler County M. S.
Cambria County M. S.
Carbon County M. S.
Centre County M. S.
Chester County M. S.
Clarion County M. S.
Clearfield County M. S.
Clinton County M. S.
Columbia County M. S.
Crawford County M. S.
Cumberland County M. S.
Dauphin County M. S.
Delaware County M. S.
Elk County M. S.
Erie County M. S.
Fayette County M. S.
Franklin County M. S.
Greene County M. S.
Huntington County M. S.
Indiana County M. S.
Jefferson County M. S.
Juniata County M. S.
Lackawanna County M. S.
Lancaster County M. S.
Lawrence County M. S.
Lebanon County M. S.
Lehigh County M. S.
Luzerne County M. S.
Lycoming County M. S.
McKean County M. S.
Mercer County M. S.
Mifflin County M. S.
Montour County M. S.
Montgomery County M. S.
Northampton County M. S.
Perry County M. S.
Potter County M. S.
Philadelphia County M. S.
Schuylkill County M. S.
Somerset County M. S.
Susquehanna County M. S.
Tioga County M. S.
Venango County M. S.
Warren County M. S.
Washington County M. S.
Westmoreland County M. S.
York County M. S.

RHODE ISLAND.
Rhode Island State M. S.

SOUTH CAROLINA.
South Carolina State M. S.
Columbia M. S.
Anderson County M. S.
Greenville County M. S.
Laurens County M. S.
Kershaw County M. A.
Med. Soc. of S. Carolina.
Sumter County M. S.
Union County M. S.

SOUTH DAKOTA.
South Dakota State M. S.
Aberdeen District M. S.
Minnehaha M. S.
Sioux Valley M. S.

TENNESSEE.
Tennessee State M. S.
Bradley County M. S.
Bristol M. S.
Chattanooga M. S.
Dyer County M. S.
Gibson County M. S.
Johnson City M. S.
Knox County M. S.
Madison County M. S.
Marshall County M. S.
Memphis M. S.
Middle Tennessee M. S.
Montgomery County M. S.
Nashville Academy of Med.
Rutherford County M. S.
Sumner County M. S.
Tipton County M. S.
West Tenn. M. & S. Ass'n.

TEXAS.
Austin Academy of Medicine.
Austin District M. S.
Brazos Valley M. A.
Brenham M. S.
Bell County P. & S. Ass'n.
Briggs M. S., Ellis County.
Central Texas M. A.
Corsicana District M. A.
Dallas Med. & Surg. Society.
E. Texas Medico-Chirurgical S.
El Paso County M. S.
Hill County M. & S. Ass'n.
Houston District M. A.
Johnson County M. S.
Kaufman County M. S.
North Texas M. A.
Pan Handle M. A.
Practitioners' Soc. of Dallas.
South Texas M. A.
Waco M. A.
Western Texas M. A.

UTAH.
Utah State M. S.
Salt Lake County M. S.
Utah County M. S.
Salt Lake Acad. Med.
Weber County M. S.
Weber County Acad. of Med.

VERMONT.
Vermont State M. S.

VIRGINIA.
Virginia State M. S.

WASHINGTON.
Washington State M. S.
Kings County M. S.
Pierce County M. S.
Spokane County M. S.
Thurston County M. S.
Whitman County M. S.
Yakima County M. S.

WEST VIRGINIA.
West Virginia State M. S.
Charleston M. and S.
Harrison County M. S.
Huntington M. A.
McDowell County M. S.
Ohio County M. S

WISCONSIN.
Wisconsin State M. S.
Ashland County M. S.
Barron County M. S.
Brainerd M. S.
Brown County M. S.
Central Wisconsin M. S.
Douglas County M. S.
Fox River Valley M. S.
Inter-County M. S.
La Crosse County M. S.
Manitowoc M. S.
Milwaukee M. S.
Northwestern Wis. M. A.
Sheboygan County M. S.
Waukesha County M. S.
Vernon County M. S.

WYOMING.
Wyoming State M. S.
Medical Ass'n of Hawaii.

Any society omitted should send to the office of the Secretary notice to that effect *accompanied by a certificate from the secretary of the State society that said society is so recognized in accordance with the above quoted law relating to representation.*

Secretaries of affiliated societies are earnestly requested to forward lists of their delegates to the AMERICAN MEDICAL ASSOCIATION as early as possible after appointment.

In order that the Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the secretaries are, by *special resolution*, requested to send to him, annually a corrected list of the membership of their respective societies.

GEORGE H. SIMMONS,
Secretary American Medical Association.
61 Market Street, Chicago.

### To Commemorate Invention of Ophthalmoscope.

At the last meeting of the ophthalmic Section of the American Medical Association, the undersigned were appointed a committee to arrange exercises, etc., at the coming meeting in St. Paul, to commemorate the fiftieth anniversary of the invention of the ophthalmoscope. The Committee is preparing an historical exhibit of ophthalmoscopes and is endeavoring to secure such older models as they can borrow. Due credit will be given.—Harry Friedenwald, M.D., 1029 Madison avenue, Baltimore; Casey A. Wood, M.D., Chicago.

### New Members.

New members for the month of March, 1901:

ALABAMA.
Davie, Judson, Cowikee P. O., Barbour Co.

CALIFORNIA.
Payne, Redmond Wellington, San Francisco.
Libby, Arthur A., Pasadena.
Roberts, Wm. Humes, Pasadena.

CONNECTICUT.
Roberts, Edw. K., New Haven.

DELAWARE.
Stubbs, Ralph P., Wilmington.

DISTRICT OF COLUMBIA.
Roman, F. O., Washington.

ILLINOIS.
Wells, Clarence A., Quincy.
Johnston, J. Alba, Byron.
Byrne, John H., Chicago.
Coakley, Walter Byron, Chicago.
Mix, Charles Lonis, Chicago.
Saurenhaus, Ernest, Chicago.
Young, Alben, Chicago.
Peterson, Herman D., Chicago.
Lord, Frank H., Piano.
Beard, Leslie A., Polo.
Shreck, J. A., Cameron.
Crocker, Fletcher L., Weston.
Gillett, Philip F., Stillman Valley.
Maley, Wm. H., Galesburg.
Stephens, Robt. F., Toledo.
Johnson, Chas. B., Champaign.
Massie, John G., Belleville.
Finghan, J. H., Lebanon.
Shaw, Viola E., Pekin.
Bridges, W. T., Stonington.

INDIANA.
McKee, Wm. Edwin, Goldsmith.

IOWA.
Davis, S. K., Libertyville.
York, N. Albert, Lisbon.
Daly, Jas. Jos., Charles City.
Grossman, D. S., Minburn.

KANSAS.
Allen, Arthur E., Utica.
Latta, John Milton, Millerton.
Welch, Wm. E., Pittsburg.

KENTUCKY.
Crouch, Hugh T., Cunningham.

LOUISIANA.
Lancaster, Nathan A., King, Madison Parish.
Owen, Whyte Glendower, White Castle.
Forman, Alfred Hennen, New Orleans.

MASSACHUSETTS.
Murphy, Jos. B., Taunton.
Thomas, Caroline L., Fall River.
Prior, Chas. E., Malden.
Trueman, H. S., Somerville.

MARYLAND.
Dorsey, Renben M., Baltimore.
Russell, Wm. Wood, Baltimore.

MICHIGAN.
Stewart, Oliver, Port Huron.
Brown, G. Van Amber, McBain.
Hutchings, Willard Hunter, Ann Arbor.
Patterson, P. D., Charlotte.

MINNESOTA.
Wright, C. O., Luverne.
Steel, Edwin D., Mankato.
Williams, Cornelius, St. Paul.
Johnson, J. Palmer, Owatonna.
Hubert, R. I., St. Cloud.
Peterson, John Richard, Renville.
Heath, Albert C., St. Paul.
Dennis, Warren A., St. Paul.
Clark, Thos. C., Stillwater.
Gilfillan, Jas. S., St. Paul.
Milligan, W. F., Wabasha.
Frazer, Wm. A., Lyle.
Markoe, Jas. C., St. Paul.
Cross, J. G., Rochester.
Merrill, B. J., Stillwater.

MISSOURI.
Hempelmann, Louis H., St. Louis.
Banks, H. L., Hannibal.
Vessells, F. M., Brewer.
Bridges, J. B., Downing.
Rice, F. D., Lucerne.
Clark, Jos. Johnson, St. Louis.

NEW HAMPSHIRE.
Nute, W. H., Exeter.

NEW YORK.
Hirons, Gardner, New York City.
Hazeltine, Laban, Jamestown.
Greeley, Jane Lincoln, Jamestown.
Stranahan, J. Orley, Rome.
Edwards, John, Gloversville.
Earl, Wm. Petry, Little Falls.
Douglass, J. W., Boonville.
Munger, Chas., Knoxboro.
Douglass, Edgar H., Little Falls.
Steers, Wm. H., Brooklyn.
Disbrow, Robt. N., New York City.
Burgheim, Leo., New York City.
Burgess, Maynard G., Herkimer.
Clark, Jos., New York City.
Harding, Wm. L., New York City.
Leuchs, John, New York City.

NORTH DAKOTA.
Furness, Gilbert Bird, Mandan.
Critchfield, H. H., Hunter.

OHIO.
Hall, Emerson V., Convoy.
Glass, Geo. F., Cleveland.
Wirebaugh, I. V., Prairie Depot.

OKLAHOMA.
Buxton, L. Haynes, Oklahoma City.

PENNSYLVANIA.
Roe, J. I., Wilkesbarre.
Thompson, Mary Irvin, Altoona.
Matlack, Granville T., Wilkesbarre.
Harrison, Wm. H., Easton.
Sprowls, Jesse Addison, Clarksville.
Matthews, W. Edgar, Johnstown.

SOUTH CAROLINA.
Ferguson, Richard, Columbia.
Whaley, E. Mikell, Columbia.

SOUTH DAKOTA.
Carleton, J. W., Sisseton.

TENNESSEE.
Raymond, Frank S., Memphis.
Capps, Claudius Mead, Knoxville.
Fort, Rufus E., Nashville.

TEXAS.
Frick, Wm. G., Elk.
Rush, Richard Henry, DeLean.
Irby, Alfred, Weatherford.
Kennedy, John Wesley, Lewisville.
Crook, Lee F., Cresson.

WEST VIRGINIA.
Caldwell, Jos. R., West Liberty.

VIRGINIA.
Corss, Jas. Kennedy, Newport News.

WISCONSIN.
Shearer, Robt. D., Milwaukee.
Fox, Geo. Wm., Milwaukee.
Kleinhans, Francis A., Milwaukee.

# Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### Antisepsis of the Nasopharynx.

The *Presse Médicale*, quoted in *N. Y. Med. Jour.* for April 6, attributes the following prescriptions to M. Malherbe. They are to be used as anterior douches or by atomization:

Resolvent and antiseptic:

| | | | |
|---|---|---|---|
| R. | Sodium salicylate | 22½ gr. | 86 |
| | Distilled water | 4500 m. | 292 |

M.

Resolvent, antiseptic, and astringent:

| | | | |
|---|---|---|---|
| R. | Zinc sulphate | 4½ gr. | 29 |
| | Distilled water | 4500 m. | 292 |

M.

When there is much pain:

| | | | |
|---|---|---|---|
| R. | Morphin. hydrochlorid | ¾ gr. | 048 |
| | Distilled water | 1250 m. | 81 |

M.

At the same time inhalations are prescribed:

| | | | |
|---|---|---|---|
| R. | Compound tincture of benzoin | 1350 gr. | 87 75 |
| | Chloroform | 25 drops | 1 62 |

M. A coffeespoonful in a pint of boiling water.

### Treatment of Uremic Coma.

A subscriber writes asking us for a "good plan of treatment in uremic coma."

Ans.—As this condition is due to poisonous substance in the blood the important point to observe in the treatment is to promote elimination. And as the kidneys are crippled we must look to increased action of the bowels and skin as the two other great emunctories through which rapid elimination can be carried on. Consequently diaphoresis and catharsis must be increased. The action of the skin must be increased by means of the hot pack, hot air or vapor baths. In general practice the hot pack is most suitable and most conveniently employed. Place the patient on a couch or bed protected by a rubber sheet after having removed all the clothing. Place blankets in hot water, 110 F., wring them out and wrap one around each limb and one around the body, and over these place a dry blanket and allow the patient to remain at least one hour. During this procedure an ice cap should be placed to the head to prevent cerebral congestion. Injection hypodermically of the normal salt solution into the cellular tissue is of great aid to elimination, as well as to the overworked heart. A pint or even two pints may be slowly injected at one time, and if it is not convenient to administer it hypodermically, large amounts can be slowly injected per rectum.

To meet the second indication, namely elimination by the bowels, free catharsis is most rapidly produced by the use of croton oil; this can be given in one or two minim doses either dropped upon the base of the tongue or administered in a teaspoonful of olive oil. Elaterium in ¼-grain doses administered, as Hirst states, in a little butter with which it is well mixed; or elaterin, its active principle, may be substituted, administered in 1/15 to 1/10 grain doses every hour for three hours will usually produce efficient purging necessary in these cases. The number of doses should not necessarily be limited to three, but should be administered until the desired results are obtained. To give it at longer intervals and in too small doses is of no use, as it does not produce the catharsis desired. H. B. Favill, of Chicago, states there may be physicians who object to such large doses on account of its depressing and exhausting effects, yet a patient who is weakened to the point of being harmed is beyond help anyway. Experience has demonstrated that its value is not mechanical alone but rapidly relieves the toxic condition of the blood as well as the symptoms which the toxicity produces as shown upon the heart and respiration.

Pilocarpin, to produce diaphoresis, is an inappropriate remedy on account of its marked depressant effects upon the

heart. Its use in puerperal eclampsia has no doubt increased the mortality; especially is it non-indicated in the uremia of Bright's disease, for under such conditions the heart muscle is necessarily more or less affected and its cavities dilated.

### For the Heart and Circulation.

Where there is such work thrown upon the heart by congestion of the pulmonary circuit, or when the heart begins to succumb to the poisonous effect of the toxins it can be relieved by venesection—which can not as often be resorted to as it should be under such circumstances—and phlebotomy should be done as a preventive measure before marked pulmonary edema comes on. It is frequently the case that nitroglycerin will be a good substitute for venesection, as the principal action of the nitrites is to dilate the peripheral blood vessels, and in that way they greatly reduce the amount of work thrown upon the heart. Too many practitioners have an erroneous idea of the physiological action of the nitrites. They administer them for the purpose of stimulating the heart, at the same time not knowing in what way it stimulates the heart, the action of which is indirect by relieving its load. Alternating with the nitroglycerin, digitalis may be given, if the pulse is feeble, in moderate sized doses providing there is no fatty degeneration of that organ present. The most frequent mistake in the administration of digitalis is in giving it in too large doses. Caffein in uremia makes an excellent heart tonic as well as a diuretic. It can be given hypodermically.

### Treatment of Diphtheria.

J. Weichselbaum, in *Merck's Archives*, recommends the use of hydrargyri biniodidum in treatment of diphtheria. He begins by administering a mercurial purgative. He then gives the following preparation internally:

| | | |
|---|---|---|
| R. | Hydrarg. iodidi rubri ..... gr. i | 06 |
| | Potassii iodidi ..... gr. iv | 25 |
| | Aquæ ..... ʒi | 4 |

Dissolve and add:

| | | |
|---|---|---|
| | Syr. acidi hydrioid q. s. ad ..... ʒiv | 128 |

M. Sig.: Five to ten drops on the tongue every twenty minutes, day and night.

For use in the atomizer as a local application to the fauces:

| | | |
|---|---|---|
| R. | Hydrogeni peroxidi ..... ʒi | 32 |
| | Aquæ ..... ʒiii | 96 |

M. Sig.: As a spray locally every hour or two. If the patient is old enough let him gargle every hour during day and night.

And internally:

| | | |
|---|---|---|
| R. | Quininæ sulphatis ..... gr. xlviii | 3 20 |
| | Ext. glycyrrhizæ flu. ..... ʒi | 32 |
| | Aq. cinnamomi q. s. ad ..... ʒiv | 128 |

M. Sig.: Shake and take a teaspoonful every two hours during day and night.

### Treatment of Vaginitis.

| | | |
|---|---|---|
| R. | Resorcin ..... gr. lxxx | 5 |
| | Acidi salicylici ..... gr. viii | 5 |
| | Beta naphthol ..... gr. i | 06 |
| | Aquæ q. s. ad ..... ʒviii | 256 |

M. Sig.: Add one tablespoonful to a quart of warm water and use as a douche.

After the administration of the douche insert a tampon saturated with the following solution:

| | | |
|---|---|---|
| R. | Salol ..... gr. xlv-ʒii | 3-8 |
| | Glycerini (neutral) ..... ʒviii | 256 |

And insert a vaginal suppository containing the following:

| | | |
|---|---|---|
| R. | Acetanilidi ..... gr. xv | 1 |
| | Acidi tannici ..... gr. viii | 5 |
| | Ext. hyoscyami ..... gr. iv | 25 |
| | Sacch. lactis ..... ʒvi | 24 |

M. Ft. Suppos. No. i. Sig.: Insert into the vagina.—*Med. News.*

The mucous membrane of the vagina is a good absorbent and it seems that the amount of acetanilid and hyoscyamus is too large. Good effects should be obtained from one half the dose given in the above formula.

### Treatment of Purulent Endometritis.

Dr. Jay G. Roberts, in *Phil. Med. Jour.*, uses the following emulsion in treatment of purulent endometritis:

| | | |
|---|---|---|
| R. | Iodoformi ..... ʒss | 2 |
| | Amyli ..... gr. xv | 1 |

Mix and add:

| | | |
|---|---|---|
| | Glycerini ..... ʒv | 20 |
| | Aquæ ..... ʒiii | 12 |
| | Creolini ..... gr. v | 30 |

M. Stir gradually and heat slightly. Sig.: Inject one teaspoonful slowly, well up into the uterine cavity. The syringe is withdrawn and the cervix plugged with antiseptic cotton. The patient should retain the dorsal position for a few minutes. The injection should be repeated every other day or every third day.

### For Painful Dentition.

The *Med. Chir. Centralblatt* contains the following prescription for local application in painful dentition:

| | | |
|---|---|---|
| R. | Acidi citrici ..... gr. i | 06 |
| | Aq. destil. q. s. to dissolve | |
| | Cocainæ hydrochlor. ..... gr. iss | 09 |
| | Tinct. vanillæ ..... m. x | 66 |
| | Syrupi simplicis ..... ʒv | 20 |

M. Sig.: To be rubbed on the gums.

### Bleeding and Tender Gums.

| | | |
|---|---|---|
| R. | Gelatin ..... ʒss | 2 |
| | Sodii chloridi ..... gr. viii | 5 |
| | Acidi carbol. ..... gr. ii | 12 |
| | Eucainæ B hydrochlor. ..... gr. viii | 5 |
| | Cocainæ hydrochlor. ..... gr. ii | 12 |
| | Aq. destil ..... ʒiiiss | 112 |

M. Sig.: Use as a mouth wash once or twice daily.

### Treatment of Anorexia.

Kolb, in *Prog. Medicale*, recommends the following powder containing the bitters quassia and nux vomica:

| | | |
|---|---|---|
| R. | Quassin (crys.) ..... gr. 3/100 | 0018 |
| | Pulv. nucis vomicæ ..... gr. 3/10 | 018 |
| | Pulv. rhei ..... gr. iiss | 15 |

M. Ft. wafer No. i Sig.: One such powder before each meal.

### Treatment of Chronic Eczema and Psoriasis.

| | | |
|---|---|---|
| R. | Creolin ..... ʒss | 2 |
| | Hydrarg. Ammon. ..... gr. x | 66 |
| | Petrolati ..... ʒi | 32 |

M. Sig.: Apply locally night and morning.

### Local Application for Eczema.

| | | |
|---|---|---|
| R. | Pulv. tragacanthæ ..... gr. xxv | 1 66 |
| | Zinci oxidi ..... ʒii | 8 |
| | Alcoholis ..... ʒi | 4 |
| | Lanolini ..... ʒi | 32 |
| | Aquæ ..... ʒiv | 128 |

M. Sig.: Apply locally.—*Western Druggist.*

### Treatment of Fatty Heart.

Dr. A. Robin, in *Med. Record*, suggests the following pill in treatment of fatty degeneration of the heart:

| | | |
|---|---|---|
| R. | Sodii arsenatis ..... gr. 1/24 | 0025 |
| | Potassii iodidi ..... gr. ¾ | 05 |
| | Pulv. nucis vom. ..... gr. ⅛ | 008 |
| | Pulv. rhei ..... gr. i | 06 |
| | Ext. dulcamaræ ..... gr. iss | 09 |

M. Ft. pil. No. i. Sig.: One such pill daily.

The extract of dulcamara (bittersweet) is not official and its dose seems to be uncertain.

### Treatment of Subacute Rheumatism.

| | | |
|---|---|---|
| R. | Sodii salicylatis ..... ʒss | 16 |
| | Potassii iodidi ..... ʒi | 4 |
| | Methyl salicylatis ..... ʒi | 4 |
| | Ext. cimicifugæ flu. ..... ʒii | 8 |
| | Alcoholis ..... ʒss | 16 |
| | Aquæ q. s. ad ..... ʒiii | 96 |

M. Sig.: One teaspoonful three times a day; or:

R. Sodii salicylatis
Potassii iodidi,
Potassii acetatis
Ext. cascaræ sagradæ
Glycerini ää ..... ℥ii 8
Aq. cinnamomi ..... ℥ss 16
Aq. menthæ pip..... ℥iii 96

M. Sig.: One teaspoonful every four hours.—*Med. Standard.*

**For the Night Sweats of Tuberculosis or Malaria.**

R. Acidi salicylici ..... ℥i 4
Acidi borici ..... ℥i 4
Amyli ..... ℥iv 16
Pulv. talci ..... ℥iss 48

Misce. Sig.: To be used locally as a dusting powder.

**Nasal Neurosis.**

Dr. Samuel B. Dabney states that in women having frequent attacks of sneezing both summer and winter and where examination shows no hypertrophy nor permanent obstruction present, but simply a turgescence of the mucous membrane, he uses the following combination:

R. Acidi arsenosi ..... gr. i 06
Strych. sulphatis ..... gr. 2/3 04
Ext. belladonnæ
Zinci phosphidi ää. ..... gr. iv 25
Ext. gentianæ ..... gr. xx 1|33

M. Ft. pil. No. xx. Sig.: One pill three times a day.

In conjunction with this he uses a menthol preparation locally.

**Sterilizing the Clinical Thermometer.**

It is too often the case that the general practitioner does not give the proper attention to sterilizing his thermometer. When he enters a sick room he usually asks for a towel moistened with some water and is satisfied with washing the thermometer in water alone.

Dr. Wm. H. Dyer, in *Phil. Med. Jour.*, suggests that a few drops of formalin —40 per cent. solution of formaldehyde—be placed on some cotton in the bottom of the thermometer case, which affords a very effective method of disinfecting and sterilizing the thermometer. The gas is readily liberated from the solution and the thermometer case being air-tight practically prevents the escape of the gas and the evaporation of the liquid. In this way the thermometer is subjected to the germicidal action of the gas. Before placing it in the patient's mouth it should be rinsed in water and dried, as formaldehyde is irritating to the mucous membranes.

# Medicolegal.

**Conviction on Testimony of Expert Witnesses.**—Where a conviction is had upon the testimony of expert witnesses, if the jury has been properly instructed as to the law, the Supreme Court of Oklahoma says, in Boggs, vs. United States, that, on appeal it will not invade the province of the jury, to, determine the weight and credibility of the witnesses or the degree of credence to be given to their testimony. So, if upon an examination of the entire record it is satisfied that there is evidence in the case which reasonably tends to sustain the findings of the jury, the verdict of the latter will not be disturbed.

**Manslaughter by Administration of Poison.**—The Supreme Court of Indiana says, in the case of Hasenfuss vs. State, that it is possibly true, as insisted by counsel, that it may be difficult to conjecture a case where the crime of manslaughter can be said to be committed by means of administering poison. Nevertheless, it holds valid a verdict of the jury which showed that the jury here discovered such a case notwithstanding the assertion of counsel that none, under any circumstances, could be imagined, or possibly had been controlled, as is sometimes the case, more by the impulses of mercy than by the law and the evidence.

**Rules as to Admissibility of Opinions of Experts.**—In the case of Easler vs. Southern Railway Company, the Supreme Court of South Carolina, without undertaking to review in detail the different cases in that state upon this subject, thus states the rules that have been followed: 1. A witness is competent to give his opinion as an expert when the facts upon which it is based are within his own knowledge. 2. If the facts upon which his opinion is founded are in issue, his testimony is not admissible, except upon a hypothetical state of facts. 3. If the mode in which an injury was inflicted, or the extent thereof, is itself one of the disputed facts in the case, the witness will not be allowed to testify that in his opinion the injury was inflicted in a certain manner or to a certain extent. In such a case he must testify as to a hypothetical state of facts. The province of the expert is to draw inferences from, but not to decide, the facts of the case; and, in order to draw proper inferences from the facts in the case, they must either be within his own knowledge or undisputed; otherwise, he would usurp the powers of the jury.

**Appointment of Examiners by Association.**—The Supreme Court of Indiana holds, in Overshiner vs. State, that the general assembly, in conferring upon the State Dental Association power to appoint three members of the State Board of Dental Examiners, did not transcend its constitutional power, and that appointments to said Board of Examiners by said Association are valid. It was contended, for one thing, that the statute must fail for the reason that the legislature had no constitutional warrant for bestowing police powers upon a private corporation, to be by it exercised upon the citizens of the state. But the supreme court says that it perceives no reason why a corporation, such as the one in question, may not prove itself a repository of power as safe and salutary as an individual. This corporation is composed of practicing dentists, organized for the promotion of scientific knowledge and skill in the practice of the profession of dentistry, and which association thus stands in an intimate and well-informed relation to the subject, and possessed of a peculiar interest in the successful administration of the law. It is difficult to conceive of an appointing power with higher qualifications, or likely to be swayed by more laudable motives; and that it is an organization of persons mutually interested in the enforcement and proper administration of the law surely furnishes no reason for its condemnation.

**Liability for Unjustifiable Abandonment of Patient.**—The Supreme Court of California says that defendant, in the case of Lathrop vs. Flood, was a practicing physician, who was employed to attend a young married woman in her prospective first confinement. At the beginning of her labor, he was sent for and attended. He concluded that the case would be a prolonged one, and went away, visiting the house at intervals. He returned one evening, and, after an examination of his patient, decided that it would be necessary to employ instruments to aid in the delivery of the child, and that the time for the use of such instruments had arrived. He, therefore, ordered the attendant nurse to place the patient in proper position, and inserted the instruments, whereupon the sick woman, in fear, or pain, or both, shrank back, compelling the physician to let go of the instrument or greatly imperil the lives of both mother and child. He made a second effort with like result, and perhaps a third, though that was in controversy. He testified that he warned the woman to be quiet, and explained to her the danger, both to herself and unborn infant, occasioned by her conduct, and finally told her that, if she "did not quit, he would quit." Upon the part of the woman the evidence was that she was suffering excruciating pain, which was increased by the insertion of the instruments; that she screamed, whereupon the doctor said: "You quit your screaming. If you don't quit, I'll quit." Upon the failure of a second or third effort to employ instruments, he abruptly left the house, without a word of explanation or suggestion to any one. This was about midnight. The husband followed him to the street, imploring him to return, and not to leave his wife in that condition, but he refused. After an interval of an hour or more, during which time the patient was left with knowledge

that the physician had abandoned her, and without any medical attendance, the presence of another physician was secured. He found her not so far advanced in parturition as to require the use of instruments until some six or eight hours afterwards, when, by their aid, he delivered her of an infant, which lived about eight minutes. It did not appear that the first physician's treatment of the case up to the time of his abandonment of it was either negligent or unskilful, while it was demonstrated that if either the mother or the child suffered from undue physical injuries inflicted by his treatment that the actuating cause was the conduct of the patient in moving and shrinking while the instruments were actually inserted. The jury returned a verdict for $2000 damages, and the supreme court says that it can perceive nothing excessive in that, and nothing to indicate that the jury must have been influenced by passion or prejudice. It says that the law has no scales by which to measure with exactness such mental suffering as the woman endured after the doctor's departure and the reflex effect of such mental suffering upon the physical condition. The jury, for the injuries suffered, was instructed that in fixing compensatory damages it was to take into consideration the physical injury and suffering and the mental suffering and humiliation, if any, caused by the physician's negligent act or breach of contract. It is the undoubted law, the court says, that a physician may elect whether or not he will give his services to a case, but, having accepted his employment, and entered upon the discharge of his duties, he is bound to devote to the patient his best skill and attention, and to abandon the case only under one of two conditions: First, where the contract is terminated by the employer, which termination may be made immediate; second, where it is terminated by the physician, which can only be done after due notice, and an ample opportunity afforded to secure the presence of other medical attendance. Much expert testimony was given by physicians in this case to the effect that the relation of confidence between physician and patient is all-important, and that a physician is justified in abandoning a case where that relationship does not exist. This, the court says, is quite true, but the circumstances of abandonment are equally important. He can never be justified in abandoning it as did this defendant. Such conduct evidence a wanton disregard, not only of professional ethics, but of the terms of his actual contract. It was a violation of that contract, and for all damages that result d he was justly responsible.

# Current Medical Literature

Titles marked with an asterisk (*) are noted below.

## New York Medical Journal, March 30.

1 *Congenital Dislocation of the Shoulder with Report of Two Cases of Dislocation Posteriorly. (Concluded.) Daniel W. Marston.
2 Pathology of Intrauterine Death. (Continued.) Nell MacPhatter.
3 *Comparative Pathology of the Jews. (To be Concluded.) Maurice Fishberg.
4 Causes and Significance of the Obstetric Hemorrhages. J. Clifton Edgar.
5 *Tropical Dysenteries. Stephen M. Long.
6 A Dressing for Colle's Fracture. Charles L. DeMeritt.
7 A Requisite to Increase the Usefulness of Ambulances. Frederic Griffith.

## Boston Medical and Surgical Journal, March 28.

8 *The Embryologic Basis of Pathology. Charles Sedgwick Minot.
9 *New Method for Treating Fractures. Leonard F. Hatch.
10 Mumps in Pneumonia; Boroglyceride. Charles W. Dulles.
11 Brief Summary of Nine Cases of Lobar Pneumonia Treated by Ice Pack. George L. Collins.

## Philadelphia Medical Journal, March 30.

12 *Atmokausis: Its Value in the Treatment of Severe and Uncontrollable Uterine Bleedings (Uterine Arteriosclerosis). Samuel W. Bandler.
13 *Coexistence of Carcinoma and Fibroma in the Corpus Uteri. W. A. Newman Dorland.
14 *Shock in Abdominal Operations. Fenton B. Turck.
15 *Practical Modification of the Phenylhydrazin Test for Glycosuria. Robert N. Willson.
16 *How to Prevent Stammering. G. Hudson Makuen.
17 Bell's Palsy Associated with Complete Anesthesia in the Territory of the Fifth Nerve. James Hendrie Lloyd.

## Medical Record (N. Y.), March 30.

18 *Some Fallacies of Therapeutics. George L. Peabody.
19 *Ionization in its Physiological and Pathological Relations. Martin H. Fischer.
20 Creosote in Pneumonia: A Résumé. I. L. Van Zant.
21 Orchid Culture in its Relation to a New Improved, and Completely Effective Method of Disinfection. J. M. W. Kitchen.

## St. Louis Medical Review, March 23.

22 *Veratrum Viride; its Undeserved Neglect. E. W. Saunders.

## March 30.

23 Report of Fatal Heart Complication of a Case of Acute Articular Rheumatism in a Child. Hudson Talbott.
24 Emergency Hospital at the Pan-American. Herbert Shaerer.

## Medical News (N. Y.), March 30.

25 Report of the Committee of the Medical Board of Bellevue Hospital, Appointed January 2, 1901, to Investigate and Report upon Questions Relating to the General Administration of the Hospital.
26 *Vaccination, Clinically Considered. Frank S. Fielder.
27 The Method of Preparation of Vaccin Virus in the Vaccin Laboratory of the New York City Health Department. J. H. Huddleston.

## Cincinnati Lancet-Clinic, March 30.

28 Valedictory Address at Fort Wayne College of Medicine. H. V. Sweringen.
29 Valedictory Address at Academy of Medicine of Cincinnati. Chas. L. Bonifield.
30 Appendicitis. John A. Grafft.
31 Oxygen Gas in Opium Poisoning. W. P. Orr.

## Pediatrics (N. Y.), March 15.

32 *Diphtheria and its Treatment. Charles C. Gidney.
33 *Mixed Feeding of Infants. John Zaborsky.
34 Bullet in the Foot Located by the X-Ray Operation—Subluxation of the Knee. James M. Holloway.
35 *Treatment of Burns in Infancy and Childhood. Charles Warrenne Allen.

## American Practitioner and News (Louisville, Ky.), March 1.

36 Tumors of Testicle. John R. Wathen.
37 Fracture of the Neck of the Femur. Irvin Abell.
38 Correction of Deviations of the Cartilaginous Nasal Septum. Thomas C. Evans.

## Northwestern Lancet (Minneapolis, Minn.), March 15.

39 *A New Treatment for Tuberculosis. O. A. Fliesburg.
40 *The Influence of Sex and of Certain Physiologic and Pathologic Changes of the Sexual Organs upon the Eye. Howard McI. Morton.
41 *Two Cases of Poisoning by Potassium Iodid. Arthur T. Maun.

## Medical and Surgical Monitor (Indianapolis), March 15.

42 Premature Burial. Noah E. Aronstam and Louis J. Rosenberg.
43 Climate of Florida, and the Diseases that may be Benefited by It. William B. Fletcher.

## Kansas City Medical Record, March.

44 Follicular Tousillitis. Geo. A. Hewitt.
45 Sleeplessness in Heart Disease and its Treatment. C. C. Gibbes.

## Albany Medical Annals, April.

46 *Ectopic Pregnancy: Primary Rupture the Opportune Time for Making Diagnosis. George McNaughton.
47 *Lack of Uniformity in Prescribing Myopic Glasses. S. Busby Allen.
48 *The Early Recognition of Malignant Growths. Edgar A. Vander Veer.

## Occidental Medical Times (San Francisco), March.

49 Simple Garbage Incinerator and Crematory—On Improved Form of Apparatus for Regenerating Formaldehyde Gas. J. J. Kinyoun.
50 What Should Be Done with Chinatown? Douglas W. Montgomery.
51 *Bacteriologic Diagnosis of Diphtheria. W. H. Kellogg.
52 *Sequelæ of Diphtheria. Wm. Fitch Cheney.
53 *Specific Treatment of Diphtheria. George H. Evans.
54 Caseous Degeneration of the Mediastinal Glands; Operation. Recovery. W. S. Thorne.

## Merck's Archives (N. Y.), March.

55 Treatment of Headache. L. Harrison Mettler.
56 Use of Ice Per Rectum in Narcotic Poisoning. Willis Cummings.
57 Sulphur and its Derivatives. J. H. Jackson.

## Indiana Medical Journal (Indianapolis), March.

58 Influenza, with Special Reference to Ethmoidal Cells and Middle-Ear Complications. John A. Kyle.
59 Post-operative Ventral Hernia. Robert T. Morris.
60 Antitoxin in Diphtheria. Edwin Rosenthal.
61 *Mechanical Effects of Nasal Obstruction. Frank A. Morrison.

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62 Case of Choledochotomy for the Removal of Impacted Stones. Howard Lilienthal.
63 Anchylostomiasis. J. H. Dyer.
64 Doctresses of Medicine. T. C. Minor.
65 *New Methods for the Application of Old Principles in Treatment of Fractures and Deformities of Limbs. James G. Hughes.

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66 Pregnancy in Accessory Horn in Uterus Duplex. Erwin Kehrer.
67 Obstetrical Nursing. Louis F. Bishop.
68 Ectopic Gestation—Report of Cases. J. E. Gilcreest.

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69 Ueber die Beziehungen des Hausarztes zu seinen geisteskranken Patienten. George W. Jacoby.
70 Ueber Sklerema neonatorum. C. Schmitz.
71 Tuberculose der Tonsillen. Behandlung der Lungen-tuberculose mit electrischem Licht und Sauerstoff. W. Freudenthal.
72 Ein Aufruf zur Grundung einer Deutschen Lungen-Heilstatte für Gross New York als Zweig der New Yorker und Brooklyner Deutschen Hospitaler. S. A. Knopf.

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73 On the Hearing of Cerebral Abscesses. Prof. Passow.
74 *Non-operative Cases of Acute Inflammation of the Mastoid Cells. Gorham Bacon.
75 Otitis Abscess of the Temporal Lobe. Herman Preysing.
76 Three Cases Operated upon for Otitic Abscess of the Temporal Lobe, with Fatal Result. F. Ropke.
77 Report of the Progress in Otology for the Second Quarter of 1900. A. Hartmann.

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78 Fractures of the Pelvis with Injuries to its Contents. Joseph F. Hobson.
79 Amyloid Kidney. Alfred S. Maschke.
80 Spontaneous Rupture of the Uterus at Three Months. N. Stone Scott.
81 Notes of a Case of Heart Disease. W. J. Scott.
82 Local Use of Normal Saline Solution. Frederick C. Taylor.
83 Glioma of Retina. Wm. E. Shackleton.

University of Pennsylvania Medical Bulletin (Philadelphia), March.

84 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.
85 *The Treatment of Trifacial Neuralgia, with Report of a Case of Evulsion of the Second and Third Divisions of the Gasserian Ganglion. J. William White.
86 *Value of the Tuberculin Test in the Recognition of Latency or Quiescence in Tuberculosis of the Bones and Joints. A Preliminary Report. Charles H. Frazier and Montgomery H. Biggs.
87 Digest of Recent Literature upon Perforation of the Intestine in Typhoid Fever. John H. Jopson.

Iowa Medical Journal (Des Moines), March 15.

88 Hygiene from a Medical Standpoint. J. C. Shrader.
89 The Symptomatology and Prophylaxis of Smallpox. N. C. Schlitz.
90 Some Observations on Smallpox. V. L. Trynor.

St. Louis Courier of Medicine, March.

91 Results Following the Cure of Chronic Defects of the Vesical Function. Eugene Fuller.
92 Some Recent Researches in Rheumatic Fever, with Remarks on Internal Antisepsis. L. T. Riesmeyer.
93 Cilia in the Anterior Chamber. A. E. Ewing.
94 Selection and Administration of Anesthetics. Alfred Roulet.
95 Report of a Case of Articular Rheumatism with Fatal Heart Complications in a Child. Hudson Talbott.
96 Points of Interest Gathered from Eastern Hospitals. Frank G. Nifong.

Archives of Pediatrics (N. Y.), March.

97 *Hemorrhage into the Suprarenal Capsule in Still-Born Children and Infants: Report of a Case Showing Rupture of the Sac and Escape of Blood into the Perineal Tissues and the Peritoneal Cavity. (Concluded). S. McC. Hamill.
98 *The Diagnosis and Treatment of Adenoids by the General Practitioner. Francis Huber.
99 *Some Observations upon the Temperatures of Apparently Healthy Children; An Experimental Study. W. M. Donald.
100 Case of Apparent Recovery from a Congenital Abnormality of the Heart. John Thomson.
101 Tumor of the Cerebellum in a Boy of Seven Years. S. Rush Ketcham and Luther C. Peter.
102 Report of a Case of Diabetes in an Infant. William E. Young.

American Journal of Surgery and Gynecology (St. Louis, Mo.), March.

103 *Surgical and Pathologic Observations on Epityphilitic Abscess. Augustus C. Bernays.
104 Significance of Hematuria. J. Block.
105 Operative Treatment of Large Pharyngeal Tumors. J. F. Binnie.
106 *A Case of Intermittent Hydrops of the Knee. Geo. W. Cale, Jr.
107 Neuroepithelioma (Glioma) of the Retina: and its Surgical Treatment. James Moores Ball.
108 *Consideration of the Different Operative Procedures in the Treatment of Retrodisplacements of the Uterus. O. Beverly Campbell.
109 Removal of a Pregnant Uterus for Infected Placenta Previa Centralis. Emory Lanphear.

Therapeutic Gazette (Detroit, Mich.) March 15.

110 *Nitrate of Silver and Other Salts of Silver in the Treatment of Inflammation of the Mucous Membrane of the Upper Respiratory Tract. E. B. Gleason.
111 *Post-operative Pneumonia Complicated by Empyema, with Remarks on the Proper Treatment of this Condition. Philip Marvel.
112 *Chloretone in Dusting Powders. E. Hillingsworth Siter.
113 As to that Important Function of the Blood in Health, its Alkaline Reaction and the Reduction of its Alkalinity in Certain Pathologic Conditions. R. Wernigk.
114 *Notes on a Case of Pemphigus, Particularly in Connection with the Local Treatment. Arthur Van Harlingen.
115 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. D. D. Stewart.

Pacific Medical Journal (San Francisco), March.

116 Epilepsy. J. R. Curnow.
117 Necessity for More Thorough Training in Nervous and Mental Diseases in Medical Schools. E. W. King.
118 Diseases of Digestive Organs. A. W. Perry.
119 Relation of Drinking Water to Disease. Winslow Anderson.
120 Culture of American Ginseng. Harlan P. Kelsey.
121 Opium Poisoning Treated with Permanganate of Potassium, Eustorjio Calderon.

New England Medical Monthly (Danbury, Conn.), March.

122 Differentiation of the Impersonal and Personal in Medical Thought and Art. W. B. Konkle.
123 Amenorrhea and Emmenagogues. J. Alexander Wade.
124 Treatment of Bronchitis. I. N. Love.
125 Prophylactic and Curative Action of Urotropin. Dr. Zaudy.
126 *Treatment of Reflex Neuroses from Disturbed Pelvic Mechanism. Byron Robinson.
127 Uric Acid Diathesis—Its Treatment. O. L. Suggett.
128 Laryngo-trachitis Membranoso. Warwick M. Cowgill.
129 Suggestions, Theoretical, and Clinical, Concerning the Use of Oil as a Reconstructive in the Treatment of Bottle-fed Infants During Convalescence from Wasting Diseases. E. C. Collins.
130 Pulmonary Surgery. J. Murray Johnson.
131 Representative Cases Illustrating the Clinical Value of Cod-Liver Oil in Tubercular Inflammations. H. Y. Ostrander.

Dominion Medical Monthly (Toronto), March.

132 Medical Folk Lore in India. R. D. Rudolf.
133 *The Vicarious Absorption of Oxygen in Pulmonary Obstruction. Perry E. Doolittle.
134 Carbolic Acid Poisoning: A Medicolegal Case. George Elliott.
135 A Case of Pyonephrosis. Walter McKeown.

Alabama Medical Journal (Birmingham), March.

136 Cesarean Section as an Operation of Election. With the Report on a Case. Lewis C. Morris.
137 Intubation and Antitoxin. S. L. Ledbetter.
138 Amputation Above the Knee Under Analgesia from Spinal Subarachnoidean Cocainization. Reported by C. A. Fox.

Georgia Journal of Medicine and Surgery (Savannah), March.

139 Plea for Early Operation in Ovaritis Followed by Epileptiform Attacks. W. Hutson Ford.
140 Heroin Hydrochlorid as a Remedy in Coughs. W. E. Fitch.
141 Movable Kidney. R. L. Payne.

Texas Medical Journal (Austin), March.

142 Roberts-Hawley Goat Lymph Compound. Willis P. King.
143 Catarrhal Fever. J. M. Colley.
144 Chloretone as a Sedative in Gastric and Cystic Irritability. C. F. Darnell.

Vermont Medical Monthly (Burlington), January.

145 *Lobar Pneumonia. W. L. Heath.

## AMERICAN.

1. **Congenital Shoulder Dislocation.**—This article is in substance similar to the article abstracted in The Journal of April 6, ¶118, p. 996.

3. **Comparative Pathology of Jews.**—Fishberg gives statistics showing the alleged freedom of the Jews from certain diseases such as syphilis, tuberculosis, etc., and their greater longevity over other classes. He also notices their special liabilities to diabetes and nervous and mental diseases.

5. **Tropical Dysenteries.**—The different forms of dysentery as they appear in the Philippine Islands are described by Long, who recognizes five types: The first, the fulminating catar-

rhal dysentery, is the most fatal of them all. The patients usually die in from four to seven or eleven days. The cause is usually ascribed to Shiga's bacillus. The attack occurs suddenly with high temperature, rapid pulse, flushed face, coated tongue, great prostration, immense number of bowel movements, becoming bloody and slimy, abdominal tenderness, vomiting, etc. The mesenteric glands are enlarged, the disease is confined chiefly to the large intestines so that the whole or practically the whole colonic tract seems to be one homogeneous necrotic mass. Treatment has been altogether unavailing. The second type is simply acute dysentery, starting as a diarrhea and often associated with malaria. There is no rise of temperature to speak of, slight abdominal tenderness and some tenesmus. The cases are easy to cure in the beginning, but are liable to become chronic. The third type, generally called the amebic, can be divided into four different classes: The amebic, the trichomonadic, the cercomonadic, and the mixed type. The amebic dysentery is one of the most prevalent, occurs suddenly, without warning, and is hard to cure. The fulminating type excepted, it is the worst of all dysenteries, becoming a mixed type in its chronic stage. It has a tendency to become chronic and is specially prone to cause liver abscesses. It kills either by perforating ulcer or excessive toxemia, by metastatic abscesses, especially in the lungs, and by paralysis of the intestine, or inanition. The trichomonas type is obstinate to treatment and often becomes chronic. The cercomonas type is deadly when associated with streptococcus, and the mixed is fatal on account of its complications. The fourth type of dysentery is the chronic dysentery so-called, though usually a sequel of the acute and amebic forms. The fifth type is gangrenous and diphtheritic, usually fatal from perforation and general peritonitis or toxemia. In these cases the patient passes large shreds of membrane. There is often persistent vomiting and agonizing pain and tenderness. The sequelæ of dysentery met with in the Philippines are numerous. The chronic form is followed by gastric disorders, acute constipation, intestinal paralysis, anemia, typhoid, neuritis, liver and kidney disease, abscess, etc. Most liver abscess patients die. The best prophylaxis is to avoid eating or drinking anything which has not been thoroughly disinfected by boiling or cooking. Alcohol is, in Long's opinion, bad for the condition, excepting with caution in the chronic stages of the disease. One thing should be remembered in the tropics, that a purgative is advisable every two weeks if the bowels are sluggish. Exposure to the sun in the hotter part of the day and exposure to the night air should be avoided. Four drugs are mentioned as specially valuable; 80 per cent. of the patients will be cured if these are properly used. One ounce of sulphate of magnesium in one-half a glass of warm water before breakfast, repeating it later in the day if necessary, will cure many cases, or small repeated doses of calomel may fulfill the same purpose. Ipecac will often succeed if given in doses of not less than 40 gr., the patient being put to bed, treated with opium, ice-bags and mustard plasters to the stomach. From 60 to 70 per cent. will be cured by one administration; 10 to 20 per cent. by the second dose, and 20 per cent. will require some other kind of treatment. Another drug is bismuth submitrate, which he gives in 40 gr. doses, with 5 gr. of Dover's powder every four hours as the case may indicate. He also gives ipecac in 1 to 1.5 gr. doses every hour for two or three days, often with good results, though he prefers his first mentioned method. Drugs given by enemas. Of these he prefers the silver nitrate, 20 gr. to the pint, or quinin for amebic cases. The bowels should be cleansed with a soapsuds enema before administering the medicated injection, and a soft rubber rectal tube with a fountain syringe should be used. Tincture of chlorid of iron, 1 gr. to the pint in hot water may give as good results as nitrate of silver. Normal salt solution, laudanum, and starch water enemata are also of value. In feeding, some highly nutritious food in small amounts is advisable. Milk should never be given as such, but always diluted with rice or barley water or lime water. Kumyss or allied preparations may be tried, also fresh beef juice, a saline enema now and then and turpentine stupes and massaging of the abdominal region should not be neglected

8.—This article was noticed editorially in THE JOURNAL of April 6, p. 968.

9. **Fractures.**—The new method of treating fractures is based on the principle, as Hatch puts it, of converting all compound fractures into simple ones, to operate on the single fractures making them compound, and then apply the first principle, making them simple. The technique is the same for both forms, except that in simple fractures there is a point of selection for the incision, while in compound fractures the wound is simply enlarged. Antisepsis must be most complete, thorough scrubbing with soap and water, bichlorid solution, permanganate, and oxalic acid solution, covering all the other parts of the patient with sterile sheets and towels. The extremity should be held in a vertical position for a few minutes, then a rubber constrictor applied, and a sterile posterior and anterior splint of any suitable material fitted. The points of selection for incision are for the tibia along the crest, for the femur along the outer side of the thigh, for the radius behind the supinator longus, for the ulna along the ulnar side of the arm where the bone is most superficial, for the humerus along the outer side of the arm. A good, free incision should be made, as it is important to have plenty of room, and the size of the incision does not complicate the case. All clots and débris should be washed out, removing all shreds of soft tissue and loose pieces of bone. If any sharp points of bone prevent perfect coaptation, remove them. Remove the rubber band, tie all bleeding points, and be sure that the wound is dry. If in case of a compound fracture the periosteum is stripped up, carefully replace it. Secure perfect coaptation. Apply one of the splints before closing the wound, to make sure of holding the fragments in place. Close the wound with catgut sutures without drainage, and lay a thin pad of iodoform gauze over the wound; apply the second splint and bandage quite firmly, as there will not be any swelling like that which occurs after a fracture treated in the usual manner. Remove dressings on the seventh or eighth day and apply a plaster cast or ambulatory splint, according to the requirements of the case. It is safe to discontinue splints at least one week earlier than in fractures treated by former methods. Hatch also reports cases. The author's deductions are that we should not be deterred from operating on fractures by the fear of sepsis, and that operation would be warranted if it did nothing more than relieve the pain and swelling, which it certainly does. It also shortens the repair process at least one week, and reduces the chances of deformity and non-union to a minimum.

12. **Atmokausis.**—The use of steam at a temperature of 100 C. to the interior of the uterus, a method used abroad by Pincus, Dührssen, Snegirjoff and others, has been employed by Bandler who gives the *rationale* of its action; he explains it, analyzes the experiences of various writers, and describes the technique of the method. Dilatation of the cervix is an essential preliminary. Narcosis is not necessary, no pain being felt except when the cervix is involved. As a rule the cervix must not be treated, as it may cause atresia before the complete obliteration of the cavity of the womb and in any case too early cervical atresia should be avoided. On the introduction of two Simons' specula after disinfection of the parts, the posterior lip of the cervix is grasped with the vulsellum forceps, previously boiled. The uterine tube should be marked so that it may be determined how far it is introduced. It is carried up above the internal os as high as necessary. The metal tube which carries the steam then follows, the bulb at its lower end closing the opening at the external end of the uterine tube. During the process of treatment this inner metal catheter is moved occasionally to permit the outflow of liquefied steam and coagulated blood and to prevent too high pressure. The uterus soon contracts under the steam and the tube is slowly and gradually drawn out until, when it reaches the internal os, the entire inner surface of the uterus has been affected. If the cervix is also to be treated the steam is continued while it is withdrawn to the external os. After the treatment rest in bed for ten or fourteen days is necessary. The duration of the steam as a rule is about 15 to 20 seconds in younger women, where no obliteration is desired, and four to eight minutes if total obliteration is intended. The temperature is 100 C. in

the boiler, which probably amounts to about 70 C. in the uterine cavity. There is generally a serous discharge for several days or weeks and no repetition should be done within four weeks, or until after regeneration of the mucous membrane. The contraindications are malignant disease of the endometrium or the presence of retained membranes, and the affections of the tubes and inflammatory conditions which are contraindication to curettage. Bandler thinks that the method is the best we have for the treatment of uterine arterio-sclerosis.

13. **Coexistence of Uterine Carcinoma and Fibroma.**—From a study of the clinical and histological manifestations of reported cases, Dorland concludes that it is possible for fibroma and carcinoma of the uterus to coexist, and this coexistence may show itself in one of three ways, as follows, in the order of the frequency: 1. Fibromyoma of the corpus uteri with carcinoma of the cervix, the increased vascularity of the uterus and the irritant leucorrheal discharges attendant upon the benign tumor favoring in those women so predisposed the development of cervical malignancy. 2. Fibromyoma of the corpus uteri with associated adenocarcinoma of the endometrium, the malignant disease not invading the benign tumor, but originating either in the tubular utricular glands or in the included glandular vestiges which may be present. 3. True cancerous degeneration of an adenomyoma, the malignant change originating in glandular vestiges, included in the uterine growth, or the carcinomatous disease invading the benign growth by extension from an endometrial adenocarcinoma through contiguity of tissue. The article concludes with a series of cases from the literature.

14. **Shock in Abdominal Operations.**—Turck points out that while many facts in regard to shock are mysterious, there are two important factors not yet sufficiently recognized: One is the decreased resistance to infection when shock is present and the second is the increased resistance against infection produced by the internal application of heat in preventing or reducing shock. He gives the details of his experiments to demonstrate the effects of heat in preventing or reducing shock and to determine the changes in the blood during shock. He injected the serum of an animal in this condition into healthy animals, and reproduced the condition in them. He found that animals thus treated were more susceptible to infection, though more experimental work is required to establish this point. In another series of experiments he found that when an animal is stimulated by heat for one hour or more, the heat applied within the splanchnic area by the methods previously described, immunity or resistance against infection was produced. When the serum of such an animal was injected into another there was increased resistance produced or partial immunity to infection.

15. **Phenylhydrazin Test.**—Williamson modified the phenylhydrazin method by heating equal parts of sodium acetate and phenylhydrazin hydrochlorid, one-half inch of each in the ordinary test-tube, with the urine over a spirit-lamp for two minutes after the solution had reached the boiling point. He then leaves the test-tube for one-half hour to twelve hours to form the deposit. Willson modified Williamson's method by, instead of allowing the solution to cool gradually or stand for hours, putting a drop directly on the slide and examining it under low power (AA Zeiss) of the microscope. In from one-half to two or three minutes, depending upon the temperature of the room, and the quantity of sugar present, if the reagents have been thoroughly mixed and dissolved in the urine before boiling, typical crystals of phenylglucosazone can be seen forming beneath the eye of the observer. The color is a brilliant yellow, contrasting strongly with the brown globules and dark yellow granules that appear in the precipitate. A still further modification is mentioned; he favors the somewhat more slow method of using a small beaker as an improvised water-bath, but this method only lengthens the examination to about ten or twelve minutes. He believes that in this way we can have satisfactory methods available to everybody who possesses a microscope and test-tube, and this modified phenylhydrazin test combines the most valuable qualities and gives the greatest accuracy of any of the tests employed.

16. **Stammering.**—Makuen points out that stammering is due to faulty mental action, the lack of proper combination of ideas and oral expression. The first indication in the treatment, therefore, is to direct the mental processes into normal channels. We must untangle the somewhat twisted thoughts and the patient should be unconsciously diverted from the all-absorbing subject at hand until he has regained his mental equilibrium, and then led gradually back to the main subject and given a clear conception of exactly what it is he desires to say and shown how to say it in a deliberate and clear manner. It is quite possible to do this, and treatment in the beginning of the trouble will be the most certain cure of stammering. It is after the habit has become fully established that the trouble is serious, children should never be allowed to begin to learn to stammer.

18. **Some Therapeutic Fallacies.**—The therapeutic fallacies specially noticed by Peabody are the belief in bitters being conducive to appetite, which, he thinks, act from the alcohol, as a rule, and are liable to do evil in this way. The notion of the therapeutic use of the disinfecting power of boric acid and the astringent use of tannic acid, and certain erroneous theories as to the employment of ergot and lithium are also noted. The notion that arsenic acts as a preservative of the body, when given in toxic doses is an important medicolegal fallacy, since decomposition is specially liable to occur in such cases. The belief in a special action of mercury on the liver still may exist. The overuse of the iodids, especially in arthritis deformans, in gout, lead poisoning, etc., the Bergeon treatment of consumption, and gaseous and aerial disinfection, oxygen inhalation, etc., are also mentioned.

19. **Ionization.**—Fischer's article covers the field of the theory of electrolytic dissociation, and the relation of ions to life phenomena. As regards the latter, he reviews the literature with references largely to the work of Loeb. The theory of ionization, he claims, offers a new field for investigation in the realm of medicine and it will probably produce greater results in the solution of important problems. He has attempted to show the evidences that, in the dealing with the action of dilute solutions of inorganic substance we have to do with the action of their constituent ions. This fact, he thinks, should be borne in mind when we consider the physiologic, pathologic and pharmacologic problems which involve the presence of in organic substances.

22.—See abstract in The Journal of March 23, p. 830.

26. **Vaccination.**—Fielder thoroughly reviews the subject of vaccination, its methods, symptoms, complications, effects, technic, etc. The points emphasized are, in substance, as follows: 1. Complete natural immunity to vaccination is practically unknown. 2. In primary cases, delayed vesiculation, raspberry excrescence, and abortive course means poor virus. 3. There is no need of transmitting syphilis or tuberculosis. Other infections, such as erysipelas, septicemia, etc., are becoming rarer as methods improve. 4. During the second week of vaccination, a large painful areola may be considered normal, if bright red, and if the vesicle be of typical appearance. If the vesicle is irregular, filled with greenish pus, and the areola be a dark livid, purplish hue, there is a mixed infection. 5. Generalized vaccinia, aside from auto-inoculation, is rare: it can be decided by inoculation into another subject, if it appears. 6. The destruction of the vaccin vesicle does not interfere with the immunity. 7. Immunity is acquired by the time the areola is at its height, that is, eight or ten days after vaccination. 8. Vaccination in a pregnant woman does not protect the child. 9. The fetus *in utero* may have smallpox if the mother has it. A child born while the mother has smallpox is not protected, but has been exposed and will probably develop the disease. 10. The duration of the immunity is very variable, and in the presence of an epidemic is not sufficient. A successful vaccination within five years will probably prevent the contracting of the disease, but will not be a certainty. 11. The duration of immunity to revaccination, which is conferred by vaccination, is extremely variable, and is probably short—two years or under—in a large proportion who have been exposed. 12. The protective power of vaccination is in

direct proportion to its excellence. The completeness is shown in the resulting scars. The quality of the scar is more important than the number. 13. While the quality of the scar is a fair indication of its protective power, it is an untrustworthy guide in deciding whether the individual is susceptible to revaccination. 14. Persons immune to smallpox can often be successfully revaccinated. 15. Vaccination protects against smallpox as fully as an attack of the disease protects against a subsequent attack. 16. Persons who have been successfully revaccinated are much less likely to contract or die of smallpox than persons who have been vaccinated only once. The more successful vaccinations one has had the more sure is the immunity. 17. Revaccination should therefore be considered as important as the primary vaccination, and as systematically practiced. 18. Primary vaccination should be performed in infancy; revaccination at the school age. In the presence of an epidemic, however, revaccination should be performed even when primary vaccination has been comparatively recent. 19 .The eruption in revaccination is more likely to follow the type of vaccinoid than that of typical vaccinia. 20. Vaccinoid protects if the vaccin used is of high-grade efficiency; if poor, only partial immunity is conferred. 21. All vaccin virus should be subjected to rigid physiologic tests when using. It should be retested monthly as long as it is on sale. The virus from each animal should be kept by itself and numbered, and be known by that number when issued. 22. Vaccination should be performed only under aseptic precautions. 23. It is not sufficient merely to smear the virus upon the scarified areas, but it should be thoroughly rubbed, scratched or pricked in. 24. Vaccination shields often do more harm than good. 25. Infected cases of vaccination should be cared for by the physician. 26. Remember that the destruction of the vesicle does not impair the protective power of vaccination, and if signs of mixed infection appear, open the vesicle, cleanse the wound and treat it on general surgical principles.

32. **Diphtheria.**—Gidney maintains that the essential treatment for diphtheria is the use of antitoxin. The routine internal treatment has been abandoned. When the pulse shows signs of failure, digitalis, strychnin and alcohol may be of some use. While the treatment merely consists in administration of the antitoxin early and in sufficient dose, there need be little fear of administering an overdose.

33. **Mixed Feeding of Infants.**—The subject of mixed feding divides itself into two heads: 1. Artificial feeding as adjuvant to nursing. 2. Human milk as an adjuvant to other foods. Besides the conditions mentioned by text-books, a deficiency of the quality of milk secreted and a diminution of solid milk constituents, Zahorsky enumerates others: The excessive amounts of proteids causing colic and indigestion; the very laxative effect of mother's milk and a condition which has been observed several times, that human milk becomes toxic. He mentions the value of artificial feeding with human milk in the following conditions, marasmus, gastroenteric infection, rickets with tetany, and scurvy. In these conditions a little human milk may have a powerful therapeutic effect.

35. **Burns.**—After first noticing the importance of burns and the extent to which they may occur without becoming fatal, Allen remarks on their treatment, especially in infants. While the pain is not usually very great at first, our first efforts are directed to calming the patient and meeting the vital depression and shock to the nervous system. For this aromatic spirits of ammonia in appropriate doses is generally found as efficacious as anything, and unless the child is too young opium properly administered will be of service. For local application he knows of nothing better than a 1 per cent. solution of picric acid for burns of the first and second degree. After the area has been coated once or twice with the solution, a thin layer of absorbent cotton may be applied dry, and after this a layer of impervious tissue and then as much cotton as is required for warmth, protection, etc. At the subsequent dressings all may be removed excepting the layer next the skin, which may be again wet and the dressing applied as before. The danger of outside infection is less, and pain avoided by not disturbing the inmost dressing. Erythematous areas may be relieved of pain by local baths containing nitrate of potassium or bicarbonate of soda. In deeper and extensive burns a permanent bath offers the best means of securing comfort and warding off a fatal issue. He mentions the old carron-oil as one of the best known and most extensively use applications. He has been in the habit sometimes of using it with some antiseptic. One important point he thinks, is to refrain from the removal of dressings; if thin layers of gauze, cotton, or cheese-cloth come next the wound, they need not be taken off but may be soaked with the application, whatever it may be. The chances of infection are lessened and mechanical irritation avoided.

39. **Tuberculosis.**—The new treatment recommended by Fliesburg consists in the hypodermic injection of a prescription of which the following is the formula:

R. Iodi puri eryst. ..... 1.50
Phosphori puri ..... 0.25
Thymolis
Mentholis, āā ..... 2.50
Guaiacolis ..... 1.25
Ol. morrhuæ sterilizat ..... 50.00

Ft. sol. secundum artem. Sig.: Use only hypodermically. For tuberculosis of the lungs, throat, glands and intestines, one to three syringefuls once a day, preferably in the forenoon; for tuberculosis of joints and tendons, inject into foci deeply, and then apply bandage; repeat in four to eight days as necessary.

He reports cases which he thinks show the value of the method.

40. **Influence of Sexual Organs on the Eye.**—Morton calls attention to the eye changes and the symptoms that may occur in connection with puberty, the menopause, etc.; also those caused by the habit of masturbation, and reports cases illustrating them.

41. **Potassium Iodid.**—Two cases are reported by Mann as illustrating the idiosyncrasy to this drug. In one the administration of 10 gr. of potassium iodid three times a day in less than two weeks caused an extraordinary eruption followed by death. In the other a patient taking 180 gr. regularly every twenty-four hours suffered no inconvenience.

46. **Ectopic Pregnancy.**—McNaughton thinks that the diagnosis can be made as easily as that of most other genital diseases of women. It will not often be required before rupture, though it is possible. In 70 cases he made the diagnosis thus in three. He emphasizes the necessity of regular inspection of the vermiform appendix in cases of laparotomy for this condition. His special points are that ectopic pregnancy is not a rare accident; that impregnation usually takes place in the tube; that rupture takes place in most, perhaps all, cases before the eighth week, when presumptive diagnosis is not difficult.

47.—See abstract in THE JOURNAL of March 9, p. 681.

48. **Malignant Growths.**—Van der Veer reviews the statistics of carcinoma and points out its increase, calling attention to the needs of its early recognition, as it is then that the patient can best stand the shock and hemorrhage, and there is greater probability of the thorough removal of the malignant growth. Unsightly scars are also more likely to be avoided. He especially notes the importance of early recognition of malignant growths in the breasts and female genitals, and insists on the importance of the practitioner learning about any previous injury that has occurred. He favors exploratory incision in clearing up the diagnosis in obscure cases; though laparotomy is always dangerous, still it ought to be done where it will confirm the diagnosis.

51.—See abstract in THE JOURNAL of March 16, p. 759.

52.—Ibid., p. 760.

53.—Ibid., p. 759.

61. **Nasal Obstruction.**—In a series of experiments in the physiological laboratory of the Medical College of Indiana, Morrison arranged some special apparatus for investigating this subject, and in substance gives the following summary of his results: With the mouth slightly closed each ventricular

systole causes a distinct but slight change of pressure in the buccal cavity. Quiet respiration through the nose has but little effect. In wide open mouth breathing not exceeding eighteen to twenty efforts per minute no change in pressure occurs. As the orifice of the mouth is slowly contracted, negative pressure is gradually developed in inspiration and increases with the diminution and size of the orifice until it is closed, when it abruptly falls to the normal. If the mouth be opened widely and respiration is increased to thirty-six per minute, marked negative pressure persists in inspiration. In the nose without obstruction and with the mouth closed a very slight negative pressure is developed in inspiration, and a still slighter positive pressure in expiration. In the ear no appreciable change of pressure was noticed. Slow occlusion of one nostril with closed mouth causes rapid increase of the negative mouth pressure, which becomes very marked when a sense of dyspnea leads to respiratory effort. If one resists the feeling of dyspnea and breathes slowly, such increase does not occur. If the mouth be slightly opened negative pressure still persists, but slightly diminished. Repeating aloud some words very rapidly until out of breath, then taking a sudden deep inspiration with one nostril closed develops greatly exaggerated negative mouth pressure. In the nose, occlusion of one nostril causes high negative pressure during inspiration, which is increased if the other nostril is partly occluded. If both nostrils are completely closed no such fluctuation in pressure takes place. This high negative pressure from occlusion of the nostrils is only very slightly relieved by opening the mouth. When sufficient obstruction is produced to lead to mouth breathing or labored attempts at nose breathing fluctuations of pressure take place in the middle ear. In a state of health very little negative pressure or "suction force" is developed in either mouth or nose. No changes occur in the ears. With rapid breathing negative pressure slightly increases in both nose and mouth, but not to an injurious degree. With marked nasal obstruction the negative pressure is found in both nose and mouth, and slightly in the ear, and is increased by any effort leading to exaggerated respiration, such as speaking, singing, muscle exertion, etc. This condition is not relieved entirely by mouth breathing. Early relief from nasal obstruction is demanded. Before the patient becomes a "mouth breather" every inspiration has been acting as a cupping glass upon the nasal and nasopharyngeal membrane and the cupping action is not relieved when the lips are parted to the extent that they are in ordinary mouth breathing.

65.—This article appeared in The Journal of February 16, p. 424.

73. **Cerebral Abscess.**—The case reported by Passow was that of a suicide on whom operation had been made for cerebral abscess seventy days before. At the autopsy it was found that the cavity had filled up and nothing could be seen of the abscess but a barely visible linear scar. The condition of the dural cicatrix was similar to those described by Macewen. The cicatrix itself was about one-third the size of the original abscess, and extended into the cerebrum for not quite 1 cm., but the surrounding brain substance also showed pathologic changes in the nerve cells, and the glia tissue was ill-defined and vascular, with numerous round cells. The nerve cells were irregular in shape, of different sizes, devoid of process and partly of nuclei. There was no sharply drawn line between the normal and abnormal tissues.

74. **Mastoiditis.**—In 40 cases of acute purulent otitis media coming in regular order in the practice of Bacon, operation was required in 10, 2 of these with subsequent operation for sinus thrombosis, one of which terminated fatally. That is to say, in 30 cases the mastoid cells were not opened. Brief descriptions are given of a number of these cases. Treatment was by the use of the artificial leech and Leiter coil, together with free incision in the drumhead and frequent douching of the ear with boric acid or bichlorid solution. He does not say he is opposed to mastoid operation, but since he has used this method of treatment, he has had fewer operations than formerly. It requires considerable experience in aural disease and ability to recognize very early the more serious symptoms which call for operation, but the aural surgeon should do all in his power to cure his patient without opening the cells.

85. **Trifacial Neuralgia.**—White summarizes his views of the general subject as follows: The essential cause of trifacial neuralgia in any case is usually unknown. It may be a central, peripheral or general constitutional condition. There is a corresponding uncertainty in the treatment. The period of medical treatment should be distinctly limited in severe cases when the attacks succeed each other at short intervals. If unsuccessful, it should not extend beyond six months or a year. It will vary according to the circumstances. Operations on the peripheral nerves should still be done and are likely to be of use when the disease is distinctly limited to either the second or third division of nerves, or when we are confident that it is due to peripheral neuritis. The peripheral operation might even effect a cure of the central form by producing atrophy of the centers, and if very thoroughly done the results are often excellent. In the exceptionally severe cases affecting all the divisions of the nerves and with no immediate relief from medical treatment, the intracranial operation may be considered as the primary operative procedure. As a rule it should be resorted to only after failure of medical treatment and of peripheral operations. The Hartley-Krause operation is the preferred one. The operator may limit his interference to evulsion of the second or third division between the ganglion and foramina, as this has been followed by cure in a number of cases. By thus doing he lessens the risk to the abducens and cavernous sinus, and by leaving the first division untouched diminishes the danger of trophic change in the eye. Any primary and exclusive disease of the first division has never been known. It is quite possible, however, that further observation will show that it is better to remove the entire ganglion with its motor and sensory roots. The author reports a case which inspired him to give the above views.

86. **Tuberculin Test.**—Frazier and Biggs favor the use of the tuberculin test and maintain that when properly employed it is harmless. There are certain cases, however, in which it is apparently somewhat unreliable. Clinical evidences from thousands of cases speak for the reliability of the tuberculin test, though occasional positive reaction will follow injections of tuberculin where tuberculosis can not be or can not be proven to be present. In syphilis, for example, reaction may occur. It is possible that remnants of the disease may still exist, giving rise to reactions where it had not been detected or suspected. Tubercular foci may also be present. The existence of such tubercular foci in the lymphatic system might make the tuberculin test apparently unreliable for the demonstration of the presence or absence of tubercular lesions in other parts.

97. **Hemorrhage into Suprarenal Capsule.**—This concluding installment of Hamill's article is entirely given up to the description of cases, collected from the literature, of the lesion of hemorrhage into the suprarenal capsule in the stillborn and in infants.

98. **Adenoids.**—Huber describes the symptoms and consequences of adenoid growths and calls attention to certain points in the diagnosis. He mentions two which jointly offer a ready and easy method. These consist in: 1. The presence of two small hypertrophied lymph nodes, painless and freely movable, at the angle of the lower jaw, one on either side. These are apt to become swollen in catarrhal inflammation of the nose, but return to their normal size unless a mixed infection has taken place. 2. The presence, on oral inspection and examination, of numerous small lymphoid hypertrophies of the mucous membrane of the posterior pharynx with larger masses occasionally present at the level of the soft palate. The appearance is characteristic; the isolated prominences are pearly and translucent, resembling sago grains, projecting above the surface of the pharyngeal mucous membrane; the presence of both signs together justifies the diagnosis of adenoids and renders digital exploration of the nasal pharynx unnecessary. These two signs have been insisted upon and have for some years been taught in the practical course of the Vanderbilt Clinic. The observations are not claimed as original, though

Huber can not at once recall the original source. As regards treatment, the earlier the growths are removed the better. They interfere with normal nasal respiration: the blood is not sufficiently aerated, and the bad results are not local, but general. In very mild cases attention to the general health and the internal administration of syrup of iodid of iron should be advised for a time, but in any case where decided symptoms are associated, the growth should be removed. He prefers to operate without anesthesia. If after a few weeks it is found that the growths have not all been removed, a second operation can be done. The existence of acute otitis media, bronchitis or inflammatory processes in any part of the respiratory tract is a contraindication for operation. The after-treatment consists in instilling warm water into the nares every few hours, with liquid diet, and confinement to the house for a few days. Nasal irrigation, no force being used, is kept up for weeks. Iron, arsenic, strychnia or syrup of iodid of iron is continued for months.

99.—See abstract in THE JOURNAL, XXXV, p. 1653.

103.—See abstract in THE JOURNAL of January 12, p. 128.

106.—Ibid., XXXV, p. 1047.

108.—Ibid., January 12, p. 126.

110. **Nitrate of Silver.**—Three cases of inflammatory disorder of the upper respiratory tract are reported, which were treated by strong solution of silver nitrate—60 gr. to the ounce—applied on the lateral walls of the fauces. When painted on this portion of the throat Gleason claims that strong solutions of silver nitrate possess a sedative, an astringent, and an antiseptic action, the value of which can not be overestimated.

111. **Postoperative Pneumonia.**—The following questions were suggested to Marvel by cases in his experience: 1. What is the probable percentage of post-operative pneumonia? 2. Should evacuation by aspiration or drainage be recommended before resolution is complete? 3. Does the absence of the characteristic physical signs argue in favor of the inadequacy of the signs to accurately indicate the degree of danger in the disease? As regards the first question, by analysis of the statistics he finds that the percentage given by various writers of postoperative pneumonia differs so much that no percentage rate is determinable, but that an estimate may be stated as ranging between .12 and .33 of 1 per cent., and the fatal cases between .01 and .09 of 1 per cent. In answer to the second question, he does not advise aspiration until the crisis is passed, unless the embarrassment to the circulation and breathing or strong evidence of toxemia makes it imperative. As regards the third, he quotes Andrew H. Smith on the uncertainty of the importance of consolidation, since the toxin formation is still carried on beyond its limits. While the physical signs are of the greatest importance in diagnosing the conditions, he does no think these are always proportionate, nor do they represent the measure of gravity in the case and too much stress can not be laid upon the presence and behavior of toxins and their influence in pneumonia.

112. **Chloretone.**—Siter recommends the use of chloretone in dusting powders for painful granular growths, as producing analgesia and not delaying union or granulation. It can be used in combination with almost any dusting powder. In the cases reported, over thirty in number, it was used in combination with boracic acid. Its effect is solely, he thinks, an anesthetic one and it has no special influence on the progress of the cure.

114. **Local Treatment of Pemphigus.**—Van Harlingen reports a case of pemphigus treated by the internal use of strychnin and quinin, with stimulants and milk diet, and the opening of blebs, the lesions being dressed in a bichlorid solution. His plan, he says, is to open each bleb as widely as possible and later apply a wet dressing of bichlorid of mercury of 1 to 2000 or 1 to 4000, and keep it on for twenty-four to forty-eight hours. This is then removed and ichthyol, either pure or in 20 to 50 per cent. aqueous solution, is applied. After a few days this is changed for a simple zinc oxid paste or ointment or occasionally a europhen or iodoform ointment. When the eruption is very extensive one part may be treated at a time, thus diminishing the danger, which he doubts, of absorption from large surfaces. Other bullar eruptions and pseudopemphigus can also be treated in the same way or at least on this principle.

126.—See abstract in THE JOURNAL, XXXV, ¶120, p. 980.

133. **Oxygen in Pulmonary Obstruction.**—Doolittle recommends the use of hydrogen dioxid in 4 to 1 dilution, in conditions where a considerable proportion of the absorbing pulmonary cells are put out of action, as in extensive pneumonia. By giving this in sufficient quantity by the mouth or rectum, to make up for the deficiency of the oxygen taken in by the lungs, he claims we give the heart a healthy oxygenated blood to work on and relieve the overtasked working air-cells and heart. He reports cases where this has been tried with apparently very good results. While hydrogen dioxid has been recommended internally in small doses as a heart tonic in pneumonia, etc., he has not been able to find any one who has administered it in sufficient quantity and for the purpose of resupplying the deficiency of oxygen. Its administration does not interfere with oxygen inhalation or any other remedy which may be indicated. He thinks its free administration is of value in bronchopneumonia and also in laryngeal diphtheria. In one of his cases he gave a tea-spoonful every five minutes to an infant 3 months old, with the best results.

145.—See abstract in THE JOURNAL, XXXV, p. 1296.

## FOREIGN.

### British Medical Journal, March 23.

**Auto-reduction of Hernia "en masse" as a Cause of Abdominal Obstruction.** W. J. WALSHAM.—In this communication the author calls attention to a possibility which does not seem to him to have received much attention from the profession. He reports three cases of auto-reduction of hernia *en masse*, which produced symptoms of intestinal obstruction, requiring operation, and he has had seven such cases during the last few years. He therefore thinks the condition not so uncommon. The diagnosis may be attended with considerable difficulty, and he emphasizes the importance of not relying solely upon our observation of the hernial rings, but of obtaining as full a history of the case as possible from the patient. The importance of early diagnosis can hardly be overestimated.

### The Lancet, March 23.

**Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life.** J. MITCHELL BRUCE.—In this second lecture the author reviews the symptoms of tobacco heart, which is characterized especially by irregularity and anxiety without marked alteration of cardiac sounds or enlargement, at least in young persons. In older ones there may be a certain amount of enlargement and a much greater degree of pain and angina, and altogether a more formidable syndrome; in alcoholism, on the other hand, enlargement is the rule. The precordial impulse is usually weak and there is in a certain proportion a slight apex systolic murmur, indicating mitral leakage. Complaints usually are of palpitation, faintness and precordial pain, but angina is rare as compared with tobacco heart. The gouty changes are also noted, irregularity, dyspnea, precordial pain, angina, systolic murmur of the mitral area, etc. He has never met with aortic incompetency from gout. Closely allied to this condition is a disturbed metabolism, characterized by corpulence and glycosuria. He found that out of 12 cases, 9 had systolic aortic murmur, and nearly one-half an ill-developed mitral systolic murmur. The complaints are very similar to those of the gouty as regards pain, but neither palpitation nor faintness was so often mentioned. Other conditions noticed are cardiac strain, which is specially liable to show its effects in advanced life, particularly in persons who attempt to resume the athletic exercises of their youth. Syphilis and nervous strain are also noticed, and he thinks that the profession in general is not alive to the gravity of syphilitic changes in the cardiovascular system. He believes it accounts for a considerable proportion of the more serious cases of heart disease in elderly persons.

**Blackwater Fever.** J. W. W. Stephens.—The writer believes blackwater fever is essentially a malarial infection in which quinin is the most common determining cause of intoxication. Protection from malaria will insure against blackwater fever and his own experience shows that this protection is possible in tropical Africa under all kinds of conditions without the use of quinin, by paying scrupulous attention to clothing and the use of the mosquito net.

The Practitioner, March.

**Intermittent Fevers and Blackwater Fever.** Louis M. Sambon.—The various intermittent fevers are described by Sambon, who recognizes four types, corresponding to four different species of parasites, viz., quotidian, tertian, quartan and what he calls semi-tertian, using the old Hippocratian term in preference to "estivo-autumnal" now in common use. He reviews the phenomena of the paroxysm and describes the parasites—the hemameba vivax of tertian fever, the hemameba malariæ of quartan fever, the hemomenas Laverani of semi-tertian fever, and mentions the somewhat uncertain parasite of quotidian of which our knowledge is still very imperfect. In practice the cases that come under observation are often complicated. We have multiple groups of some species; we have the simple, double, triple or irregular or subcontinuous quartan fever; the simple, double or irregular tertian, and in the semi-tertian and quotidian fevers we have also a multiplicity of parasites so that it is usually difficult to account for the irregular types of fever which may thus arise. Mixed infection with parasites of two or more types are frequently observed, the tertian and quartan for example or the tertian and quartan and semi-tertian. Any other disease may complicate malaria, among them cholera, blackwater fever, siriasis, tuberculosis, etc. Pneumonia is the complication which has given rise to the most discussion, but we now know positively that there is no malarial pneumonia. Malaria may co-exist with typhoid and the semi-tertian form may be strikingly similar to it in its symptoms. In the temperate climates this type of malaria usually occurs at the same season of the year and may come on without chills, the remissions may be slight, there may be great prostration and abdominal symptoms and no parasites found in the peripheral circulation. Typhoid fever has frequently been mistaken for semi-tertian fever. The pernicious attack is an unusually severe attack of the semi-tertian caused by a multiplication of parasites, which accumulate within the capillarics of the brain and meninges and other internal organs. The pernicious is never the first attack and is most frequent in recent affections. The symptoms vary with the localization of the parasite and the resisting powers of the individual. Blackwater fever is discussed by the author at some length, its geographical distribution described, and the various alleged discoveries of its causes—which he does not consider proven—its seasonable prevalence, the predisposing causes, etc. The various theories of its origin are discussed and Sambon evidently does not consider it proven that it has a direct connection with malaria. The quinin theory he rejects, and his own view that it is a specific disease is based somewhat upon the similarity of hemoglobinmric fever of cattle in which Smith and Kilborne have discovered a protozoal parasite, the Piroplasma bigeminum, hence it is quite reasonable to infer that blackwater fever may be due to some protozoan organism. Diagnosis from the semi-tertian is usually not difficult, and in the early stages the presence of characteristic parasites is demonstrative. From yellow fever it is distinguished by the rarity of black vomit, the color of the urine in the early stages and the absence of serum albumin, enlargement of the spleen and liver and its irregular course. A sound prophylaxis can not be established without the knowledge of the cause of the disease, and further study is required. With our present knowledge we can also recommend in a general way the avoidance of low, swampy districts, especially during the hot season after the rains, and protection against mosquito bites. Quinin, he thinks, has no specific action, and in most cases seems injurious. There is no one drug that is of the slightest value. The disease must be treated symptomatically until laboratory experiments have found the specific treatment. We are at present in the same condition in regard to typhoid fever and other infectious disorders. He prefers colonic irrigations to calomel. The patient should be allowed to drink freely, and the food should be liquid; the patient confined to his bed until convalescence is well established. Warm alkaline drinks must be used as an emetic to help to get rid of the great quantity of irritating bile which causes the exhaustive vomiting. When this is persistent, water and food should be administered by the rectum. Sponging with tepid water is advised and as little disturbance as possible. Hot fomentations and turpentine stupes may be applied to the loins to alleviate pain and urinary suppression. Gouzien has employed hypodermic injections of normal salt solution with great success.

**The Genus Anopheles.** Ernest E. Austen.—The characteristics of the different genera of mosquitoes are described by the author, and the practical characteristics of the Anopheles discussed. They are the long palpi, as long or longer than the proboscis in both sexes, the blotches on the wings, the peculiar position of the proboscis, it being in the same straight line when resting, a more slender form than the Culex and, in some specimens at least, the characteristic position when resting—inclining the body at a considerable angle from the surface. The real characteristic, however, in this is the position of Culex, which is hump-backed, the proboscis at a decided angle with the body, while in Anopheles they are both in the same line. When the Anopheles rests with the body parallel to the surface it is generally found that one of the legs is missing. The piping note of Anopheles also is said to be lower than that of Culex. The position of the larva in water is also another characteristic, it usually being parallel to the surface; that of Culex is nearly perpendicular. The Culex breeds in all sorts of places—in buckets, tubs, cisterns—but Anopheles prefers natural pools, generally with some vegetation such as algæ, etc. It may breed in sea water. The eggs of Anopheles are found singly on their side instead of being collected as are those of Culex. The number of species of Anophcles at present known is about forty and there are more than ten others that will shortly be described. The genus is found all over the world, though there is no species so generally distributed as is the case with certain species of Culex, which is possibly due to the fact that the latter, breeding in ponds, water tanks, domestic receptacles, is carried by human agency while Anopheles being the wilder and less domestic insect is more restricted.

Annales de l'Institut Pasteur (Paris), February.

**Parasitic Theories in Regard to Malignant Neoplasms.** A. Borrel.—The research that has been made in this line is reviewed by Borrel, who observes that possibly there may be several kinds of malignant neoplasms, some due to sporozoa, some to bacteria, others to blastomycetes, etc. The evidence to date is not conclusive in respect to any of the theories that have been advanced. He publishes illustrations showing the progress of certain changes in the cells of these neoplasms which he has observed and followed. They commence with vacuolization and the results of the process deceptively simulate parasitic elements and are possibly the supposed micro-organisms seen by other scientists. He gives comparative cuts showing the close relationship between the process and its results with the process of the evolution of the spermatocyte in the testicle of the guinea-pig. In the latter, the evolution results in the formation of a normal element. In the cancer cell the cause and the result of the process are still a mystery, but the results are large chromatic bodies, producing the impression of a degenerating substance. This atypical evolution of the archoplasm or idiosome of the cancer cell must be borne in mind in the researches for the discovery of the causal agent of cancer.

**Origin of Alexins in Normal Serum.** O. Gengou.—Metchnikoff believes that the alexin of the leucocytes is liberated only after the degeneration or death of the corpuscle. Büchner, on the other hand, considers it an actual, vital secretion of the leucocytes. Gengou describes research which shows that the alexin in the dog and rabbit is found almost exclusively in the polynuclear leucocytes.

Bulletin de la Societe des Hopitaux de Paris, February 7.

**Grippal Meningitis.** H. Rexou.—The author describes a case diagnosed first from the symptoms, as gastric disturbances, then as an infectious rhinopharyngitis with joint symptoms, but the fifth day disclosed a typical cerebrospinal meningitis complicated by indications of diffuse poliomyelitis. The patient recovered under hot baths, revulsion along the spine and early lumbar puncture.

February 14.

**Diagnosis of Typhoid Perforation.** Ferrier.—The conclusions drawn by Ferrier, from observation of three cases of typhoid perforation, one of which was cured by surgical operation, are as follows: The diagnosis in certain cases can be made only when the patient is able to describe his sensations. The characteristic facies, the agitation, sensitiveness of the abdomen, meteorism and vomiting are often entirely absent. Possibly only a few attenuated symptoms bearing the imprint of peritoneal inflammation may be observed. The spontaneous pains felt by the patient may be moderate. Localized at first, they may extend later throughout the abdomen, and increase under the influence of movements, coughing, or palpation. As the process extends, indications of defense may be noted in the abdomen. In doubtful cases, rectal palpation and the appearance of bladder symptoms may reveal the involvement of the small pelvis. In subjects previously affected with diarrhea, the suppression of alvine discharges is an important sign, also lower temperature with more rapid pulse. In the successful case, the perforation was found on the small intestine 50 cm. from its insertion in the cecum. It was in the center of a blackish, thickened zone, the size of a two-franc piece. It was obliterated with a purse-string suture and a few Lembert stitches; the peritoneum was irrigated with a solution of boric acid and hot salt solution, and the wound was drained. The operation was completed in forty minutes. The bed was warmed, and artificial serum was injected every four hours. Recovery was undisturbed, except for an obstinate hiccough, day and night for several days.

February 21.

**Treatment of Syphilis During Pregnancy.** Gaucher.—The prognosis of a pregnancy in a well-treated syphilitic is not so serious as some imagine. The treatment of a syphilitic pregnant woman should consist, according to Gaucher, in an alternating and uninterrupted series of injections of benzoate of mercury and sublimate pills; the number of injections about double that of the pills. For instance, injections for one month of the benzoate in the following formula: benzoate of mercury 60 cg.; benzoate of ammonium 3 gm.; benzoate of cocain 15 cg., and water 60 c.c. A few drops of ammonia are added while hot, to insure the limpidity of the solution. The daily dose is 2 c. c. for one month, substituted then by two pills a day at meals, each containing bichlorid of mercury and extract of opium each 1 cg. and q. s. of pulverized medicinal soap and glycerin. The pills are given for fifteen or twenty days and then all treatment is suspended for ten to fifteen days, when the benzoate is recommenced. The intensity of the treatment should be subordinated to the condition of the renal function, as determined by the toxicity of the urine and the elimination of the mercury. This treatment should be continued until the end of the pregnancy, and the child is usually free from any taint of syphilis. In one young woman, 72 gm. of albumin to the liter were noted, but this condition was speedily corrected by the specific treatment. Instances are numerous in which a secondary nephritis retrogressed under mercurial treatment during pregnancy. Comby does not give potassium iodid to children with inherited syphilis until the third year, preferring mercury alone for the first two years. In several years of experience with this method, Gaucher has always had the pregnancy progress to term. The earlier this treatment is begun after conception or after infection, the more certain are the results for the welfare of the fetus. Pregnant women seem to have a peculiar tolerance for mercury. In case of albuminuria, the tannate of mercury may be used at first, gradually increasing the dose and resorting to the benzoate as constant supervision shows that the permeability of the kidneys is returning to normal.

February 28.

**Treatment of Pneumonia with Antidiphtheria Serum.** Ch. Talamon.—Fifty patients with pneumonia were treated at the Bichat hospital with antidiphtheria serum. The mortality the year before had been, for persons under 50 years of age, 23.4 per cent., and above 50 years, 60.7 per cent. During 1900, when antidiphtheria serum was being used, the mortality under the age of 50 was 8.3 per cent., and over 50, it was 28.5 per cent. All but 8 of the 50 were addicted to the immoderate use of alcohol; 37 were men. Considered from all points of view, Talamon asserts that this treatment evidently abbreviates the duration of the disease, suppresses or reduces the chances of complications and reduces the mortality by at least 10 per cent. It failed only once on the 25 patients who were treated with the serum before the fifth day, and this was in a woman of 72. Examination of the fatal cases shows good reasons in existing complications or excessive alcoholism for the failure to cure. Almost all the patients above 40 had arteriosclerosis. In case of kidney disease, caution is necessary, but otherwise the injections may be progressively increased. He injected as much as 200 to 260 c.c. in a few days in some cases, and noted no bad effects except a slight exanthem in a few. Two or three injections of 20 c.c. of the serum are usually sufficient in patients under 50, and four or five over this age. One injection may prove sufficient in some cases, while others may require six or seven.

March 14.

**Otitis and Cerebrospinal Meningitis.** Vaquez.—Besides the meningitis that develops locally from direct communication with a focus in the ear, Vaquez and Lermoyez have observed cases and three are described in detail, in which an old, chronic otitis seemed to have been the origin of a generalized cerebrospinal meningitis—a remote infection in which the spinal predominated over the cerebral symptoms.

Centralblatt f. Chirurgie (Leipsic), March 9.

**Treatment of Severe Scoliosis.** P. Bade.—During the months that a child is wearing a plaster cast, he or she is constantly growing and usually loses more or less flesh during the treatment. The cast is not adjusted to conform to these changing conditions, and consequently the pressure on the hump and the extension are constantly diminishing. Bade remedies this by applying to the cast the principle of Schede's extension apparatus for spondylitis. This enables the extension to be adjusted as required. The pressure on the hump is regulated to correspond, by two plates which together form a pad, inside the cast, over the hump. One fits on the hump, the other against the inner surface of the cast, and a screw connects them and projects externally through the cast. By turning this screw the pressure on the hump can be increased or diminished at will.

**Suture Bolts for Median Cicatricial Hernia.** A. Hammesfahr.—A woman had been operated on eight times, on account of recurring hernia in the cicatrix left from a median laparotomy for ileus in 1894. The recti kept opening outward. Hammesfahr isolated the recti throughout their entire length—both the upper and under surfaces—and with a nearly blunt needle and strong wire, commenced at the outer margin of one and took a series of stitches horizontally across to the outer margin of the other rectus, leaving a short space each side of the inner margins, with the wire on the outside. Both ends of the wire were also brought up outside and twisted together at the median line. By this arrangement every effort of the recti meets this double wire on the outside and is effectively kept under control. He applied the wires at intervals of 3 or 4 cm., from the symphysis to the ensiform process, and the patient was completely cured of the tendency to hernia. He thinks that two of these suture-bolts would be sufficient in ordinary cases. The peritoneum was not opened.

March 16.

**Study of Roentgen Plates.** K. Ludloff.—This communication states that details are brought out more plainly in a Roentgen plate if it is placed over a translucent plate set in the side of a box containing electric lights and reflectors to

throw the light on the plate, the room being otherwise dark. Remarkable relief is obtained if it is viewed through an opera or large magnifying glass.

**Improved Technique of Ether Narcosis.** W. Reinhard. By injecting atropin forty-five to sixty minutes before an ether narcosis, the secretion of mucus and saliva is reduced to the minimum. Reinhard prefers to combine it with morphin or codein as follows: atropin sulph., 1 eg.; morphin muriat., 20 eg.; aq. dest., 10 gm. One-half to a whole syringeful is injected subcutaneously. The morphin prevents any possible by-effects of the atropin, and the action of the latter on the heart and respiration center in the medulla contributes materially to the success of the narcosis.

**Benzin in Surgery.** F. Franke.—The odor of ether is distasteful to certain persons, and its high price renders a cheaper substitute desirable. Franke states that for many purposes, such as cleansing the field for operating, removing plasters, dissolving salves, etc., benzin is fully equal to ether, while it does not cool the skin to such an extent. Several years' use of it has convinced Franke that for many purposes it is an effective and even a preferable substitute for ether.

Dermatologische Zeitschrift (Berlin), February.

**Severe Mercurial Exanthem.** A. Berliner.—A healthy woman, 42 years of age, began to complain of headaches, and when, a few weeks later, a papulous exanthem appeared on the trunk, her physician ordered mercurial inunctions. She used 30 gm. of gray ointment in ten days. An eruption came on the legs after the first inunctions and extended over the entire body and the mucous membrane of the mouth after the mercury was discontinued. There were no indications of lues. In a few weeks the entire body was discolored by minute petechiae, making the patient look like a negro; the skin was swollen and there was much desquamation, with patches of pemphigus blisters, constantly bursting and discharging, with a fetid odor. The patient was placed in the continuous bath, but symptoms of pneumonia developing, with diminishing pulse and apathy, she was replaced in bed and the temperature raised by the constant application of a mechanical sweat-inducing apparatus. The discoloration persisted when she was dismissed, still looking like a mulatto, and patches of pigmentation remained a year later on breast and back. Pyogenic infection through the blisters was probably the cause of the septicemic symptoms, especially of the capillary hemorrhages. No mercury was found in the urine at any time.

Deutsche Med. Wochenschrift (Leipsic), March 14.

**Biologic Proof of Derivation of Albumin in Nephritic Urine from the Blood.** V. E. Mertens.—The specific turbidity produced in diluted blood by serum from a prepared rabbit is evidently due to the albumin in the blood. The same specific cloudiness is also induced in nephritic urine. Mertens accepts this fact as proof that the albumin in the urine in these conditions is derived from the blood. Control tests with animals treated with nephritic urine instead of blood, produced the reaction in the same way. Mertens also calls attention to the fact that the serum of young rabbits of a litter born after the rabbit had been prepared with the preliminary injections, also induced the specific reaction the same as the serum of the mother animal.

**Destruction of Tubercle Bacilli in Fats.** A. Gottstein and H. Michaelis.—Oils and fats aid in dissolving the waxy envelope of the tubercle bacillus, and consequently these substances are sterilized with comparatively little heat. A number of tests are reported in which five minutes at 87 C. completely sterilized the oil, margarin, etc., tested.

**Lipochromes in the Ganglion Cells in Man and Animals.** M. Rothmann.—Lipochromes appear in the ganglion cells in man about the eighth year, and become more and more numerous with advancing age. They have never been found in animals, but Rothmann shows that this has been due to the fact that the animals examined were all under the age of 8 years. He has succeeded in finding them in horses, monkeys and a dog, corresponding in every respect to those of the same actual, not relative age in man.

**Multiform Erythema with Exudation After Chemical Irritation of Urethra.** J. Heller.—Five cases of erythema following chemical irritation of the urethra are described. In one, a healthy man with remote gonorrheal antecedents, the irritation was caused by a transient contact with 20 per cent. solution of creolin. A purulent urethritis followed with an affection of the joints. A typical erythema with exudation appeared when the urethritis was at its height and paralleled it in its course, vanishing with the cessation of the discharge from the urethra. The chemical irritation probably causes a serous exudation from the mucous membrane. The absorption of this serous fluid then leads to autointoxication in predisposed individuals, and in the course of twelve to forty-eight hours, to the multiform erythema. This assumption would explain Still's twenty-six cases of enema rash, in which the erythema appeared twelve to forty-eight hours after a soap enema. The soap must have acted as a chemical irritant.

**Genesis of Mastitis Adolescentium.** E. Franck.—During the last eight years Franck has had two patients, one 15 and the other 16 years of age, with mastitis adolescentium. The breast was hard and sensitive, and resembled the case described by Adler, noticed in The Journal of February 23, p. 533. He does not accept Adler's explanation of the cause, as he found that the mastitis coincided in each of his patients with excessive masturbation, and was probably the result of this intense stimulation of the genital sphere. He limited treatment to a mild salve, and moral suasion to put an end to the masturbation. As the latter was suspended the mastitis retrogressed. He has also noted in other patients who confessed to excessive masturbation, that one or both of the breasts were more or less sensitive to pressure.

**Vaginal Hysterolysis.** Steffeck.—By this term Steffeck describes his method of treating pathologic fixation of the uterus, which he has been following with constant success since 1894. The uterus is detached from its posterior adhesions through a posterior colpotomy, and then from the anterior through an anterior colpotomy, concluding with vaginofixation of the organ. The method applies only to directly adherent uteri. Laparotomy is preferable for adhesions from large tumors in the adnexa. He concludes with the statement that on reviewing Landau's record of 200 radical operations he can find only two or three of the cases that might not have been treated by this conservative vaginal hysterolysis. He is surprised that the "authorities have not interfered long ago to put an end to such polypragmaty."

**Application of the Uranium Rays to Enhance the Effect of the X-Rays.** E. Grunmach.—A screen of fine linen is impregnated with a solution of uranium—the source of the Becquerel rays—and suspended between the vacuum tube and the subject at a point where the X-ray must pass through it. The shadows cast on the fluoroscope are much clearer and more distinct, and the contrasts are sharper than by any other technique. The finished actinograms are likewise exceptionally distinct, even with obese subjects.

March 21.

**Surgery of the Stomach.** W. Koerte.—Almost all the patients who have been operated on for ulcer have been permanently restored to their normal activity. There is not much danger of recurrence from persisting hyperacidity, according to the experiences to date. We must bear in mind, Koerte adds, that surgical intervention in these cases is not directed so much against the ulcer as against its consequences. The greatest reserve is indicated in case of nervous constriction of the pylorus as these gastric neuroses may resist even surgical intervention. Frequent small hemorrhages from the stomach may indicate an operation, but in cases of extensive, threatening hemorrhage, surgical intervention is the last resort. Perigastritic adhesions and perforations of the stomach require operation, the latter within twelve hours. A few patients recover and those who do not were doomed in any event. Dilatation of the stomach from cicatricial stenosis of the pylorus is generally recognized as incurable by medical means. The results of operation have been so good that it should be more extensively practiced, although there is always a liability of

post-operative pneumonia, hemorrhage or embolism. In the 38 operations on account of ulcer and its consequences, which Koerte has performed, the ages ranged from 16 to 61; 28 were more than 30 years old. The first symptoms of the ulcer dated from twenty to thirty years previously in a number, and in only 3 from less than a year. Pains and vomiting were constant symptoms; hematemesis or bloody stools were noted in 18 cases; the stenosis was not accompanied by dilatation in the 3 younger patients. In 4 there was considerable gastroptosis. The constriction was usually in the pylorus, once in the upper duodenum, five times in the prepyloric region and twice in the middle of the stomach. The stenosis frequently simulated a tumor and suggested carcinoma. Extensive adhesion of surfaces was noticed in many cases, and also the spread of the ulcer to the pancreas or liver. Hydrochloric acid was increased in amount in 24 cases, absent in 4, traces were found in 3, and lactic acid in 4. Only with the microscope was it possible to differentiate ulcer from carcinoma in a number of instances. Perforation into the abdominal cavity was found in 10, and into the subphrenic space in 6 instances. Resection is possible only in favorable, well-isolated stenoses or ulcers, or on suspicion of carcinoma. It makes greater demands on the strength, but is always preferable under favorable conditions. Circular resection was done 5 times, with 4 recoveries and 1 death. The segmentary resection of an approaching perforation of the anterior wall was done with success in one case. Gastroenterostomy is the normal method in case of stenosis of the pylorus. The mortality was 20.6 per cent. in 28 cases. Another patient died from pericarditis after a complicated operation which included removal of a stenosis of the esophagus. Hacker's technique was constantly followed, no button used, merely a continuous suture in two tiers. Death occurred in two cases from collapse during the operation, once from pneumonia, twice from subsequent hemorrhage from the ulcer and once from a phlegmon in the stomach wall. In one case a peptic ulcer of the jejunum occurred three years after the gastroenterostomy, causing death from perforation. Recent examination of the cured patients showed that they had all been extraordinarily improved from the nutritional point of view and the working capacity was fully restored, although a few still had occasional gastric disturbances. Plastic operation on the pylorus was done but once; the patient recovered. One patient was operated on to arrest extensive and threatening hemorrhage. The operation was extremely difficult, but the hemorrhage was arrested by enclosing the bleeding point in a suture. All went well for a week, when the threads cut through and the patient succumbed to a fresh hemorrhage from the splenic artery. In one case, a young man first noticed symptoms of gastric disturbance three weeks previously. There was absolute motor and secretory insufficiency. Even fluids were not absorbed and could be pumped out unaltered in three or four hours. There was no hydrochloric acid, pepsin nor rennet, but a little lactic acid was evident a few hours after eating. The stomach was scarcely dilated at all, which spoke against atony. On operating, perigastric adhesions were found and the pylorus felt hard and cartilaginous. After gastroenterostomy the patient rapidly recovered his strength and gained twenty pounds in a few weeks.

**Differentiation of Stenosis of the Pylorus.** Boas.—Many cases that offer apparently the clinical picture of organic stenosis of the pylorus, yield in a week or two to appropriate medical treatment, lavage of the stomach and dietetic measures. These results prove that the stenosis was spastic instead of organic, and Boas confirms the folly of attempting to operate on such cases. They recover with merely moderate atony remaining. In some cases there may be a relative stenosis, and it is difficult to differentiate these from the condition known as a simple atony. This slight stenosis of the pylorus is much more frequent than had been supposed until recently. There is one sign of slight stenosis which Boas has never known to fail. This consists in a tonic contraction of the fundus wall when the stomach is full, similar to the rigidity noted in the intestine in case of stenosis. Gently massaging the fundus causes a tonic contraction of the fundus wall, which then relaxes and stiffens again under the fingers. The other clinical signs in such cases may indicate merely atony or gastric insufficiency, but this intermittent rigidity of the fundus wall speaks for slight stenosis of the pylorus.

**Experimental Research on the Compensation of Sensory Ataxia.** A. Bickel.—The benefit to be derived from systematic gymnastic exercises in tabes dorsalis is now generally recognized, and Bickel reports a number of experiments which throw some light on the mechanism of compensation. The sensory nerves of both hind legs were divided in dogs. In a few months the ataxia induced by this measure had become fully compensated. Both labyrinths were then extirpated and the ataxia returned as severely as before, and the compensation was never again complete. Extirpation of the labyrinths is never followed by ataxia, under other conditions. In other experiments, after compensation of the ataxia induced by dividing the sensory nerves of both hind legs, a portion of the cortical sensory-motor zone was removed and in this case also the sensory ataxia recurred. These experiences demonstrate that the compensation of the ataxia is not the result of a process of restitution in the limbs whose sensory nerves have been severed, but is due to other organs, especially to the labyrinths and the cortical motor zone. Further research may reveal other portions of the nervous system which co-operate in the production of the compensation, possibly the thalamus opticus, the corpora quadrigemina and cerebellum. Experiments in this line are now in progress.

**Neutral Stain for Fats.** L. Michaelis.—A neutral stain can be derived from azobenzol, which has a peculiar affinity for fats. Analysis of this group of stains shows the close connection between the composition and the staining properties. The most useful representative of this group of neutral stains is scarlet R, which stains every fat and fat alone. The best proportion is a saturated solution in 70 per cent. alcohol.

Mitteilungen a. d. Grengeb. der Med. u. Chir. (Jena) VII, 4 and 5.

**Appendicitis as Consequence of a General Disease.** C. Adrian.—Experimental evidence is presented to prove that the appendix shares with the tonsils, the joints, the lymph-glands and the cavities lined with serous membrane, the faculty of attracting bacterial invasion when micro-organisms are circulating in the blood. Attempts to induce inflammation in the appendix by local injections were unsuccessful, but infection of the blood became macroscopically localized in the appendix before any other organs or section of the intestines showed indications of bacterial action, except possibly the saccule of the vestibule in rabbits. There is undoubtedly in man a connection between ordinary tonsillitis, joint affections and appendicitis. The tonsils or the appendix may be the starting-point of an acute articular rheumatism, or an appendicitis may follow a joint affection, which in turn can be traced to a tonsillitis.

**Obliteration of the Portal Vein.** F. Umber.—The patient in the case described was a hard drinker who had always been in good health until two months before his death, when symptoms of congestion in the portal domain developed, with hemorrhages from the alimentary canal and recurring ascites. The autopsy disclosed that the liver was sound, but the lumen of the main portal vein had evidently been obliterated for years. Nature had compensated this obliteration as Talma has accomplished artificially, by establishing extensive collateral circulation. There were adhesions between the omentum, liver, kidney, spleen, intestines and abdominal wall, also between the diaphragm, stomach and liver, etc. This complete compensation of the obliterated vein had kept the liver normal and maintained robust health without disturbance for many years. Umber concludes that puncture may prove sufficient in case of obliteration of the portal veins, and that the establishment of collateral circulation may be left to Nature.

**Maintenance of Tendon Reflexes After Division of Spinal Cord.** Kausch.—In laminectomy on a young woman, for a tubercular affection of the vertebræ, the spinal cord was completely divided transversely at the sixth to eighth dorsal vertebræ. The tendon reflexes and muscle tonus were at once completely abolished, but returned again, the former in twenty-

four hours and the latter in forty-eight hours, and persisted afterward unmodified. The patient lived five and one-half months; menstruation was normal.

Muenchener Medicinische Wochenschrift, March 19.

**Experimental Research on Disinfection of the Hands.** T. Paul and O. Sarwey.—In the sixth communication on this subject, from the Tübingen clinic, the writers show that any addition to a solution of sublimate which facilitates precipitation diminishes the disinfecting power. They also deplore the contradictory statements of other writers in regard to disinfection of the hands. Ahlfeld, for instance, is convinced that the hot water and alcohol technique affords ample disinfection and that every puerperal affection that appears afterward is of necessity autogenetic. C. L. Schleich trusts so implicitly to the disinfecting power of his marble-dust soap that his professional conscience does not prohibit septic and aseptic operations in varying sequences. The writers state: "We are of the opposite opinion, as any one would be who had witnessed our experiments."

**Improved Technique of Manipulative Correction of Luxation of the Hip-Joint.** Schlesinger.—In severe cases of congenital luxation of the hip-joint so much strength is required to restore the parts to normal position that injury frequently results. This can be entirely avoided by applying a plaster cast. The joint is manipulated and the correction that can be obtained without force is maintained by applying a plaster cast at once. This is removed in three or four days and further correction attempted. It is usually found that the luxation can be completely reduced at the second attempt, but if not, the further correction attained is maintained by a plaster cast applied for a few days more. Success has always invariably crowned the third attempt. Four of the five patients described were between 7 and 14 years of age.

Giornale Accad. di Med. di Turin., January.

**Pathogenesis of Aneurysms.** A. Fabris.—From a series of experimental researches conducted by Fabris, the conclusion seems evident that morbid processes on a basis of degenerative and inflammatory changes are much more important factors in the pathogenesis of aneurysms than are the mechanical or traumatic. The laceration of the elastic fibers from a traumatism may enlarge the lumen of the vessel, but restitution proceeds rapidly and each of the coats of the artery becomes regenerated in time, with possibly more or less hypertrophy of the media. The permanent substitution of fibrous tissue after a morbid inflammatory or degenerative process prevents reduction of the lumen, which is thus left permanently and progressively dilated.

February.

**Traumatic Tabes Dorsalis.** C. Negro.—A teacher of gymnastics fell from the parallel bars, on his side, without hitting his head or spine directly. Paresis of the deltoid ensued, but yielded to massage. About four months after the traumatism, typical tabes dorsalis gradually developed. No symptoms of the kind had been noticed before the traumatism and there were no indications of syphilis or of any other infection.

**Santonin in the Fulgurant Pains of Tabes.** C. Negro.—The specific action of santonin on the eye—xanthopsia—suggested to Negro that santonin might have a specific action on the general sensibility and temporarily modify the function of the nervous system. He therefore administered it in a severe case of fulgurant pains in tabes, rebellious to other measures. The pains diminished three hours after the first dose and subsided completely two hours after the second, and did not reappear for twelve or thirteen days. The same experience followed its use again, but this time the pains did not reappear for sixteen days. The results were equally satisfactory in 8 out of 11 other patients to whom he administered the santonin, in doses of 10 cg. followed by 5 cg. five hours later. Two were only transiently benefited and one did not take the full amount. He did not venture to repeat this treatment more than four or five times in the course of two or three months. He is now testing it in neuralgia.

**Electrolysis as a Means of Determining the Power of Resistance of the Red Corpuscles.** E. Buffa.—By means of the hemolysimeter devised by Buffa, he is able to determine the resisting power of the red corpuscles in less time than by other methods—from twelve to fifteen minutes being all that is necessary. He determines the number of corpuscles in the blood before and after electrolysis with a current of 4.5 milliampères.

# Queries and Minor Notes.

STATES RECOGNIZING DIPLOMAS.

Bridgeport, Conn., March 28, 1901.

*To the Editor:*—I will be greatly obliged to you for a list of the states which recognize a diploma from a reputable medical college, as sufficient to practice medicine therein. H. W. F.

Ans.—Arkansas, Colorado, Kentucky, Michigan, Nebraska, Nevada, Rhode Island, South Dakota, Wisconsin, Wyoming, Oklahoma and New Mexico. Alaska has no medical regulations whatever. Indiana, Missouri, Kansas, and possibly California and one or two other states have recently passed laws requiring examination; previously a properly certified diploma was sufficient. We do not know how soon these new laws go into effect, possibly not before July. Texas has also passed a new law requiring examination by a state board, which, however, has not yet gone into effect.

PRACTICE IN ILLINOIS—INDIAN AGENCY.

Dover, Ky., April 1, 1901.

*To the Editor:*—1. Will you give me the laws regulating the practice of medicine in Illinois and Michigan? 2. What procedure and qualifications are necessary to secure an appointment as agency or post physician at one of the Indian or government agencies? R. A. B.

Ans.—1. In Illinois an examination is required on presentation of a satisfactory diploma. In Michigan, license to practice is given on presentation of a diploma from an institution recognized by the State Medical Examining Board. Only some thirty or forty institutions, thus far, have been placed on the list of those whose graduates are exempted from examination. 2. Write to the Commissioner of Indian Affairs, Washington, D. C.

PRACTICE IN PENNSYLVANIA.

Onaway, Mich., April 2, 1901.

*To the Editor:*—Kindly inform me as to the requirements for practice in Pennsylvania; also whether the certificate of the Michigan state board is recognized. R. D. H.

Ans.—The requirements for practice in Pennsylvania are a certain degree of preliminary education, including the ordinary high school branches, presentation of a diploma satisfactory to the examining board and the passing of an examination. Pennsylvania does not recognize the Michigan certificates as the latter state does not require an examination in all cases as a qualification for practice.

PRACTICE IN BRITISH COLUMBIA.

Everett, Mass.

*To the Editor* Can you inform me as to the requirements necessary to obtain a license to practice medicine in British Columbia, and to whom I would apply for particulars?

Ans.—British licentiates are permitted to practice medicine in the province of British Columbia; all others must take the prescribed examinations. The fee is $100. Full particulars can be obtained from the registrar of the College of Physicians and Surgeons, Victoria, B. C.

CITY SEWERAGE.

Janesville, Wis., March 29, 1901.

*To the Editor:*—Kindly inform me where I can find articles or papers on "Why a City Should Have Sewerage," or the question of city sewerage. J. M.

Ans.—See articles on Habitations, in general works on hygiene, Buck, Murphy and Stephenson, Notter, Harrington, and others. Works on sanitary engineering give accepted views as to sewerage installations in cities.

CARE OF IDIOTS.

Racine, Wis., April 3, 1901.

*To the Editor:* Could you give me information regarding schools for idiots, located in Chicago's vicinity? Do the state schools receive pay patients, and would they give them extra care, etc., in consequence? If you are unable to give me the desired information, could you direct me to the proper source for it? H. E. J.

Ans.—We know of but one school for idiots near Chicago, and that is the one conducted by Miss Stryker, Wheaton, Ill. The Illinois Asylum for Feeble-Minded Children, at Lincoln, receives only state patients, and this is the case in most of the western states. Patients outside of the state, if there is room for them, are sometimes received for pay, but the institutions are generally quite full. We do not know about special care given to pay patients. An inquiry addressed to the various secretaries of the state boards of charities would doubtless give the desired information.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers in accordance with orders from the Adjutant-General's Office, Washington, D. C., March 21 to 27, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., leave of absence granted.

Cosam J. Bartlett, acting asst.-surgeon, from the Department of Alaska to San Francisco, Cal., for duty in the Department of California.

Shadworth O. Beasley, major and surgeon, Vols., recently appointed, from San Francisco, Cal., to Manila, P. I., for duty in the Division of the Philippines.

Edward G. Beeson, captain and asst.-surgeon, 39th Infantry, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect March 31, 1901.

William D. Crosby, major and surgeon, U. S. A., in addition to his present duties, will relieve Major H. S. Kilbourne, surgeon U. S. A., of his duties as medical superintendent of the army transport service in New York City, N. Y.

Joseph J. Curry, captain and asst.-surgeon, Vols., leave of absence extended.

Calvin DeWitt, lieut.-col., deputy surgeon-general, U. S. A., from sick leave to duty as a member of the board of medical officers now in session at the Army Medical Museum, Washington, D. C., for the examination of candidates for admission into the Medical Corps of the Army, relieving Col. A. A. Woodhull, assistant surgeon-general, U. S. A.

Joseph C. Garlington, acting asst.-surgeon, from Fort Mott, N. J., to duty at Fort Terry, N. Y.

John J. Gilhuley, acting asst.-surgeon, from Fort Terry, N. Y., to Bridgeport, Conn., for annulment of contract.

Charles W. Hack, captain and asst.-surgeon, Vols., member of a board at Columbus Barracks, Ohio, to examine officers of the army for promotion, subsequently ordered to duty with recruits en route from Columbus Barracks, Ohio, to San Francisco, Cal., and thence to Manila, P. I., for assignment in the Division of the Philippines.

George L. Hicks, Jr., captain and asst.-surgeon, Vols., recently promoted, from lieutenant and asst.-surgeon, 38th Infantry, Vols., is assigned to that regiment.

Henry S. Kilbourne, major and surgeon, U. S. A., from New York City, N. Y., to duty at the Presidio of San Francisco, Cal.

Julius C. Le Hardy, acting asst.-surgeon, from Savannah, Ga., to duty at Fort Wood, N. Y.

Thomas C. Longino, captain and asst.-surgeon, Vols., recently appointed, from Fort Clark, Tex., to accompany troops via San Francisco, Cal., to Manila, P. I., and for assignment in the Division of the Philippines.

Edward W. Pinkham, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting, on arrival, by telegraph to the adjutant-general of the army for instructions.

Joseph C. Reifsnider, captain and asst.-surgeon, Vols., recently appointed from West Point, N. Y., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Samuel L. Steer, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting on arrival, by telegraph, to the adjutant-general of the army for instructions.

William T. Tanner, captain and asst.-surgeon, Vols., recently appointed, from Fort Wadsworth, N. Y., to accompany the 3d Battalion, 11th Infantry, to Manila, P. I., reporting on arrival for assignment in the Division of the Philippines.

William R. Van Tuyl, captain and asst.-surgeon, Vols., recently appointed, from Fort Thomas, Ky., to San Francisco, Cal., en route for duty in the Division of the Philippines.

## Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 30, 1901:

Asst.-Surgeon R. F. Ledbetter, detached from the *Constellation*, April 1, and ordered to the *Chicago*, via the *Dixie*, April 3, as relief of Asst.-Surgeon J. R. Whiting.

Asst.-Surgeon C. A. Crawford, detached from the *Dixie*, March 28, and ordered to the *Constellation*, April 1, as relief of Asst.-Surgeon R. E. Ledbetter.

Asst.-Surgeon J. R. Whiting, detached from the *Chicago*, upon reporting of relief, and ordered to the *Dixie*.

Surgeon G. Pickrell, detached from the Naval Hospital, Mare Island, Cal., and ordered home.

Asst.-Surgeon E. Davis, detached from the Naval Hospital, Mare Island, Cal., with permission to delay en route home.

Asst.-Surgeon R. K. McClanahan, ordered to the Asiatic Station, via the *Solace*, April 12.

Surgeon C. J. Decker, order detaching from the *Monocacy* and ordering to the *Oregon*, revoked; ordered to the *Newark*.

Surgeon P. Leach, order detaching from the *Oregon* and ordering to the *Monocacy* revoked.

Surgeon C. T. Hibbett, detached from the *Newark* and ordered to the Naval Hospital, Cavite, P. I.

P. A. Surgeon R. Spear, detached from the *Isla de Luzon*, and ordered to the *Concord*.

P. A. Surgeon S. G. Evans, detached from the *Concord* and ordered to the *Monocacy*.

Asst. Surgeon E. J. Grow, detached from the *Glacier* and ordered to the *Isla de Luzon*.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended March 28, 1901:

Surgeon R. D. Murray, granted leave of absence for five days from April 9, 1901.

Surgeon H. W. Austin, detailed as chairman of a board, to be convened from time to time as necessary, for the purpose of re-examining rejected immigrants.

P. A. Surgeon J. M. Eager, upon expiration of leave of absence to proceed to Naples, Italy, for duty, relieving Asst.-Surgeon V. G. Heiser.

Asst.-Surgeon H. S. Mathewson, granted leave of absence for three days from March 27, 1901. To rejoin station at San Juan, Porto Rico. March 27, 1901.

Asst.-Surgeon Taliaferro Clark, granted leave of absence for thirty days on account of sickness.

Asst.-Surgeon C. H. Lavinder, granted leave of absence for ten days from March 28, 1901.

Asst.-Surgeon John McMullen, upon being relieved from duty at Wilmington, N. C., to proceed to the Mullet Key Detention Camp, Florida, and assume command. To report at Washington, D. C., en route to Mullet Key, Florida.

Asst.-Surgeon H. C. Russell, granted leave of absence for eighteen days on account of sickness, from Feb. 21, 1901.

Asst.-Surgeon V. G. Heiser, upon being relieved from duty at Naples, Italy, to proceed to Washington, D. C., and report in person for duty.

Hospital Steward F. S. Goodman, to report to the director of the Hygienic Laboratory, Washington, D. C., for duty.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 30, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: Los Angeles, March 19, 15 cases; San Francisco, March 2-9, 8 cases.
District of Columbia: Washington, March 18, 16 cases.
Florida: Jacksonville, March 16-23, 2 cases.
Illinois: Anna, December-March 18, 50 cases: Chicago, March 16-23, 10 cases.
Kansas: Wichita, March 16-23, 12 cases.
Kentucky: Lexington, March 16-23, 2 cases.
Louisiana: New Orleans, March 16-23, 14 cases, 2 deaths.
Michigan: March 16-23, Bay City, 2 cases; Detroit, 6 cases.
Minnesota: March 16-23, Minneapolis, 6 cases; Winona, 10 cases.
Nebraska: Omaha, March 9-23, 12 cases.
New Hampshire: Manchester, March 16-23, 3 cases.
New Jersey: Hudson County, March 21, 6 cases; Newark, March 16-23, 1 case.
New York: New York, March 16-23, 41 cases, 6 deaths.
Ohio: Cincinnati, March 15-22, 2 cases; Cleveland, March 16-23, 43 cases, 1 death; Toledo, March 16-23, 1 case.
Pennsylvania: March 16-23, Pittsburg, 9 cases; Steelton, 6 cases.
South Carolina: Greenville, March 8-16, 2 cases.
Tennessee: March 16-23, Memphis, 26 cases; Nashville, 13 cases.
Utah: Salt Lake City, March 16-23, 40 cases.
West Virginia: Huntington, March 8-16, 12 cases; Wheeling, March 8-23, 2 cases.
Wisconsin: Milwaukee, March 16-23, 2 cases.
Porto Rico: Ponce, March 11, 13 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 23-March 9, 10 cases; Trieste, March 2-9, 2 cases.
Brazil: Rio de Janeiro, Jan. 1-31, 36 cases.
Belgium: Antwerp, Feb. 23-March 9, 8 cases.
Ceylon: Colombo, Feb. 8-16, 1 case, 1 death.
Ecuador: Guayaquil, Feb. 2-March 2, 14 deaths
Egypt: Cairo, Feb. 25, 1 death.
France: Paris, March 2-9, 7 deaths; Roubaix, Jan. 1-31, 1 death.
Germany: Leipsic, Feb. 16-23, 1 death.
Great Britain: England, London, March 2-9, 1 case; Newcastle-on-Tyne, March 2-9, 2 cases; Scotland, Edinburgh, Feb. 2-9, 3 cases; Glasgow, March 8-15, 20 deaths.
India: Bombay, Feb. 19-26, 7 deaths; Calcutta, Feb. 8-23, 243 deaths; Karachi, Feb. 16-24, 23 cases, 10 deaths; Madras, Feb. 16-23, 7 deaths.
Japan: Yokohama, Feb. 16-23, 1 case.
Korea: Seoul, Feb. 2-9, prevalent.
Russia: Odessa, Feb. 23-March 9, 20 cases, 3 deaths; Riga, Jan. 1-Dec. 31, 1900, 174 deaths; St. Petersburg, Feb. 23-March 9, 12 cases, 1 death; Warsaw, Feb. 23-March 2, 8 deaths.
Straits Settlements: Singapore, Feb. 8-16, 2 deaths.
Syria: Jaffa, August, 1900-March 6, 1901, 4 cases, 1 death, in German colony; Jerusalem, August, 1900-Feb. 4, 1901, 1600 cases, and 35 or 40 per cent. deaths.

YELLOW FEVER.

Cuba: Havana, March 8-16, 2 cases, 2 deaths.

CHOLERA.

India: Bombay, Feb. 16-23, 6 deaths; Calcutta, Feb. 8-23, 44 deaths; Madras, Feb. 16-22, 2 deaths.
Straits Settlements: Singapore, Feb. 8-16, 4 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Jan. 6-March 2, 10 cases, 10 deaths.

PLAGUE—FOREIGN.

Africa: Cape Town, Feb. 16-March 4, 35 cases, 11 deaths.
Brazil: Rio de Janeiro, Jan. 1-31, 15 cases, 9 deaths.
China: Hongkong, Feb. 2-9, 2 deaths.
India: Bombay, Feb. 19-26, 1118 deaths; Calcutta, Feb. 8-23, 520 deaths.
Straits Settlements: Singapore, Feb. 4, 1 death.

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## Address.

JULES LEMAIRE

THE FIRST TO RECOGNIZE THE TRUE NATURE OF WOUND INFECTION AND INFLAMMATION, AND THE FIRST TO USE CARBOLIC ACID IN MEDICINE AND SURGERY.*

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BALTIMORE, MD.

*Motto: "Je ne suis pas de cet avis. Les questions de priorité intéressent la moralité publique, parce qu'elles traitent de la propriété scientifique, plus respectable que toute autre propriété, et qu'il importe extrêmement que l'opinion publique ne s'égare pas sur les véritables auteurs des progrès scientifiques et industriels." (Pasteur, réplique à une attaque de M. de Vergnette-Lamotte, Journal d'Agriculture practique, 18 juillet, 1872.)*

*"On voit que l'illustre inventeur ou au moins démonstrateur des ferments vivants ne partage pas l'opinion de notre savant maître et ami, M. Marchal (de Calvi), qui croit que tous les progrès, toutes les découvertes doivent être anonymes dans le nouvel ordre social, et que le sentiment intime d' avoir fait quelque chose de bien doit être la seule récompense des inventeurs et de tous les bienfaiteurs de l'humanité." (Déclat, Traité de l'acide phénique, Paris, 1874, p. 896).*

*Prat: L'acide phénique à l'Academie des sciences. Réclamation de priorité. Simples réflexions.*

*"Les questions de priorité, a-t-on dit quelque part, n'ont qu'un intérêt médiocre. Nous ne sommes pas de cet avis. A la vérité, qu'un inventeur s'appelle A ou B, cela est de mince importance pour la science pure; mais il importe au contraire beaucoup, au point de vue de la moralité et de la justice, de rendre à chacun ce qui lui est dû." (La France Médicale, 1865, xii, 86).*

*"M. Pasteur a fait des expériences nouvelles, j'en ai fait moi-même un assez grand nombre; nous avons suivi chacun une route différente qui nous a conduits à des résultats tels, qu'aujourdhui la question de la nature des ferments me paraît résolue. Ce que je désire, c'est de préciser les dates, pour qu'il soit possible (si on veut le faire un jour) de rapporter à chacun de nous la part qu'il a prise à la solution de cette importante question." (Lemaire: Paris, Feb. 25, 1862.)*

I think that I observe a growing tendency to speak with disdain and with a fine assumption of indifference regarding questions of contemporary priority, and this feeling, as nearly as I can trace it to its source, seems to originate in the innate natural objection of scientific workers to become partisans to any discussion which involves the sacrifice of time in determining its merits, often too lying in a field of research for which they have little inclination, with the additional prospect that the debate may sooner or later become acrimoniously personal.

It is always difficult, in cases of conflicting claims, to form a correct judgment, and the task is sure to be a disagreeable one. While I may be willing to go to great pains to set my own claims in their proper light before the public, I do not want to be dragged incontinently into the quarrels of other people with whom I have no close personal affiliations.

It is for such reasons, I think, that most questions of priority are vaguely settled on purely national and personal lines, and yet such an attitude is unjust and faulty in the extreme, for all history is but a record of the sequence of events, of acts and discoveries in which questions of priority of one sort or another continually arise, and if the contemporary historian is timid and does not set these things aright, how is he of later date, with less available information, to do justice to his task and utter the naked truth?

Contemporary history is often the only real history after all, for he who writes at a later date, with perhaps pardonable bias, often neglects many of the contributing factors in an event, when with more dramatic than scientific instinct he sets a single lay figure before his readers, to whom he ascribes the credit of a movement due in many instances to a coterie of coworkers.

If our ancestors could but read the historical writings of their posterity, I feel sure that many a bitter cry of injustice would be raised, and many a dissertation be penned to set matters in their true light.

We suffer to-day not so much from an actual falsification of our records as from a theatrical tendency to exaggerate and to distort and to present facts out of due proportion. A great name in this way often has the misfortune of unwittingly crowding out of recognition some others only a little less great also deserving recognition.

### HISTORIC GENESIS OF ANTISEPSIS.

With this brief preliminary I shall proceed at once to a consideration of the historical genesis of the antiseptic idea, and I trust that I may now, after a lapse of more than a generation, enter upon this little bit of research untrammelled by national prejudice or the bias of preconceived ideas rooted in our education.

It is a natural impulse and, I think, a good one, to pause after rounding such a cycle of time as is represented by a century, to review our progress and to question our opinions, as well as to set right matters of history and apportion the laurels to their rightful owners; and it is for this reason that I have ventured to present this great question of the discovery of antisepsis.

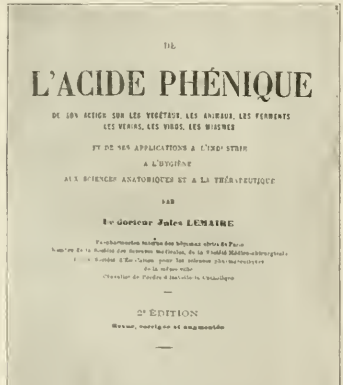
If I were asked what I consider the greatest acquisition of the past century, I should unhesitatingly reply: the introduction of antisepsis into surgery; for what are all the gross material achievements of our race in the way of facilities of transportation and communication, the enormous gains in creature comforts bestowed by the great century of inventions; what is progress of any sort compared with the relief from suffering and the years added to life by the bolder surgery of to-day? They are but as the dust in the balance in comparison

* Delivered before the Cincinnati Academy of Medicine.

to him who rightly appreciates the sacredness of a single human life.

I shall not pause to dwell upon the familiar picture of the enormous differences between the surgery of fifty years ago and that of the end of the century, further than to call to mind that the new principle of antisepsis, aside from restricting active operative surgery in certain fields, such as compound fractures, and opening up a great new surgical domain in the abdomen, has probably multiplied the sum-total of the surgical work done not less than thirty-fold.

Please bear in mind these principles, which shall govern our inquiry: 1. We are about to enter upon a purely historical research. 2. The only indisputable evidence at our command is to be found in printed documents. 3. There are, fortunately, no claims and counterclaims of priority which can not be settled by these documents. 4. It is no discredit to one recognized inventor or discoverer to have been anticipated by another in many of the important details of his invention or discovery, provided he has not profited by such labors without due acknowledgement. 5. As a corollary to


DE

L'ACIDE PHÉNIQUE

DE SON ACTION SUR LES VÉGÉTAUX, LES ANIMAUX, LES FERMENTS
LES VENINS, LES VIRUS, LES MIASMES

ET DE SES APPLICATIONS À L'INDUSTRIE
À L'HYGIÈNE
AUX SCIENCES ANATOMIQUES ET À LA THÉRAPEUTIQUE

PAR

Le Docteur Jules LEMAIRE

2e ÉDITION

PARIS
LIBRAIRIE DE GERMER-BAILLIÈRE

1865

this, we may agree equally to honor, or to honor in different degrees, a number of men whose faithful labors have conspired to bring about any condition beneficial to the human race. 6. In forming such an estimate we must in each individual case take into account the clearness of presentation, the persistence indicative of earnest conviction, the sum-total of publications, as well as what is known of the general course of the man's life in relation to the question in hand. 7. I might add that we can never arrive at the absolute truth in any case.

In the year 1863 Dr. Jules Lemaire, of Paris, published a comprehensive work on phenic (carbolic) acid, which was so widely read that in sixteen months no more copies were left in the bookstores, and there were calls for over two hundred copies within a period of five months; these could not be supplied. This interest Lemaire modestly says was in no way due to his own name, which was but little known, but to the real public interest in the subject. It is sufficient for my present purpose to draw from the second enlarged edition published in 1865, some five years after Lemaire's first work, but still nearly two years before any publication upon this subject in any other country. This work is entitled: "De l'acide phénique de son action sur les végétaux, les animaux, les ferments, les venins, les virus, les miasmas et de ses applications à l'industrie, à l'hygiène, aux sciences anatomiques et à la thérapeutique" (2. Edition).

It forms a volume of 754 pages, admirably written and handling the subject in an exhaustive and scientific spirit. The first part—30 pages—is devoted to the history and the uses of coal-tar, from which carbolic acid is derived. Chapter 1 traces the history and properties of carbolic acid already recognized; Chapter 2 is a study of the action of carbolic acid upon vegetables and animals; Chapter 3 is devoted to its action upon fermentation in living and in dead tissues; Chapters 4 and 5, to its practical uses in the destruction of parasites and microphytes; Chapter 6, to its application to hygiene and as a disinfectant; Chapter 7, to its use in the anatomical sciences and as a preservative; Chapter 8, to its therapeutic uses, in preserving wounds and pus from fermentation, in diseases of the skin; its internal use; Chapter 9, to various pharmaceutical formulæ containing carbolic acid. An appendix contains some valuable documents relative to priority.

I shall make no apology, in a matter of such great importance, for reviewing somewhat carefully some of the important contents of several of these chapters, after which, I trust that we may draw the irresistible conclusion that we have here the privilege of doing homage to one of the greatest names in the annals of medical science, and that henceforth the name of Lemaire will be duly invested with that respect and honor which are accorded to the few whom we reckon great benefactors of the race.

We observe at the very outset, as we read the introduction to this work, that a great mind will often discover in a little matter, which has long been a subject of common interest and attention without leading to any conclusion, food for serious reflection, and will ultimately, by the investigation and analysis of ordinary phenomena, evolve laws of far-reaching significance.

*Early Investigations in Coal-tar.*—Lemaire's fruitful studies began with the use of coal-tar, whose antiseptic and disinfectant properties had been noted as early as 1815, 1833 and 1837. In 1844 Bayard was crowned by the "Société d'Encouragement" for a powder of coal-tar, plaster, sulphate of iron and clay, which he used as a disinfectant for hygienic purposes. In 1857 Boboeuf took out a patent on the separation of the acid oils of coal-tar, by saponification, which he then applied to the same uses for which the plaster mixture had been recommended, only in a more convenient and manageable form. In 1859 Demeaux applied a powder of coal-tar and plaster to the disinfection of wounds and aroused great interest in a report upon its use in the hospitals of Paris and in the army of Italy.

This event and this epoch alone are worthy of the careful study of the student of history, so fully did both the profession and the public realize the importance of any means of limiting the awful ravages of infection so rampant wherever wounds were treated.

The great difficulty with this form of coal-tar was that the solidification of the plaster in the mixture rendered it so difficult to apply; in order to form a coarse powder it needed 97 to 98 parts of the dry excipient, so that the mixture contained not more than 2 or 3 per cent. of coal-tar, the active agent. The use of

such a mixture in wounds was also accompanied by the utmost inconvenience from the solidification of the plaster. The trouble was then that, as far as surgery is concerned, the powder was practically useless, although its disinfecting power was generally recognized. Coal-tar was at that time generally believed to be totally insoluble in water.

Fatty bodies which mixed admirably with coal-tar materially altered its properties, as demonstrated by Lemaire, and its natural solvents, alcohol, ether, acetic acid, and volatile oils, forbid its use on wounds, besides costing too much for use on any extensive scale for disinfecting.

*Work of Le Beuf.*—One valuable means of utilizing coal-tar, lying within easy reach, had been overlooked, and that was an emulsion of saponized coal-tar. In 1850 Ferdinand Le Beuf, of Bayonne, a pharmacist, whose name ought never to be forgotten, presented to the French Academy of Sciences a work in which he established the fact that: "All substances insoluble in water but soluble in alcohol, upon the addition of saponine to their alcoholic solution at once became minutely divided and form stable emulsions." Le Beuf consulted Lemaire as to whether coal-tar treated in this way still retained its notable properties as a disinfectant, and Lemaire undertook the investigation which led him so far afield and proved so fruitful to science and humanity. This preparation is made by taking bark of quillaya saponaria, 2 kil., alcohol (90 per cent.), 8 liters, heating to the boiling point and filtering. This preparation, called the alcoholic tincture of saponine, is really a tincture of quillaya. The saponized tincture of coal-tar is then made by taking: Coal-tar, 1000 gr.; tincture of quillaya, 2400 gr., letting it stand for eight days in tepid water, being stirred from time to time and finally filtered. Four parts of water added to this last preparation form an immediate and stable emulsion. This mixture, so widely and successfully used by Lemaire, and freely given to the profession, is wonderfully like a preparation in use to-day and known as "creoline"—verbum sapienti sat. It is interesting to note and pleasant to comment upon the generosity of Le Beuf[1] in giving full publicity to his formula.

*Use of Saponized Coal-tar.*—I quote Lemaire's first experience with the new mixture, saponized coal-tar, as it well deserves to become historic. It was in August, 1859; the patient had a large gangrenous wound situated in the gluteal fold. The results of Lemaire's saponized coal-tar application were so extraordinary that he and Le Beuf promptly presented a preliminary note to the Academy, Sept. 8, 1859. On the 20th of the same month Lemaire wrote a second explanatory note enlarging upon the first and presenting new facts, and in this note he says: "I urged all the advantages surgery would enjoy from this preparation"—*Dans cette note, je pressentais tous les advantages que la chirurgie pourrait obtenir de cette préparation.*

The saponized coal-tar was then widely used, and reported upon so favorably that at the request of several surgeons it was authorized for the civil hospitals of Paris, April 25, 1862. The French Academy, taking cognizance of its extensive employment, charged the great surgeon Velpeau to experiment and report upon its use, and it is interesting to note that when the greatest living surgeon came in contact with that which contained *in posse* the greatest discovery of the century, he failed to appreciate the situation, and treated the matter, if I may read between the lines of his report, with a somewhat impatient disdain, as a rather impertinent intrusion upon his own peculiar prerogatives. Had Velpeau, with simple humility, the noblest characteristic of a great mind, approached the question without bias, bringing to bear upon it his great surgical genius, with his abundant clinical material and powers of investigation, who can tell what would have been the result to French surgery.

*Coal-tar and Disinfection.*—How curious in the light of all that has been wrought in surgery during the past forty years, does this conclusion of the great master sound: "Whether it is phenic acid, or even rosolic acid, brunolic, or aniline or pisoline of coal-tar which is the disinfectant, it amounts to but little in reality, science will declare it some day"—*Que ce soit l'acide phénique ou bien l'acide rosolique, brunolique, l'aniline, ou la picoline du coal-tar qui disinfecte, peu importe au fond, la science le dira un jour.*[2]

We find it difficult to realize, even after the lapse of so short a period as one generation, that one of the notable results of the use of saponized coal-tar in the various hospitals was the disappearance of insects, maggots, flies, roaches, and bedbugs. So accustomed had they grown to these pests that some surgeons, at no remote date even, thought it an advantage to let the maggots multiply in a wound.

Granted then, with Lemaire, that coal-tar has such a remarkable effect upon wounds, the next step in his inquiry was to meet the objection that the coal-tar does not disinfect, but simply disguises the odor, by substituting another less disagreeable (Chevreul), and this is his conclusion: "Coal-tar does not disinfect like chlorin and the salts of zinc and of iron, which transform the infected materials by a double decomposition or otherwise into inodorous bodies; it exercises no chemical action whatever on odorous gases, but acts upon the cause which produces these gases, that is to say upon the ferments. The odor is masked at first it is true, but as the cause of the odor is suddenly destroyed by the arrest of fermentation at the moment of the mixture, the odor is no longer produced."

In 1859 and 1860, some animals, in an advanced state of putrefaction, were injected through the arterial system with saponized coal-tar, and as a consequence they became dry and kept perfectly in the open air, without further alteration. He says: "To solve this question I studied the ferments. Numerous experiences in 1860 taught me that saponized coal-tar destroys the microphytes and microzoa, and that these little beings could not develop in its presence." "I found it then necessary to seek some other explanation than that which accords to oxygen the rôle of the ferment in albuminoid materials." "The ferments are living beings, and in this manner all the remarkable facts I have observed can be explained." The action of coal-tar on the wounds has led me to a new theory as to the formation of pus." "I have been able with the coal-tar to arrest and to reproduce at will the formation of pus just as I have been able to arrest and reproduce fermentation and germination." "I affirm that to-day with saponized coal-tar it is possible to enormously reduce the formation of pus and to hinder its putrid changes. To make this result known to men of capacity is to tell them that it will be a great benefaction to humanity. Purulent infection, which I do not confound with resorption, appears

1. Lemaire: Du Coal-tar Saponiné, etc., p. 6, Paris, 1860.

2. Boboeuf: Mémoire adressé à l'Académie des Sciences, sur l'acide phénique, Paris, 1865, p. 10.

to me to be the result of the action of the ferment of pus upon the economy."

Lemaire's next inquiry is whether coal-tar owes its disinfectant property to a single principle in it, and this he answers after numerous experiments with its various constituents, by concluding that the carbolic acid isolated is much more energetic than the coal-tar.

With this remarkable and learned introduction begins the book upon carbolic acid, whose properties as investigated by Lemaire we will now study.

PROPERTIES OF CARBOLIC ACID.

I have not time to dwell upon the interesting history of carbolic acid, a history full of valuable hints as to the place it was destined to occupy in surgery. Lemaire's attention was next directed to the effect of aqueous solutions of carbolic acid upon vegetables, grain and germination, including the molds. He states that a minute quantity of carbolic acid is sufficient to destroy the following: microzoa, spermatozoa, bacteria, vibrios, spirilla, amoebæ, monads, euglenia, paramecia, rotifers, and vorticellæ. He further experimented with lumbricoid worms and earth worms, as well as twenty-five different families of articulates, and slugs and snails and eight different kinds of vertebrates, including fish, frogs, bull-heads, salamanders, sparrows, mice, horses, dogs and man.

*Action on the Skin.*—He found that when strong acid was applied to the skin of dogs and horses, it caused a dry scar to form, which separated in ten or twelve days. The parts below the scar were slightly moist, but did not suppurate or show any trace of true inflammation. "The result of all I have said is to show that carbolic acid has a very energetic action on the skin; that the pure acid produces a burn of the third degree which is not accompanied by suppuration. These facts give great support to my theories to the formation of pus."

He observed that the action of alcohol is to attenuate that of the acid, and remarked that he carried on his arm the spots which were made two years before, by the acid, while the parts touched with an alcoholic mixture of equal parts showed but faint traces of its action. This result is an important one for practitioners, as they would in this way be able to avoid tatooing their patients. He noted that olive-oil containing 5 per cent. carbolic acid does not prevent the putrefaction of meat.

*Carbolic Acid and Ferments.*—The next and most important inquiry is that of Chapter 3, as to the action of carbolic acid on ferments, venoms, virus and miasms. Its action on ferments, which form in materials abandoned by life, is shown by several interesting experiments. A fresh egg was dissolved in 200 grams of water and put in a jar coated on the inside with a thin layer of carbolic acid. The jar was covered with parchment and left for two months at a temperature of 18 to 20 C., when the egg was found fresh. Fresh meat was tried in the same way and three experiments out of six succeeded. In one of them the meat kept for six months, and in two others it presented the rosy appearance of fresh meat at the end of eight months. Two sparrows were kept in the same way, and at the end of the month one of them presented no trace of any change—the tissues were as fresh and the feathers as well fixed as on the first day; one of them had a putrid odor which Lemaire said showed there was communication with the air, due to volatilization of the carbolic acid which then disappeared when the organic material began to ferment anew.

By applying the carbolic acid test, Lemaire was then able to distinguish between true fermentations due to living beings and so-called fermentations, such as the hectic, synapic, myrosic and glucosic, which were due purely to chemical changes and remained uninfluenced by the carbolic acid.

Venoms, our learned author decided, after making some experiments, are not analogous to ferments because the action of the venom is immediate, without any period of incubation; venoms are rather chemical agents comparable to diastase and synaptase. A virus, however, of which vaccin may be taken as a type, Lemaire decided to be essentially different from a venom. There can be, he said, no doubt as to the nature of cadaveric virus; it is but the product of fermentation and in consequence contains living organisms. As to those, however, which form during life, he noted these significant facts: there is always a period of incubation, there is development and indefinite multiplication, properties belonging to living ferments. A virus can be kept a long time and still preserve its reproductive character. When inoculated, a virus reproduces itself exactly as the seed of grain reproduces its own species. The conditions most favorable to a virus are also those most favorable to a ferment. All these properties leave no doubt but that the virus is a living organism. And this idea of a pathology due to living organisms—*pathologie animée*—was held two centuries ago by Athanasius Kircher, who held that contagious diseases were propagated by animalcules, worms of species differing with the different maladies.[3]

In evidence of this new view he cites the fact that vibrios have been found in the pus taken from a chancre, as well as that taken from a balanitis. Micro-organisms have also been found in the pus of a vaginitis. Microphytes have been found in the pus of cancer, by Wagner, and Lemaire himself demonstrated the presence of living structures in the pus of anthrax. Bacteria have been found in the pus of malignant pustule. So we see that independently of the characteristics of living organisms possessed by pus, we can now add that animalcules have been found in it and that the virus containing them produces its usual effects as well as an incalculable number of animalcules.

The infection produces its usual effect since the reproduction and the multiplication of the animalcules is the result. "In my new theory as to the formation of pus, I have compared its globules to those one sees in the yeast of beer, and I have accorded them an analogous rôle. I have demonstrated that the appearance of these globules coincides with certain chemical phenomena, just as in the case of the infusoria in fermentations. After using coal-tar the new pus formed contains nothing more than serum. Since then we find in pus (and when I say pus it is just the same as though I said virus, since the viruses are but a species of pus) microphytes and microzoa, and since these humors always reproduce their own species, and since they have in the bodies of men and animals a period of incubation, of development, and multiply to incalculable proportions, it is impossible not to recognize in these characters the attributes of life."

This is the discovery which overthrew the theories of Liebig, of whom Lemaire says: "If Liebig had been a little less of a chemist it is probable he would have discovered the real nature of the ferments, for albuminous materials are indispensable to spontaneous fermentation.

3. V. Ath. Kircher Scrutinium physico-medicum contagiosæ luis quae pestis dicitur, Romæ, 1658.

The communicated movement also exists. Only in the motor has he deceived himself and *that is life*, and this is the reason why death arrests all."

In conclusion, I can not pause to dwell upon the innumerable uses Lemaire proposed to make of carbolic acid to prevent all kinds of diseases due to fermentation, including all the infectious diseases, miasms and malaria. I have brought before you sufficient to demonstrate that he showed a wonderful grasp of the greatest medical problems of the generation which succeeded his period of activity. His theories regarding all these diseases have been established, and in many cases the specific organisms have been identified. We have, after all, but been walking in the path marked out for us by Lemaire. In surgery he established the great principle of a living septic agent in putrefying and suppurating wounds, and he laid the foundation stone of successful treatment.

Lister's first publication appeared in the *Lancet*, in March, 1867, p. 326, two years later, some seven years after Lemaire's first observations, and was entitled: "On a New Method of Treating Compound Fractures, Abscess, etc., with Observations on the Conditions of Suppuration." These are his closing remarks on this head, under the caption, "The Use of Carbolic Acid to Preserve Wounds and Pus from Fermentation:" "I have dwelt at sufficient length on the changes which solutions of continuity undergo on contact with the air. I will not revert to it. It is sufficient to recall the fact that all these disorders are the work of living ferments. To protect the solution of continuity from fermentation it is sufficient to cover them from the start with compresses constantly soaked with carbolized water. Two parts in a thousand are sufficient, except when the heat is great, then the strength should be five in a thousand. It is necessary to avoid the use of glycerin or fatty bodies as excipients for the carbolic acid."

The furor for carbolic acid culminated in an earnest protest by Franz Pfiffner,[4] under the title: "Die Carbofieber-Pandemie," where he quotes Berger, who uttered these prophetic words: *"Geht man in seinen Aufforderungen zu weit, so laeuft das Mittel Gefahr, ebenso rasch vom Schauplatz der Aerztlichen Thaetigkeit wieder zu verschwinden, wie es so vielen andern Mitteln auf Grund kritikloser Empfehlungen ergangen ist." Diese Goldenen Worte lassen sie mich auch fuer das Carbol in Anspruch nehmen.*

I think the use of carbolic acid administered as a germicide has steadily decreased since the following words were written:—*Meine Herren! Ich waere nun mit meinem Thema, die Ohnmacht einer internen Carboltherapie gegen Infectionskrankheiten darzuthun, zu Ende. Es sei drum nur anghangsweise des Carbols gegen mono- und polyarticulaeren Rheumatismus erwaehnt. Kunze hat einige brillante Erfolge von dieser Behandlung notirt. A priori bedaure ich, dass es gerade diese Krankheit sein muss, die dem Carbol zu weiterer Beruehmtheit verhelfen soll. Dieses schwergepruefte Kind unserer Sorgen ist schon durch so manches Mittel curirt worden, dass die neue Entdeckung fast ueberfluessig erscheint. Chinin hat geholfen, Bleizucker hat geholfen, Jodkali, Salpeter, hydropatische Einwicklung, Propylamin—Alles, Alles hat geholfen; Und mit welcher Emphase wurden alle diese Mittel zu ihrer Zeit gepriesen! Alle hat der Orkus wieder verschlungen. Wird es auch dem Carbol so ergehen? Bill hat bereits in dem American Journal berichtet, das er von Carbol bei Rh. acut. nicht den geringsten Erfolg beobachtet habe.*

CONCLUSIONS.

What shall I say in conclusion? Carbolic acid, whether to our loss or to our gain, has almost disappeared from our surgical armamentarium, like Sims's silver wire suture. Had it remained it would have served as a golden thread on which to string such a chaplet of pearls as the names of Le Beuf, Lemaire, Lister, and others in America and Germany, who were closely identified with the evolution of the great underlying principle.

But carbolic acid is gone, and in its place we possess that which is of far more value—a great principle, the antiseptic principle, to be maintained by any efficient means whatever, whether mechanical, or chemical, whether by soap and water and the scrubbing brush, by dint of force, or by an electric current or by steam, boiling water or the corrosive chlorid of mercury, or what not. The smaller mind regrets the universal panacea in a shibboleth, a drug; the broader horizon bounds the principle far wider in its applicability, and available under all conditions, at all times.

Let us, like the great Lemaire, in the midst of the apparently simple things which surround us, ever seek patiently for the great underlying truths, firmly convinced that no fact stands single and isolated, but every phenomenon is but a link in a great chain, or rather a thread in a great network in organic unison with a great whole, and those men are accounted great who with a wider comprehension and a wise induction look past the tiny present fact out toward the infinite, whither they journey so as to bring home to their fellows some of that rich store which lies ready at hand within the reach of every man who has the will to pursue his aim with a single eye.

In this drama, which thus figures in the confines of time as the greatest episode in the history of surgery, and conspires for the first time in the centuries with the cellular pathology of Virchow, to make surgery no less a science than an art; in this drama, I say, two great names are left, as heritages, representatives of nations the greatest of our modern civilization. England, the first to obtain the recognition of the world, holds the name of Lister, who, justly honored by his queen, and venerated by his countrymen, will ever live as her greatest surgeon. With indefatigable zeal, with calm judgment, dispassionate as one who has a great object before him, Lister steadily strode toward his great goal, and there he stands on the pinnacle of success, a hero and an object of emulation to surgeons of every generation.

France also claims a great man, pre-eminent and a model as a scientific investigator. One who without the stimulus of applause and appreciation, but conscious of the greatness of his aim, with wonderful thoroughness and patience in detail caught a small, and to all but him insignificant, clue and traced it until he cleared up and established the greatest facts ever known in medicine or surgery.

What matters the lack of timely recognition, to such a mind, of applause, or of medals bestowed? Who can give honor to such a man? Nay, it is he, who, by his unassuming steadfast devotion to one great aim, has bequeathed us this heritage and honors us who remain with an undying example.

I can not do better than close with Lemaire's[5] own

4. Correspondenzblatt f. Schweizer Aerzte, Basel, 1875, p. 6.

5. Considérations sur la rôle des Infusoires et des Matières Albuminoïdes dans la Fermentation, la germination et la fécondation.

words: *J'ai l'espoir auc l'Academie voudra bien tenir compte que Je ne suis qu'un simple ouvrier qui apporte des matériaux pour construire un édifice que les architects plus habiles que moi termineront.*

# Original Articles.

## TRACHELOPLASTY.

HENRY PARKER NEWMAN, A.M., M.D.
CHICAGO.

*The Normal and Pathologic Significance of the Cervix Uteri.*—Thirty years of progress and research in medical science have not shaken materially the theory of Montrose Pallen, who, in 1867, in a prize essay read before the AMERICAN MEDICAL ASSOCIATION, enunciated these propositions: 1. Menstruation, irregular in its character, is always coincident with uterine disease. 2. All uterine abnormalities tend to a deformity of the organ, either in its neck or in its body, or in both. "The healthy functioning of any organism necessitates a healthy condition for its performance," and, "no unhealthy cause can produce healthy effects; therefore, from a uterus abnormal can no healthy menstrual flux proceed;" and whereas he later qualified these statements by saying that "irregular menstruation may depend upon systemic causes wherein the uterine disease is but functional and symptomatic," we ourselves know that these are the exceptions and that the great majority of our cases are of the kind that proves the rule. Even when the cause is systemic, too often its persistence leads to a state of chronic functional disturbance of the uterine system, and we have a condition calling for local investigation and treatment.

At the time Pallen wrote, lesions of the cervix uteri, such as lacerations, malformations and stenosis, were among the most prolific causes of gynecic disease, and many operations and instruments were devised for their correction. Since then there has been great advance in gynecology and obstetrics, and in prophylactic medicine, with the result that many of the factors which brought about these conditions of the cervix have been eliminated from modern life, and the pelvic organs of woman have a better outlook during the developmental period of childhood and puberty, and are more judiciously conserved during childbirth and the puerperium. At the same time, there is still to be found in the faulty methods of education, dress and diet, careless midwifery, and the "strenuous life," too much cause for malnutrition, mal-development, infections and traumatism of the genital tract. Take, for example, the cervix, a delicate organ, whose function is to soften and dilate during menstruation and copulation, to undergo easy and natural changes during pregnancy and labor; too often it is found instead contracted and resistant, setting up a barrier to healthy menstruation, becoming a storehouse of infectious germs, and giving rise to a long train of obstinate evils. Even in a uterus which seems to have a fairly free outlet at the cervix, the hyperemia which accompanies the monthly molimen may bring the cervical walls so closely in apposition that the flow is materially retarded and the secretions more or less retained. Retention of the secretions gives rise to an elaborate sequence of allied diseases, such as endometritis, salpingitis, oöphoritis, etc.

*Importance of Cervical Function.*—When we have under observation the sufferer from chronic metritis, with her full allotment of general and special ills, her dyspepsia, neuralgia, headache, backache, anemia, nervous symptoms and very natural mental depression, we can not but be convinced of the importance of a function whose disturbance has resulted so disastrously. We realize also that our work should be directed to the one end of re-establishing and maintaining a condition of the tissues which shall permit the regular and normal functioning of this organ.

In the milder cases we may choose between a prolonged course of routine, palliative treatment, and the more radical surgical procedures. In the graver, where there has been extension to the tubes and ovaries, salpingo-oöphorectomy, ovariotomy, or hysterectomy may become necessary to remove the local effects of disease, but not always with hope of bringing back a normal degree of health in a constitution injured and disturbed by long presence of diseased conditions.

*Improved Technique in Operating.*—In selecting a

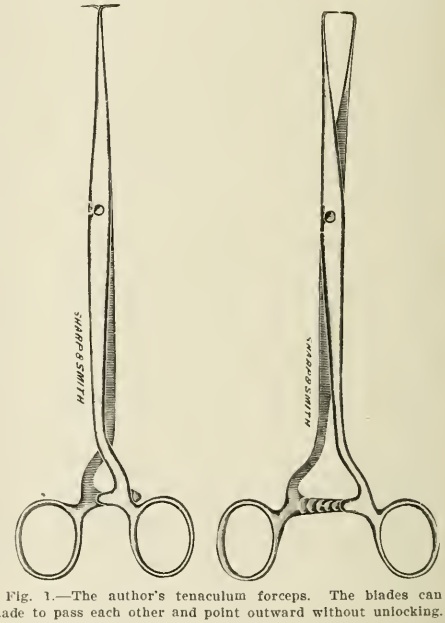



Fig. 1.—The author's tenaculum forceps. The blades can be made to pass each other and point outward without unlocking.

method of surgical repair of the cervix uteri, we should remember that that is most excellent which requires least preparation and after-treatment, and which exacts least in the way of time and patience from patient and physician. And here let me remark that there is a reaction against the tedium of routine local treatment that bids fair, like all reactions, to go almost too far and abrogate it altogether. It is certainly a detriment to the average patient to be subjugated to prolonged topical treatment. It has a tendency to establish the habit of invalidism, and to fix the attention inward, which is not a healthy stimulus to recuperation. I have for some years sought to do operative work of such a character that as much as possible may be accomplished at one sitting, and the patient led to expect prompt recovery and encouraged to consider herself free from bondage to the gynecologic chair. My results have so far been satisfactory. Though my manner of operating differs materially from any so far described it possesses

certain advantages which I hope will commend themselves in comparison with existing modes. We have seen the passing or reconstruction of the older methods within very recent times, but as yet there is no unity in choice of technique, and this lack of agreement perhaps lays us open to the sweeping criticism of Dr. von Ramdohr, who remarked that "as long as there are twenty-five methods of doing a thing none of them is good." This has only a measure of truth in it for the progress of surgery is marked by the passing of modification after modification of good methods, and the road still leads on to perfection.

Emmet himself—whose brilliant former work seemed so nearly the final achievement—has so far abandoned his famous operation for laceration of the cervix, that he limits its performance to cases which scarcely exist in modern practice, saying that, "with but few exceptions amputation is the proper means to employ . . . for relief of pathologic laceration of the cervix as it is now met with."

There can be no dissenting from this proposition today, although it may not be out of place to note some of the views of recent writers on amputation as it is generally performed. Early in the history of the operation Pauly is quoted as saying, "Of all surgical operations, the excision of the neck of the womb has hitherto been the most murderous." Dr. A. Palmer Dudley, of New York, objects to the prevailing technique, that is, the older method of Schroeder, Emmet, Pozzi, and others, on the ground that, "in closing the womb one is very apt to narrow the canal to the extent of obstructing the escape of the normal discharges from the uterus, thereby injuring the woman instead of benefiting her. Many can recall cases in which, before operating for laceration of the cervix they could recognize no disease of the uterine appendages, while afterward disease developed. Why? Simply because in repairing the cervix they closed it, prevented the normal discharge from the uterus, induced continual passive congestion of the endometrium and the disease then traveled up the tubes."

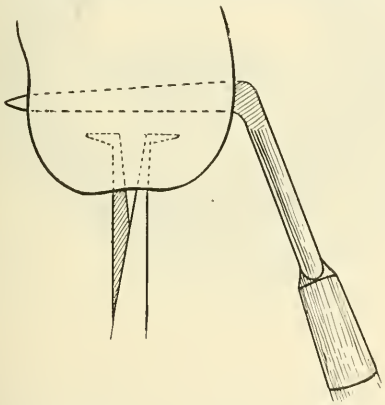


Fig. 2 a.—Cervix transfixed preparatory to making flap; forceps readjusted within cervix.

Hegar and Schwartz claim that the Sims method allows blood and serum to collect behind the sutures, and Thornburn considers the use of stitches unnecessary.

The "American Text-Book of Gynecology" says of amputation by the galvanocautery, which is still used by some, that its only commending feature is its bloodlessness. "Confidence can not be placed in it and it is therefore illegitimate."

The objection to removal of diseased cervical tissue by the curette is that in this organ, whose mucous membrane differs from that of the uterus in essential particulars, chronic inflammation causes a dense, firm tissue with deep glandular involvement which only a sharp curette thoroughly used can remove. Such removal is apt to result in constriction of the canal amounting to a severe stenosis or even atresia unless followed by tedious and objectionable after-treatment.

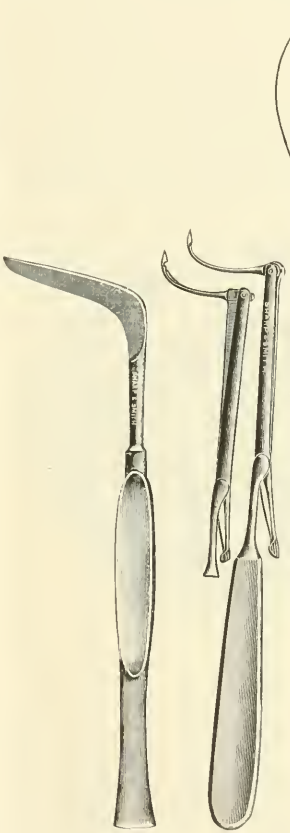


Fig. 2 b.—Right-angled or Trachelorraphy knife.

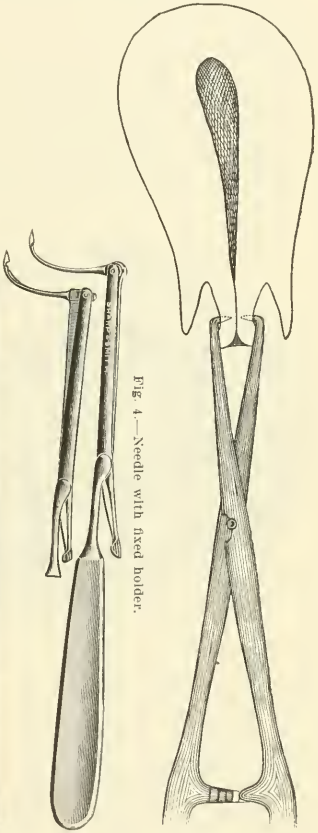


Fig. 3.—Formation of flaps. Plug of pathological tissue grasped by forceps and ready for excision with curved scissors just above the tenaculum points.

Fig. 4.—Needle with fixed holder.

In advocating amputation of the cervix for inflammatory conditions, L. Touvenaint (France) says: "The curette, which gives excellent results in chronic corporeal endometritis, is altogether insufficient in cervical endometritis. The operation [amputation] gives brilliant results, preceded by curetting; we say preceded by curetting because it is rarely the case that inflammation of the cervix has not been propagated to the cavity of the body, and the endometritis become general. . . . Amputation is not done solely for the sake of removing a part of the organ; it possesses also the advantage of

inducing profound modification in the vitality of the entire uterus, so that this undergoes a veritable involution."

The form of amputation which I practice, I prefer to call by a more distinctly descriptive name.

*Revival of Term "Tracheloplasty."*—Amputation conveys the sense only of the taking away of the diseased organ, whereas the object of ideal operating is the removal of adventitious tissue only, the restoration of anatomic conditions and re-establishment of normal function.

I had called my work tracheloplasty in reference to its nature and intent before I knew that Parvin had once given the same name to the early work of Emmett. As the latter never accepted it and as I find it most aptly fitted to my use, I have adopted it and shall continue to designate by it the following operation:

*The Author's Operation.*—The patient, being surgically prepared, is placed in the lithotomy position and the cervix drawn down with a vulsellum forceps, bringing the uterus well into view. The cervix is dilated and the uterus curetted if indications for curettage exist. These are, however, so nearly constant as to make it practically the rule. The cervix being drawn down with the bullet forceps or a double tenaculum, the blades may be reversed and replaced within the cervix so that their points are directed laterally from within outward, but I prefer to use the specially devised instrument which you see here. (Fig. 1.) By using it in this manner traction is made upon the inner area of the cervix, leaving the anterior and posterior walls free for making the flaps. The cervix is now transfixed by this special knife (Figs. 2a, 2b), and a clean cut made from above downward, first in the posterior lip. The anterior lip is transfixed in a similar manner about 1 or 1.5 centimeter in front of the other and cut in the same way.

The intervening plug of diseased tissue is now removed by a single cut or two of the curved scissors, the bullet forceps having been changed to a lower position to allow it. (Fig. 3.) The flaps thus made will now fall together and inward so as to assume the appearance of a normal cervix and will require only the simplest suturing to keep them in this position. (Fig. 5.) The first suture is passed through the center of the anterior flap, a centimeter or more from its cut edge, and brought out about three-fourths of a centimeter within the cervical canal. Two parallel stitches are now placed at each angle of the cervical canal. Silkworm gut is the suture material I commonly use, and the employment of this fixed needle and holder (Fig. 4) renders an otherwise difficult procedure quite easy. The posterior lip is treated in the same manner, except that here it is easier to pass the sutures from within outward, while the reverse is true in sewing the anterior lip. Two sutures are now passed, as in trachelorrhaphy, through the outer angles of the wound, which gape slightly after the turning in of the flap. For nice adjustment of the stitches and for ease in removal I am in the habit of treating them this way: In tying the sutures one end of each is left long and these long ends are grouped by tying them together according to their location. The three anterior sutures form one group, the three posteriors one group, and the two lateral sutures are tied together, a pair on each side, making four groups in all.

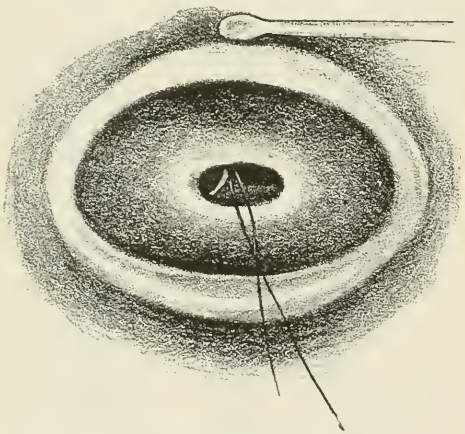


Fig. 5.—The plug of the tissue is removed and flaps falling inward are ready for stitching.

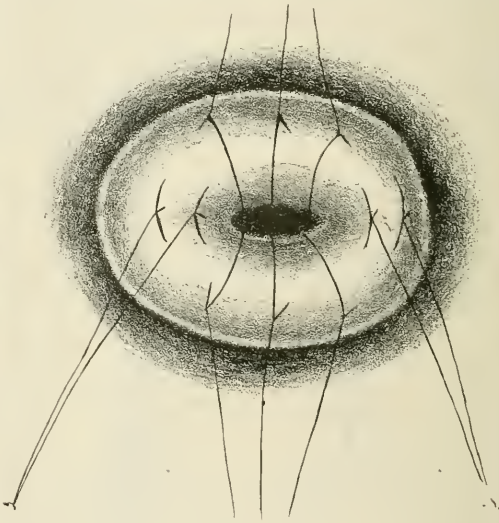


Fig. 6.—Showing stitches in situ and manner of tying in groups.

(Fig. 6.) A uterine tampon of iodoform gauze or wicking is now inserted by means of this forceps and tampon-carrier (Fig. 7), a projecting strand being attached to the vaginal gauze tampon in order that both may be removed without undue disturbance of the parts. If no accessory work is done the usual perineal dressings are applied and the patient put to bed. The external genitals are bathed with antiseptics after micturition, but no douching of vagina or disturbance of tampons is allowed until the second or third day, when the entire tampon is removed and not replaced. Vaginal douches of 1 to 4000 bichlorid are then used twice daily. The sutures are removed at the end of two weeks, when the patient can be up.

The advantages of this method are: 1. Quickness and ease of operating by the knife here presented, the manner of making the flaps transcending in certainty and safety of execution the ordinary methods of excision. 2. Clean, smooth-cut surfaces, obtained without haggling of tissue. 3. The easy approximation of flaps and the avoidance of all hemorrhage beneath them by deep placing of suture and compression of the

flaps. 4. The accurate approximation of mucous membrane to mucous membrane, thus avoiding granulating surfaces, formation of cicatrix and constricting of the canal. (This feature, which also pertains to Schroeder's operation, is of great importance and a decided advantage over trachelorrhaphy, especially where the entire mucous membrane is removed.) 5. The certainty of obtaining a permanently patulous canal and a well-formed cervix with pronounced reduction of the hyper-

Fig 7. - The author's tissue forceps and uterine tampon carrier.

plastic uterus. 6. The simplicity of the after-treatment.

Finally, plastic gynecological work, to be ultimately successful, should not be done piecemeal. The operation I have described is seldom called for alone. The neglect to do necessary complementary operations brings frequent failures. While tracheloplasty will often correct a simple displacement of the uterus due to inflammatory conditions with increased size and weight by correcting the lesion of the cervix and the accompanying metritis and by stimulating involution, its value may be greatly enhanced by such reinforcing work as shortening the round ligaments or suspensio-uteri where there is dis-

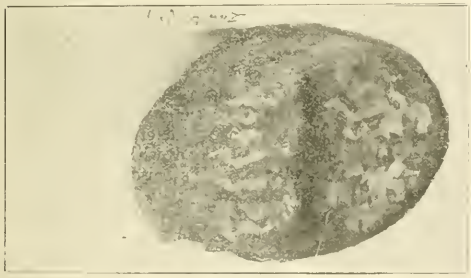


Fig. 8.—Excised cervical tissue.

placement of the uterus; divulsion and curetting when disease has extended to the endometrium above; reparation of the pelvic floor when, through relaxation or trauma in childbed, there is hernial condition of rectum, bladder, vagina or superimposed viscera; even opening of the abdomen for plastic work or resection in pathological conditions of ovaries, tubes, etc.

Any one or all of these accessory operations may be necessary to the restoration of the patient, although the diseased or deformed cervix was the essential, perhaps the sole, etiological factor in her case.

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## THE PHYSIOLOGIC CARE OF COLDS.*

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That the condition called a cold is one of repletion, may be readily demonstrated. Among other evidences of this is the fact that treatment based on this theory is uniformly successful. Its acquisition is frequently attributed to some exposure, it may be from lack of wearing apparel, or from atmospheric changes. But a closer examination will show this to be an erroneous conclusion, for on many occasions the observer has been exposed to a great variety of changes without any cold resulting therefrom, when again, under other conditions, with the slightest exposure, in even the hottest weather, one may suffer from the hardest kind of a cold. This results from imperfect elimination, or an inactive condition of the excretory organs. In fact it is the condition of the individual, rather than his exposure. The impurities of the system are being discharged through the mucous membrane, particularly of the head, instead of the proper eliminating organs. Many a time has this condition been brought about by a too-generous dinner. The sudden changing from heat to cold, by going from a warm room to the cold air of outdoors, when a person is debilitated and of feeble reactive powers, frequently produces the condition called a cold. Any overwork or exhaustion of the nervous system places the body in a negative state, so that there is less power of vital resistance to morbific changes. A languid, exhausted feeling is often accompanied by a headache, or inactive stomach and bowels. If the ordinary amount of labor is imposed upon those organs while in that condition, it is necessarily most imperfectly performed. Then is the body poisoned by its own impurities. Too frequently tonics are taken to spur on and still further exhaust an already weakened system.

In looking for the cause of colds, or any other disease, it is well to consider the first cause, rather than the merely exciting or secondary one, which is only incidental to the disturbance. By doing this we can shape our life so as to avoid most of the disasters common to modern civilization. Ignorance of the laws of life, and of man's relation thereto makes of him a slave, while knowledge of these laws gives him freedom to instantly accept and enjoy the fruits of obedience.

The invariable cause of colds come from within, not without. No one takes cold when in a good vigorous state of health, with pure blood coursing through his body, and there is no good reason why any one in ordinary health should have a cold. It may come from insufficient exercise, breathing of foul air, want of wholesome food, excess of food, lack of bathing, etc., but always from some violation of the plain laws of health.

There can be no more prolific cause of colds than highly-seasoned foods, as well as frequent eating. These give no time for the digestive organs to rest, and incite an increased flow of the digestive secretions. Thus larger quantities of nourishment are absorbed than can be properly utilized, and the result is an obstruction, commonly called a "cold," which is simply an effort of the system to expel the useless material. Properly speaking, it is self-poisoning, due to an incapability of the organism to regulate and compensate for the disturbance.

A deficient supply of pure air to the lungs is not only

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a strong predisposing cause of colds, but a prolific source of much graver conditions. Pure air and exercise are necessary to prepare the system for the assimilation of nutriment, for without them there can be no vigorous health. The oxygen of the air we breathe regulates the appetite as well as the nutriment that is built up in the system. The safest and best way to avoid colds is to sleep in a room with the windows wide open, and to remain out of doors every day, no matter what may be the weather, for at least two hours, preferably with some kind of exercise, if no more than walking. One should not sit down to rest while the feet are wet or the clothing damp. A person may go with the clothing wet through to the skin, all day, if he but keep moving. Exercise keeps up the circulation and that prevents taking cold.

The physiologic care of colds is the prevention of their occurrence. The person who does not carry around an oversupply of alimentation in his system, and furthermore secures a purified circulation by strict sanitary cleanliness, thus placing himself in a positive condition, is immune to colds. A starving man can not take cold.

A careful diet would exclude the use of all narcotics, and of all food that is not thoroughly appropriated. An overfed person is worse off than one who is underfed, because the overfed body is taxed to dispose of what can not be appropriated, and when not properly disposed of, remains only to be an element of danger.

Inasmuch as a congested condition of the mucous membrane of the head and throat is always present in case of colds, and the breaking up of this condition is the prime requisite, and as elimination is the most powerful measure of relief, it is a source of gratification that, in the proper use of heat, we have the most powerful eliminating agent that is known. The most convenient and effective form of utilizing heat on the human economy is by the modern Turkish bath. It has been thoroughly tested in thousands of cases, and never known to fail. Its action is so positive that relief follows promptly on its application. At such times there is a determination of blood and nervous energy to the mucous membranes. The action of heat relaxes the tissues, thereby inviting a normal circulation through the congested parts and changing this determination to the surface and extremities, thus restoring the balance to the circulation, and at the same time unloading the system of its impurities through the skin and other natural excretories, instead of the internal mucous membrane.

All the various effects that follow what is called "taking cold," are traceable to the skin's failure to send off waste in the insensible perspiration. The catarrh which shows itself in a discharge from the nostrils is a very clear effect of this failure of the skin. The substance which ought to pass away in insensible perspiration forces its way through the membranes of the nostrils in a thickened state, only because it is not sent off by the chilled and deadened skin. If the skin was doing its work, this effect could not possibly occur.

During a cold the system is struggling to rid itself of impurities through the Schneiderian membrane, where the sense of smell is located. This is naturally very tender and sensitive, and is made more so by the abnormal condition. The Turkish bath enforces a derivative action, and the discharge is largely carried off through the external skin and no longer remains a source of irritation. The normal balance is restored, and if utilized at the outset relief is prompt. The heat opens the sluice ways of the skin, and the system is quickly unloaded of what has been blocking the outlets, but in the later stages, and when the whole body is burdened with debris, the result of a long infringement of the laws of health, a persevering course of treatment is required. The Turkish bath is equal to this emergency, and may be desirable twice a day. Furthermore this bath is reconstructive, for it not only removes from the blood its used-up material, but hastens on the new supply of invigorated blood, and thus every function of the body is quickened. It also removes the superfluous accumulations of the outer layer of the skin and enables it to complete the perfect work of reconstruction. In cases where pneumonia has developed, its action is most salutary. One of the latest cases was fully restored inside of two weeks from the onset of the disease.

The primary cause of all disease is internal. No disease develops in the body from any accidental or secondary cause without the co-operation of the fundamental one. Health is the harmonious action of all the functions. There is no doubt that the larger amount of disease comes from unsuitable food, producing abnormal conditions of the blood. Too frequently there is a wrong selection of food, and often an imperfect preparation of that which of itself is good.

Inasmuch as people are inclined to cater more to the taste and fancy, rather than to consider the hygienic value of their foods, the result of their feeding is sure to produce a state of inharmony. The blood can not thus be furnished with the proper elements for forming healthy tissue. Man does not live by what he eats, but by what he digests and appropriates. Health is man's normal condition. No ache or pain should trouble any human being until death comes naturally at the end of a long life. If this desideratum is not secured, there is evidently some mistake in the dietetic habits.

Frequently the body is pickled with common salt, which is equivalent to saying it is poisoned by it. The salt dissolved in the blood passes into all the tissues. Osmosis takes place. Through the cell membranes the salt enters the cells and the cell contents pass out. These constituents, freed from the tissues, must be excreted through the kidneys as waste material. Thus degeneration takes place, through the abuse of common salt, and the system is made more susceptible to colds.

The practice of administering quinin to break up a cold is to be condemned, because it debilitates the nervous system and weakens the action of the heart. The same may be said of any alcoholic medicament, because the nervous system is first irritated and afterward depressed by its use. In fact when the system is laboring in an effort to free itself from any obstruction, the presentation of a powerful agent that interferes with elimination is not only uncalled for, but decidedly injurious, because it prevents the natural forces from doing their perfect work.

When people understand that disease is a vital struggle, an effort to protect and defend the organism, that it is not a thing or entity, foreign to the system, but an action of the system itself, which seeks its preservation, not its destruction, they will cease to fear it; they will only fear its cause.

To make a radical cure of a cold, let the patient abstain entirely from food for at least twenty-four hours. Should the bowels be at all inactive, it is desirable that they be thoroughly flushed with warm water. Drink freely of pure water, taking a brisk walk in the open air, and then a Turkish bath. This may well be followed by an oil-rub, sometimes called a Roman bath, which mol-

lifies the skin, making it more flexible and active. He will find a permanent benefit therefrom. The internal pressure will be relieved, and the cure perfected. Necessarily chronic cases need more persevering treatment, but each day will show progress, and only perseverance is needed to triumph ultimately over the morbid action. This fact is important, for it is claimed that 75 per cent. of the inhabitants of New York are constant sufferers from some form of colds. If they were always promptly and properly treated there would be many less cases of la grippe, pneumonia, or even consumption to be cared for. It would be like turning the stream in the right direction at the fountain head. We well know that many victims of la grippe do not regain their normal condition of health for several years afterward.

When the above plan is faithfully carried out, the individual is free from any symptom of disease, rarely finds a handkerchief necessary, or even a need of clearing the throat. The converse may be quickly proved by a short season of greasy and highly-seasoned food, and an extra meal added to the usual supply. The old proverb, "Stuff a cold and starve a fever," is an absurdity, for one suffering with a cold has already an inward fever on hand, and the more he is stuffed the worse he will become. Stuff a cold and you will be sure to have a fever to starve. One authority says that living on fruit for two or three days and drinking freely of hot or cold water, with milk for nourishment, will often cure an ordinary cold. Some persons, by drinking freely of cold water and exercising vigorously, can easily throw off a cold.

All harassing forms of coughing can be avoided by simply obeying the laws of health. The cough is a process of nature to relieve itself of impurities which are then thrown off by the mucous membrane instead of by the usual excretory organs. By purifying the system, by eliminating the impurities through the natural channels, we relieve the determination of the blood and nervous energy to the mucous membrane, and the cough vanishes. By freely drinking of hot water every hour, this happy result can be materially hastened. This is much better than taking the ordinary cough mixtures, which disorder digestion and spoil the appetite. The water should be taken as hot as can be borne, and relieves by promoting the secretions as well as the expectoration.

A simple "cold in the head" may be successfully treated by drawing hot water into the nostrils and then blowing it out, repeating the process several times, until the nose is thoroughly cleaned. This is a simple and effective way of strengthening the membranes. It is both soothing and curative, and may be done morning and evening while washing the face. Whenever hoarseness is apparent, the one remedy is rest. Like other disease, a cold is not a thing which leaves no trace. It should be treated with as much care as would be given to many other diseases. If neglected, it is liable to bring on serious complications. Every period of disease through which a person passes, whatever its nature, is a permanent impairment of the vitality. Therefore, catching cold, or the beginning of any disease, is to be avoided as much as that of losing a valued possession. Lack of attention to such matters causes one to grow old sooner than he otherwise would.

For those in fair health, the practice of cold bathing in the morning is to be commended, particularly if a warm shower precedes the cold, or a short season in a warm room precedes the cold plunge. This is then most invigorating, and helps to tone up the skin to be unmindful of external changes of temperature, and the person less liable to take cold. But of all baths, the Turkish ranks at the head. For those who aim at the highest efficiency of bodily vigor, there is nothing more helpful than that of indulging in its sanitary luxuries at least once a week.

Few realize the many advantages of pure water for drinking. We pay a great deal for water that is impregnated with this or that salt, while the more it is impregnated with any foreign substance, the less valuable is it to the human economy. One great desirability of pure water is that it will dissolve, and thus help to eliminate, morbid accumulations from the system, wherever they may be lodged, whether they may be granular, crystalline, or calcareous. This is one of Nature's processes to save the health and life of the body. An eminent physician claims water to be a food, indispensable to all mankind. It certainly makes up the largest part of our bodies, is one of God's best gifts to man, and should be freely indulged in.

The surest safeguard against all disease is a purified and well-balanced circulation in a well-nourished body. The Turkish bath properly used secures the first, and a careful diet, combined with a moderate amount of exercise and out-door life, will secure the second. It is our unnatural, artificial mode of living which gives rise to all disease, or at least to our predisposition to disease.

There must be a certain definite way of living for every species of animal, and certainly for the human race. A transgression from this rightful way must in some manner alter the normal composition as well as the reactive power of the body. A man living on bread and milk differs in appearance, and the condition of his tissues from one whose food is highly seasoned, and who uses alcoholic drinks, together with tea, coffee, and tobacco. These narcotics have enormously assisted in the rapid degeneration of civilized mankind in this latter half of the nineteenth century, nor can we expect to see any great improvement unless the subjects of health and hygiene, the very foundation of life and wisdom, are taught to the rising generation in our schools.

Such an important matter as alimentation, the foundation and mainspring of bodily and mental, individual and social health, deserves the best work of the ablest minds. Physicians may indeed be proud to help in this cause, and thus take their rightful position as leaders in hygienic and medical matters. What is largely needed is a clear insight into the beneficial or harmful action of the habits of daily life upon the body. When physicians are appointed by the state as teachers of hygiene, a new era will be entered upon, and the physiologic care of colds will receive its due meed of attention.

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Spontaneous Rupture of the Uterus.—Jardine recently reported (*Glasgow Med. Jour.*, April) a case of this rare complication during labor, in a woman aged 32, vii-para. When admitted to the hospital there had been some hemorrhage, but it had ceased. The os admitted two fingers. The head presented in the first position. She was having regular pains, the pulse was good and there was no over-distension of the uterus. Three hours later she had three severe pains in quick succession and collapse. Delivery was made by forceps and the tear in the uterus plugged, but the patient died in a few moments. The rupture extended almost to the fundus on the left side, the vaginal portion evidently having given way during the delivery.

# ATROPHY OF THE MUCOUS MEMBRANE OF THE STOMACH.*

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While much has been written upon this disease by different authors, comparatively few cases have been reported, and many of the cases which are reported under this heading are worthless because the diagnosis is made simply upon the absence of free HCl in the stomach contents. It is due to Fenwick[1] who, in 1877, was the first to call attention to this condition of the stomach as an independent disease, particularly as to the question of its being incited, or caused by, and having relation to, pernicious anemia, that we acknowledge our obligations to his efforts. Since that time a large number of authors, Ewald,[2] Nothnagel,[3] Osler,[4] Kinnicutt,[5] Einhorn,[6] and others, have employed themselves in a more exact study of this disease under the different names of atrophy of the mucous membrane of the stomach, achylia gastrica, atrophia gastritis, phthisis ventriculi, catarrhus atrophicans, *anadnie des Magens*, etc. It would occupy too much space at this time to attempt to follow out the evolution and development of this question by the authors mentioned. In my own experience in diseases of the stomach and intestines, it has been impressed upon me that this condition is not so rare as it is commonly supposed to be. I have, therefore, thought it might be of interest to the profession at large to mention a few cases taken at random from a large number of histories, and to give a line of treatment which has been successful in my hands. I have also included a few cases, for comparison, which appeared at first to justify a diagnosis of atrophy, but which proved later to be achlorhydria, or simply achylia without the permanent organic change in the mucous membrane. Most authors have associated this condition with pernicious anemia, which is a fatal disease. This seems to me to be wrong, for, in the first place, as will be seen further on, patients with atrophy may enjoy apparently good health and long life and, in the second place, a positive diagnosis of this condition should not be made until all justifiable means of treatment have been exhausted and repeated examinations fail to show any sign of a return of the stomach secretions.

Clinically one may speak of achylia gastrica where, upon analysis of a test-meal, there is found to be a greater or less disappearance of gastric secretions, but one can only speak of an atrophy of the mucous membrane of the stomach where, after repeated examinations under different conditions and at various periods after the ingestion of food, there is a complete absence of all normal constituents of gastric juice. It is often the case that only the free HCl is absent, and the conclusion is too hastily drawn that we have to deal with a case of atrophy of the mucous membrane, while it is a question of the disappearance not only of the free but also of the combined HCl which concerns us in making a positive diagnosis of atrophy, and it is only where, after a test-breakfast or test-meal the stomach contents are either neutral or quite low in total acidity, namely from four to six, that one can say without further examination that the secretion of gastric juice, and consequently HCl, has completely disappeared. Where simple acidity exists one can suppose without further examination that he has to deal with an achlorhydria.

I wish to emphasize a point which I brought out in a former article,[7] and regarding which a false impression seems still to exist in the minds of many practitioners. I refer to the impression that the absence of free HCl is a cardinal sign of malignant disease. This is not the fact at all, as will be seen in the cases I am about to cite, none of which has shown any symptoms whatever of malignant disease. Besides I have seen many, many cases of acute and chronic gastritis in which no free HCl can be demonstrated. On the other hand, I may mention here that I have but recently seen two cases with free HCl, one in fact with a hypersecretion which proved at operation to be carcinoma. My experience corresponds with that of Einhorn, that as a general rule, in cases of atrophy of the mucous membrane of the stomach, there exists a condition of chronic diarrhea, although, as will be seen, there are exceptions to this rule.

CASE 1.—Mrs. C., aged 61, had always been a remarkably healthy and active woman until five years ago, really appearing to be ten years younger than her true age. Her trouble began with attacks of watery diarrhea, without pain, three to five movements a day, but coming so suddenly that she was prevented from going into society, to the theater, etc. The attacks increased in frequency and were brought on by over-fatigue and anxiety; her condition would improve by rest and change of scene, although she was never quite well nor entirely free from her trouble during all those years, and had gradually lost flesh and strength to the extent of 38 pounds actual weight. Her appetite was poor, tongue coated, and when I first saw her she was living on one quart of milk a day, having had her diet restricted by one physician after another until she was afraid to take anything else. She was extremely nervous and had had two or three recent attacks of vomiting and syncope. Examination of the stomach contents one hour after the Ewald Boas test-breakfast revealed the absence of all stomach secretions; reaction neutral; bread unchanged. The patient was put upon a gradually increasing diet of farinaceous food finely ground and well cooked, white bread and butter, milk, and later eggs, meat and fish were added until the following program was established at the end of the first week:

7 a. m.: A glass of milk with two thin water biscuits and butter, taken in bed. 10 a. m.: Breakfast of two eggs heated through, a cup of weak tea with sugar and milk, and white bread with butter. Between 11 and 12 a drive in the open air. 1 p. m.: Luncheon of broiled lamb chop or chicken, rice, white bread with butter, mashed or baked potatoes, followed by complete rest for one hour. Between 3 and 4, another drive or a short walk in the open air. 4 p. m.: A glass of milk with one raw egg beaten up, or an egg-nog. 7 p. m.: Dinner of chicken soup, a piece of broiled steak or roast beef, bread and butter, baked potato, or rice or hominy. 10 p. m.: A glass of milk with two water-thin biscuits with butter. The rice and hominy were varied with other cereals to suit the taste of the patient, and she was urged to let her meals consist principally of cereals with milk and to eat at least three or four ounces of butter a day.

Improvement was manifest from the first, and during the second week of her treatment she was attending opera four hours long, visiting with her friends, and by the third week was making engagements with her dentist. She was under observation and treatment for about four weeks, and, during that time, had but two slight attacks of her trouble, due to over-fatigue. Five weeks from the beginning of her treatment I received a letter saying that she felt perfectly well, had gained 10 pounds and was enjoying life with an excellent appetite. The treatment of this case was very simple, but the patient had been under the care of a number of physicians who had exhausted the list of astringents and diarrhea mixtures

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without any permanent results, and had finally excluded so many things from her diet as to cause serious loss of flesh and great anxiety on the part of her children and friends.

Case 2.—Mrs. M., aged 51, whose mother died of carcinoma of the stomach at 57, and a brother of carcinoma of the face, had lost three brothers and sisters with cholera infantum. The patient herself had had considerable trouble with her stomach and bowels for the past twenty years, characterized chiefly by watery diarrhea and vomiting. She had been accustomed, in her younger days, to rich dinners with wines at all hours of the night or day, but of recent years has lived almost exclusively on milk, malted milk, and other prepared semiliquid foods. Solid food in any form causes her pain and immediately brings back her trouble with renewed severity. Opium in large doses has been her chief anchor for several years, and she has taken so much of the drug that the characteristic color of the skin is marked. One year ago she weighed 253 pounds. Her weight at the time of her first visit to me was 175 pounds, showing a rapid wasting of flesh in a comparatively short time, so that the skin hung in loose folds. Chemical examination of the stomach contents one hour after an Ewald-Boas test-meal gave total acidity 12; free HCl, 0; combined HCl, 5; lactic acid, 0; rennet, 0.

In addition to the usual hygienic measures which I prescribe for every patient who is not already living up to them, I advised her to enlarge her diet somewhat cautiously, adding first zoolak, kumyss, malted milk and farinaceous food-stuffs finely ground and well cooked; absolute rest one-half to one hour after each meal; massage three times a week. Improvement began at once, and we began to enlarge the diet list, adding raw or soft-boiled eggs and the well known junket made with milk, eggs and Fairchild's essence of pepsin, any of the cereals except oatmeal, which were finely ground and the outer shell removed, plenty of bread and butter; but the first attempt at giving meat or any irritating substance whatever would immediately cause the return of her trouble. Repeated examinations of the stomach contents at various periods after eating always showed total acidity of from 4 to 20, never any free HCl, never any lactic acid except when milk had been taken with the previous meal. The patient gained in strength and her weight increased during the winter to 194 pounds. Examination of the blood showed the percentage hemoglobin to be 60, with slight change in the size and shape of the red blood-corpuscles. I advised simple regulation of the diet to suit intestinal digestion, regular habits of life, avoidance of all fatigue or nervous strain, and a period of complete rest in the middle of the day, with the simple medication to be mentioned hereafter, and this seemed to meet all requirements.

This, no doubt, like Case 1, was one of real atrophy of the mucous membrane of the stomach, but not incompatible with health under proper regimen, for I have seen the patient but once professionally during the past eighteen months, and that was for an attack of la grippe.

Case 3.—Mrs. H., aged 41, whose main trouble was characterized by attacks of diarrhea without explainable cause, between which attacks the bowels were usually quite regular, was very rarely constipated. She complained of backache, of being easily exhausted, and had lost considerable in weight during the year. The appearance of the patient and her group of symptoms led me to make an analysis of the stomach contents one hour after the Ewald-Boas test-breakfast, with the following results: quantity in the stomach, 90 c.c.; total acidity, 6; free HCl, 0; rennet, 0; lactic acid, 0. A farinaceous diet with a limited amount of light meats, fish and whites of eggs was prescribed for this patient, with rest in the middle of the day and fresh air.

This case especially brought out how well one may be with this condition of the stomach. With little or no treatment aside from regulation of her daily life, and with very little restriction of diet, she gradually improved and now eats almost everything she fancies, and she feels perfectly well so long as she avoids over-fatigue.

Case 4.—Miss S., aged 23, came to me in November, 1899, with the history that for two years she had been troubled with looseness of the bowels unfitting her for work, or even social duties, continuing more or less throughout the entire year, but aggravated during the warm weather. She had become very much worried and discouraged over her condition, as she had tried several physicians with no more than temporary relief. Her appetite was good, her habits temperate, physical examination negative; analysis of the stomach contents one hour after a test-breakfast of a roll and a glass and a half of water resulted as follows: Total quantity of chyme, 135 c.c.; mucus present in moderate amount; chyme in good state of digestion; total acidity 30; free HCl, 0. Four hours after a test-meal consisting of two soft-boiled eggs, a cup of coffee (half milk), one roll and a glass of water, total quantity of chyme 150 c.c.; total acidity 32; HCl, 0. Starch digestion had reached the stage of maltose. The patient was put on a farinaceous diet, ordered to take a cool sponge bath every morning, exercise at least once a day in the open air—short of fatigue—and to put her mind at rest as to her trouble, since it was not dangerous and she would soon be all right. The patient improved immediately, began to gain in weight, and I have since received assurances from her by mail that she is perfectly well.

Case 5.—Mr. P., aged 47, gave a history of gastric disturbance extending over a period of years characterized by excessive flatulency coming on some time after eating and associated with severe frontal headaches; appetite good; bowels very constipated; tongue coated with a white fur; habits temperate but sedentary. Physical examination was negative. One hour after an Ewald-Boas test-breakfast, the stomach contained 135 c.c.; considerable mucus; total acidity, 6; free HCl, 0; rennet, 0; starch digestion, maltose. The urine was of high specific gravity with a large amount of urates and uric acid.

The patient was put upon a farinaceous diet, milk and Celestin vichy between meals, with a cold sponge bath every morning and outdoor exercise. Improvement began immediately, the patient taking up golf for his outdoor exercise. He was very faithful and regular in his treatment, and in a reasonable time was able to partake of a very general diet, although chemical analyses of the stomach contents showed, from time to time, a low total acidity and no free HCl, but he enjoyed his food and his daily life and a general sense of well-being.

The essential points in this case, which I wish to bring out most prominently, are: 1, contrary to the general rule in this class of cases this man was troubled with constipation, the rule being that these patients suffer from diarrhea; 2, and most remarkable, after one year of faithful and almost continuous treatment, except for a vacation trip now and then, taken as a diversion, the total acidity increased, free HCl and the rennet ferment reappeared, and there was also improvement in the motor power of the stomach. A recent analysis of the stomach contents one hour after a test-meal showed the quantity of chyme to be 50 c. c.; total acidity 40; free HCl, 20. This patient now comes to my office only occasionally for lavage or electricity, as circumstances indicate after some transgression in diet, or following some unusual nervous strain.

### TREATMENT.

As to the indications for the treatment of these cases, first comes the regulation of the daily life, baths, exercise—active or passive—and rest. These I have already alluded to, but I wish to refer again to the diet, which is most important of all in the successful treatment of this affection. As has already been seen, we must depend on farinaceous food, and the patients must be urged to ingest larger quantities than they will feel inclined to take, for they should not be starved. While I do not believe in assisting any healthy organ of the body in doing its physiologic normal work, there are times when an extra amount of work is or must be

thrown upon certain organs, and we are obliged in such cases to furnish some assistance to those organs or our patient will suffer in health. As in hyperopia, to borrow an illustration from ophthalmology, we must advise convex lenses to relieve the extra strain, so in the cases under discussion we must in reason look for some diastatic ferment to aid the intestines in the additional work thrown upon them. I have tried many of these ferments, of which the market is to-day full, but will in this article illustrate but one in which the laboratory experiments have been borne out in actual practice with my patients. To test the accuracy of my conclusions I made a number of experiments in the laboratory with a view of ascertaining what action the actual gastric juices have upon starchy digestion. The result of these experiments was the demonstration of the fact that taka-diastase will act upon and digest starch in the presence even of gastric juice of hyperacidity. Past records in medical chemistry show the difficulty of measuring quantitatively the digestive power of any diastatic enzyme on starchy food. This difficulty is due to the fact that so far all known methods for the determination of sugar are of such complicated nature that even expert chemists can carry out only a few tests in the course of a single day. Hence, while this determination of the digestive powers of saliva and artificial or natural enzymes or diastatic preparations could not be made use of for medical or clinical purposes, I have found a very simple yet sufficiently accurate method of determining the digestive power of these diastatic agents. This method can be carried out easily by practicing physicians, and it has the advantage of requiring only a few minutes. It is based upon the fact that the products of conversion or digestion formed by the action of saliva and other diastatic substances upon starchy food have the power of decolorizing or absorbing the color of iodin compounds after different stages of digestion of the starch. When diastatic bodies are allowed to act upon cooked starchy foods, the first stage of digestion is their conversion into soluble starch, which conversion is indicated by the formation of the blue soluble color on the addition of iodin solution, while the original cooked starch forms an insoluble blue compound with iodin. The further action of the diastatic bodies upon the soluble starch is the formation of dextrin, which is indicated by a reddish-brown color when iodin is added. Between the foregoing two stages of digestion there intervenes a stage when the soluble starch and dextrin are mixed in various quantities, which are indicated by different grades of purplish color showing the different mixtures of soluble starch and dextrin. When the digestion goes still further it reaches a condition where the product of digestion forms a colorless compound with iodin, such as different kinds of acrodextrins and different forms of sugar. That is to say, during the course of digestion at its early stage, the iodin forms a product of different colors, and while it advances and completes the digestion this iodin coloring compound is changed into a compound which will give no color when mixed with iodin.

I have also found that if this non-coloring or acro-compound of iodin and starch be added to the coloring compound of iodin and starch, the former absorbs the color of the latter, or bleaches it, making the mixture colorless.

I wish now to describe this process—based on the application of these facts—for determining the digestive power of the saliva, or other artificial or natural diastatic substances. In this process there are four glasses. The first contains water, to which we add some cooked starch. The second also contains plain water, which will represent a neutral medium, to which we add some cooked starch and taka-diastase. The third glass contains gastric juice without free HCl and a low total acidity—this is the condition always found in the cases under discussion. In the fourth glass we have gastric juice of a very high acidity with an excessive secretion of free HCl; to both of these latter we also add cooked starch and taka-diastase. I have chosen this last specimen to illustrate that taka-diastase will work in an acid medium, although it works much better in a neutral medium or one of low acidity. We now take four test-tubes, in each tube we put 20 minims from each of our four glasses. To each I now add two drops of a solution of iodin. In the first tube we find the blue color characteristic of iodin and starch. The second tube exhibits a purplish color, as do also the third and fourth. Now, why does tube No. 1 show a different color from the other three? If we examine the constituents, we find that the three latter contain an element, namely taka-diastase, that is not present in the first tube. Now, in order to determine quantitatively the degree of the digestion, we go back to the four original glasses. Add a quantity of the contents of the first glass to the first test-tube, and we observe that the blue color is increased; no matter how much we add there will be no change in this solution, showing conclusively that there has been no starch digestion. In like manner add some of the contents of the second, third and fourth glasses to the second, third and fourth test-tubes, and in just the proportion that starch digestion has proceeded we find a disappearance of the blue, showing the approach of the digestion toward the end product, which is maltose. You will observe that the taka-diastase has acted most completely in the neutral medium, but exceedingly well in the gastric juice of low acidity, and fairly well in the gastric juice of hyperacidity; and we all know that this latter is fatal to the ptyalin ferment of the saliva.

In addition to the foregoing treatment of these cases we must give at first some mild astringent which will be at the same time a disinfectant and tonic to the intestines. For this purpose my two favorite drugs are tannigen and tannalbin.

As we frequently find also, in this condition, more or less anemia, I use some form of iron which will not disturb digestion, usually some one of the preparations of peptomanganate of iron. I am often asked by physicians taking a course with me why I do not use dilute HCl and pepsin more often in these cases. I may say that I have often tried it but have obtained no results either in laboratory experiments or in practice which justify its continued use. If ever a case seemed to demand these drugs, Case 2 was an ideal one, but trial quickly proved their uselessness, for they only increased the disturbance and had to be abandoned immediately. When there is much mucus I use lavage and an intragastric spray of nitrate of silver solution, 1 to 1000. In all these cases I use intragastric electricity—galvanism—often without benefit; in fact, there can be no benefit if we have a true atrophy to deal with, but as has been seen in Case 5, which seemed at first to be a true case of atrophy, the secretions were fully restored after a long course of electric treatment, proving the benefit of this agent.

I could go on and cite many more cases equally interesting, but these will suffice to show the importance: 1, of making careful examinations and analyses of all the secretions, including the gastric juice of patients

suffering with chronic disturbances of the stomach and bowels; and 2, of careful, persevering and persistent treatment, with the full assurance of success in the long run to the satisfaction of both the patient and the physician. In no other organ of the body is an analysis more important or helpful to an exact diagnosis, and consequently in the successful treatment, than in disturbances of the digestion. I will conclude with a quotation from Prof. C. Gerhardt: *"Die Frucht der Heilung waechst am Baume der Erkenntniss. Ohne Diagnostik, keine vernuenftige Terapie. Erst untersuchen, dann urtheilen, dann helfen."*

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## SOME NOTES ON TWO CASES OF VOLUNTARY LARYNGEAL WHISTLING.*

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PHILADELPHIA.

The first case that I shall speak of was a student at the Medico-Chirurgical College, and referred to me by Dr. Gleason, of Philadelphia, who also exhibited him before the Section on Laryngology and Otology at the College of Physicians, Philadelphia, where the case aroused considerable interest and discussion. The patient could whistle a tune with his mouth open as in the position for saying "ah." Owing to the absence of good light for laryngoscopic examination, the general opinion of the majority of those present was that the whistle was made in the pharynx, somewhere in the region of the palatal pillars; but that seemed to me impossible, because the pillars were not approximated sufficiently to make an aperture small enough for the production of such a sound.

At Dr. Gleason's suggestion, an appointment was made with the young man at my office, where, with a little careful manipulation, he was trained to so control his laryngeal and pharyngeal muscles as to give me a fairly good view of the larynx during the emission of the sound; and I found that the lips of the superior opening of the larynx were pursed in the same way that the lips of the mouth are pursed in whistling, and the physiology of this interesting phenomenon was made clear to me and I was able afterward to demonstrate it to others. The aryepiglottic folds were used as the lips of the mouth are used in whistling, and, so far as I could determine, no other parts of the larynx were employed.

Since studying this case, my attention has been called to the fact that a somewhat similar one was reported in 1881, by Dr. J. O. Roe, and published in the proceedings of the American Laryngological Association. In this case, however, according to Dr. Roe's description, the whistle was made in an entirely different manner. "The ventricular bands were approximated and puckered up, leaving an elliptical opening in the center through which the vocal cords could be seen, with their thin edges vibrating. . . . . Thus it could be distinctly seen that the fundamental tones of the laryngeal whistle were produced by the vibration of the edges of the vocal cords." In my case there was no reason to suppose that the vocal cords had any more to do with the whistle than they have to do with the ordinary lip whistle, and the fundamental tone was made by the vibration of the "puckered up" aryepiglottic folds.

My other case is a man who imitates birds, and who can produce three, and at times four, distinct notes at one and the same time. He can whistle somewhere down in the region of the larynx, but not with the mouth open, as in the former case, and therefore the musculature can not be studied by laryngoscopy. Although he is an exceedingly clever man, he does not know at all how he makes these curious sounds, and so far as I know, we have no adequate artificial aids to their study. The subject is especially interesting as showing the possibility of the development of voluntary laryngeal muscle action, which formed the topic of my paper read before this Section at Columbus, in 1899.

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

## SOME ANOMALIES OF THE EAR DUE TO ERRORS IN DEVELOPMENT.*

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PHILADELPHIA.

The earliest sign of the ear in the embryo appears about the third week, and is the anlage of the complex labyrinth. It begins as an ectodermic thickening just above the first gill-cleft (hyo-mandibular). Later there is a depression of this thickened area—the auditory pit—which grows deeper and deeper, its edges finally uniting and thus forming the otic vesicle. The otic vesicle being surrounded only by mesodermic tissue is in close proximity to the after-brain and in close relation to the acoustico-facial ganglion. By repeated evaginations, invaginations, unequal growths and foldings,

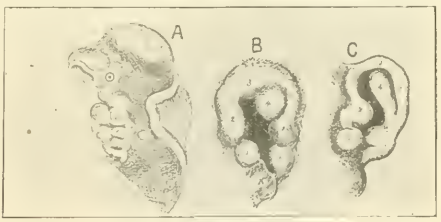


Figure 1.

the complex membranous labyrinth is developed, the otic vesicle proper representing the epithelial lining of the entire labyrinth; those of its cells found in the region of the distribution of the nerve of special sense—the maculæ acusticæ and cristæ acusticæ and the organ of Corti—become highly specialized, the rest of the cells remaining as simple columnar epithelium. While these changes in shape and character are taking place in the otic vesicle the surrounding mesoderm is being formed into the cartilaginous ear capsule; and from the embryonic mesoderm between the capsule and the epithelial labyrinth is formed the fibrous portion of the membranous labyrinth closely adhering to the epithelial labyrinth and the internal periosteum of the

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

bony canal while the tissue between these two layers liquefies and forms the perilymph. The cartilaginous capsule and surrounding structures are ossified later on and form the petrous portion of the temporal bone.

The middle and external ears are derived from the inner and outer portions of the hyomandibular cleft.

The membrana tympani is the remains of the membrane separating the inner from the outer cleft. The dorsal segment of the inner cleft—evagination of the

Figure 2.

primitive pharyngeal cavity—is formed into the tube and the tubo-tympanic cavity by the coalescence of its edges. This is the anlage of the Eustachian tube and its dorsal or blind extremity enlarging forms the middle ear, while its inner end opens into the pharynx just behind the soft palate.

The external auditory meatus is formed from the posterior part of the first external gill-cleft and is the only part of this cleft which is not obliterated by coalescence.

Figure 3.

At three months the meatus is obliterated by a solid block of epithelium, the fundus being separated from the small middle ear by the "closing plate," which becomes the tympanic membrane. In the connective tissue between the vestibule and the fundus of the external canal is the malleus or upper end of Meckel's cartilage. The tissue atrophying brings the membrana tympani around the ossiculæ, but they remain outside of the entodermic epithelium which lines the tympanic cavity. The external meatus is occluded by concresence of its epithelium until after birth. The cerumen glands appear at the age of five months.

*The Ossicles.*—The malleus and incus are derived

Figure 4.

from the cartilage of the first visceral arch near its dorsal extremity.

The stapes is formed from the connective tissue near the foramen ovale and has no relation to the cartilages in the arches.

*The Auricle.*—The auricle is formed around the posterior free margin of the first cleft and is first evidenced by six mesodermic tubercles covered by ectodermic cells which appear around this region. The cartilage and other connective tissues of the auricle are derived from the mesoderm, while the epithelium is derived from the ectoderm.

Figure 2 is from a lad aged 16, without other defects

Figure 5.

in his development. The little nodule anterior to the tragus was probably formed by an auxiliary nodule on the mandibular arch. It is apparently composed of cartilage, fibrous tissue, and skin, and could be removed without any unpleasant sequelæ.

Figure 3 is taken from a drawing made for me by my friend Dr. J. M. Taylor, from the ear of an Italian

woman, aged about 30 years, who was otherwise normal and in whose immediate ancestors there were no defects of development, nor were there any in her four children. In this case there were probably four nodules.

Figure 4 represents a case occurring in the practice of Dr. B. Alex. Randall. There was probably a failure of development of tubercles 2, 3 and 4, with failure of coalescence of 5 and 6.

Figure 5, taken from Gould and Pyle's "Anomalies," and originally from the London *Lancet,* shows what

Figure 6.

was probably an auxiliary set of tubercles—about second cleft.

Figure 6 is taken from a newborn infant which had no external nose; it had no eyes except a rudimentary one in center of forehead from which a horn projected. Other defects were present. In this case tubercles 1, 2, 5 and 6 failed to develop.

Figure 7.

Figure 7 was taken from an infant that lived ten days, in which there were many other defects. It had hypospadias and a very small, but well-formed scrotum, and there existed a deformity like an auxiliary anus just at point of sacrum. It had cleft palate, embryonic nose, large fontanelles, etc. In this case tubercles 2, 3 and 6 were not developed; there was an auxiliary meatus due to failure of closure of walls of the hyomandibular cleft.

Gould and Pyle in their book of "Anomalies" have collected a number of malformations of the ear, among them being bilateral absence of the external ear, which, though rare in the human species, is constant in a species of sheep found in China. An interesting case collected by them was one of absence of the external meatus and the Eustachian tube in each side in which there was but little loss of hearing. Werner in 50,000 children found 33 with supernumerary auricles in front of the tragus.

In 1000 children in the Home for Feeble-Minded Children, at Elwyn, Pa., I found no abnormalities of the auricles, excepting peculiarities of shape and size; one of these auricles in the case of an adult measured 3½ inches longitudinally and 1¾ inches transversely.

As a rule, supernumerary auricles are pre-auricular, usually unilateral, and can be removed without unpleasant sequelæ.

Another striking case reported by Moxhay,[1] was that in which a mother who was said to have been frightened by a boy with horrible contractions of the neck gave birth to a child which had on the right side two perfect ears and three rudimentary auricles, while on the left side it had two rudimentary auricles.

1. Brit. Med. Jour., 1870.

## CARE AND USE OF INSTRUMENTS.*

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TOLEDO, OHIO.

It is not my purpose to enter into a discussion of, or repeat what has been said and written on this subject, but to present a few thoughts that will indicate a way to care for and acquire the use of instruments along a line that will give the operator the kind of knowledge that will enable him to cope with exigencies that may arise.

We should remember, after an operation, to put the instruments where they are perfectly dry and will remain so, to prevent rusting, and where the edges will be kept from being dulled by contact.

Before an operation it is essential that the instrument should be sharp and clean. Boiling is unquestionably the best way to put them in this condition. The cutting edges are not spoiled by the heat, as is believed by some, but by a deposit of material upon the edge of the knife, the same as that in a kettle or boiler. This can be demonstrated by trying the edges of knives after boiling in condensed steam and in hydrant water. Where distilled water can not be obtained, when a keen edge is desired, a sterilized Arkansas or India stone should be at hand; the knife passed over it a few times will remove the deposit. "But," says the doctor "I would be as liable to dull the knife as to sharpen it." I presume this is true, through no actual fault of his own, but on account of not having been taught the A, B, C, of actual surgery. Had he been compelled to sharpen his saw, cut his wood and make his fire at home, hone his razor, and shave himself, while getting knowledge he would, at the time, have acquired the skill which is so essential to operative work. No person should be allowed to practice surgery without first having learned a mechanical trade; this would give him the skill as well as developed hands and arms, the very thing so essential in many operative procedures, a necessity so often not found in many classic scholars. A hand that has been allowed to develop to maturity, gloved without use, can never be of material service for actual work. Pancoast and many of our best surgeons

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

workmanlike manner, and not be able to acquire the proper use of his hand, to give the saw-teeth that keen edge so necessary for quick and painless work, by a were good mechanics prior to entering on their surgical work. The handling of tools in one line of work prepares the individual to skilfully handle them in another.

The idea is absurd that a person can possess the skill necessary to remove a spur from a septum nasi, in a stroke or two of a file or stone. Every college should have a teacher qualified to instruct the student who intends to do surgical work, in a course that will develop the fact whether he has inborn mechanical ability; if not, to advise him to have the surgical section cut out of his diploma and be relieved from building monuments for himself, in memory of a deficiency of native ingenuity and acquired skill. If, on the other hand, it is found he has been born right for mechanical work, give him a chance and, with proper starting-points, success will follow and he will be a blessing to humanity.

As we pass along to the practical part of our work, after acquiring the theoretical side, we can then appreciate the necessity of possessing hands that are educated to execute that which we theoretically know, and there is no better plan to educate the hands to follow the directions of the will, than by using them for the purpose of honing a razor, bistoury, drill and the various cutting instruments used for surgical work. The sense of touch is made keen by feeling the edge of the instrument with the palmar surface of the finger, to see if it is sharp, with the end of the nail to see if it is nicked, or carrying it at the proper angle along the upper surface of the thumb-nail, to see if it is honed at the same angle on both sides.

By observing the following rules, instruments can always be kept sharp and ready for use, also time and money can be saved; and time should be valuable to all and, in our overcrowded profession, when so many have not enough money to pay their bills and procure the necessities of life, the amount saved will find a place.

When honing a knife it should be pulled from heel to point, the cutting edge leading at an angle of about 45 degrees. The reason for this is, that should there be a particle of hard substance on the stone, it will nick the cutting edge if one carries the blade with pressure along the stone with the back leading, and a knife edge is made up of a series of saw-teeth, as seen by the microscope, and will cut best by having the diamond points inclined toward the heel of the blade; and they will be properly made if honed as above described. To make myself the more clearly understood, remember that when honing a knife it should always be drawn from heel to point toward the cutting edge. When stropping a knife, it should be drawn from heel to point from the cutting edge. The movements of honing and stropping are exactly the reverse of each other. We may know the knife is sharp by the sticky feeling when the finger or thumb is drawn along it. A nick that would not ordinarily be seen can be detected by drawing the edge of the knife along the end of the nail. To remove a nick from the edge of a knife, it may be used on a coarse stone first, until the nick is cut out, and afterward on a fine stone. Steel will accumulate on the stone. To remove it, put oil on and rub clean with a cloth. I like the India oil-stone better than any other, because it cuts keener and is made of different grades, coarse, medium and fine; it can be used with oil or water and may be sterilized by boiling. It is not an expensive stone, as a large one with a coarse and fine side costs only 65 cents; the pencil point, 50 cents, and the triangular, 35 cents. They are sold in hardware stores.

We can care for knives, scissors and saws easier by having them nickel-plated, but they should not be for efficient use. Nickel does not become a part of, but only adheres to, the steel, and when a knife is made sharp or filed after it is plated, there will be a free edge left and it will peel off. It is almost impossible to give a plated saw the clearance it should have and a sharp side edge. A saw to be used on a hard bone, like an eburnated spur of the septum nasi, should have teeth no deeper than a fine one, but should be wider apart to prevent the bone from filling the interspaces of the teeth, thus preventing it from cutting. A fine-tooth saw with a short stroke will easily cut an epiphysis, but will not cut without clogging the dense bone to which it is attached.

Many a good instrument, for want of proper selection, skill to use it, or put it in shape to be used, has been retired in disgrace. There is no excuse for lack of skill in this direction, so long as the number of physicians remain in the same proportion to the work to be done and the plentiful supply of green bones of different shape and density that may be procured from butcher-shops.

Progress is rapid in surgery, especially in our important branch of it. So marked is it that we can no longer walk, but must run in order to keep pace with the advance that is being made. We must be ready to meet any change that presents itself. The instruments to be used to-day may have to be discarded to-morrow for a device to suit a better way. Who would think of heating a laryngeal or rhinoscopic mirror, when white, hard soap rubbed on it and then cleaned off with a dry napkin will leave a film of the soap sufficient to prevent the condensation of moisture from the breath upon it, answering the same purpose as heating it, and will last for several observations while heating will only last for one, and may ruin the mirror. Who would thing of using a Belocq's cannula for plugging in a case of epistaxis when a soft catheter, a kitetail plug or cauterizing the bleeding point would answer the purpose as well and cause less pain to the patient and less trouble to the operator. Simplicity of construction aids in easy use.

I remember removing a sand-burr, several years ago, from a physician's larynx, by means of a skein of silk thread securely fastened to a curved probang and, by the aid of a laryngeal mirror, carried down below the burr, then pressed toward it, when withdrawing, the burr followed. This was done after trying many times to remove it with a forceps, also having the aid of an inventor with his laryngeal forceps, with failure as a result. I received a letter from a physician shortly after his return home, stating that a boy attempted to show how he got the sand-burr in his larynx and was so successful that he put one in his own and that he removed it with a probang and skein of silk thread, at first trial.

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Mediastinotomy.—At the Paris Surgical Society, Ricard recently reported an operation through the sternum on a woman on whom tracheotomy had been performed, and the cannula allowed to drop into the trachea. After vain attempts to pass it through the tracheal opening, he made a large opening in the sternum opposite the bifurcation of the trachea, bringing the right bronchus into view, but it was necessary to stop here; the patient died from gangrene of the lung.

# SURGICAL DIAGNOSIS OF ABDOMINAL TUMORS.*

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MILWAUKEE, WIS.

The importance of this subject appeals to all of us and therefore no apology is needed for engrossing your attention. That diagnosis should precede operation is such a rational assumption that it has almost a natural claim upon all operators, and this claim should, whenever possible, be respected. That it does not always receive the attention and consideration it merits, will be generally conceded, and that failure in diagnosis frequently leads to unnecessary operative work and occasionally to unfortunate results, clinical records sufficiently prove. It is not possible within the space allotted to this paper to do anything more than merely sketch the most urgent necessities of this great field of surgical effort, and to invite attention to certain lines of thought which should occupy the mind of every abdominal surgeon. In doing this it will be a privilege to suggest a few new thoughts while reviewing many old ones, in the hope and to the end that they may aid, in however small the degree, in bringing us nearer the time when exploratory incision may be less frequently used than at present seems necessary, and when more confidence may be placed in the diagnostic touch of the operator who would work in the abdominal cavity.

## DIAGNOSIS OF ABDOMINAL TUMORS.

In the diagnosis of abdominal tumors several requirements must be fulfilled before the diagnostician can possibly hope for even approximately accurate results, and for the purposes of this paper I have arbitrarily placed these requirements in the following order: 1. A knowledge of the shape and boundary of the cavity itself. 2. A knowledge of the normal location, physical outlines and physiologic functions of the organs of this cavity. 3. A reasonably comprehensive knowledge of those tumors which frequently, as well as those which infrequently, affect these organs. 4. Familiarity with the recognized methods of examination coupled with system and exactness of procedure. 5. A developed faculty capable of exhibiting co-ordinate and harmonious action on the part of the physical and mental being of the examiner.

The first of these conditions I will simply refer to in a general way, by assuming that the word abdominal includes the term pelvic, and that the two cavities are to be regarded as one field, the boundary of which is the peritoneum. Without a very clear conception and bright mental picture of this cavity, no mind is capable of properly dealing with the multiple and complex conditions which may be found within. Before attempting to examine the contents, we must first thoroughly understand the outlines and limits of the cavity itself. In referring to the second requirement, it is perhaps superfluous for me to say that in order for us to be able to make out pathology, it is absolutely necessary that we be familiar with histology; in order that we may be able to define abnormalities, we must be sure of the normal outlines; in order that we may be able to establish disease, we must be conscious of the definition of health. All this implies and includes an anatomical, physiological and topographical knowledge, not alone of the organ suspected of disease, but of all the organs of the abdominal cavity, for the intimate anatomical and physiological relations existing between these organs necessarily imply and predicate the influence of one upon another, both in health and disease. We can readily understand how the normal functions of these organs must of necessity influence not alone their own physical outlines, but the physical outlines of the organs in their immediate vicinity. A distended stomach, bladder or bowel surely affects the anatomical relation of its neighboring organs, and not infrequently disturbs their physiological functions. A greatly enlarged organ disarranges the entire anatomical plan of the abdominal cavity. Therefore, before searching for tumors, let us satisfy ourselves as to the existing conditions of the normal contents of the cavity.

## KNOWLEDGE OF GROWTHS WHICH ARE DISPOSED TO AFFECT DIFFERENT ORGANS.

With a comprehensive knowledge of the cavity, its normal and natural contents, we are in a position and prepared to recognize the evidences of abnormal growths which may present themselves. This knowledge, attained through a physical examination of the subject, is largely limited to a determination of the shape, size, location and probable consistency of the tumor, leaving us still very far from the ultimate and desired information. If, however, we now add to this information a knowledge of the growths likely to be met with in connection with any organ, coupled with the ability to eliminate growths not likely to be met with, we have done very much toward bridging the space between the known and the unknown. Thus, if the tumor be connected with the stomach, especially with the pyloric end, we are warranted in suspecting carcinoma and in eliminating all benign growths.

If the tumor be connected with the liver, our thoughts naturally go to the possibility of an enlarged gall-bladder. If the liver itself be enlarged, we naturally think of cirrhosis, or primary carcinoma, abscess, etc., but we would not think of associating fibroma or myoma with the condition under examination. If the growth be found associated with the ovaries, tubes or uterus, almost instinctively we are forced toward the idea of cysts, infected tubes or fibroids, seldom giving the possibility of malignancy more than a passing thought. We must now carefully weigh the evidence obtained through the physical examination, modify it by our own knowledge of the probabilities in each case, and draw conclusions in accordance with sound reasoning, based on reasonably certain premises. Very frequently the surgeon will be greatly mystified by the apparently contradictory evidence obtained, and he will be at a loss for conclusions. This is unavoidable as, for illustration, an enlarged spleen may be due to simple hypertrophy, cysts, malignant disease, leucocythemia or ague cake, any one of which may be responsible for the physical signs present, but usually there will be found in connection with each case, something either in its general or special history or in the shape or consistency of the tumor which will guide the diagnostician aright if he but possesses the necessary patience and perseverance. True, many cases will defy diagnosis even when handled by the expert, but this is to be expected, and when such cases are seen, the surgeon must do the best he can. As an instance of this sort, I would cite a case which fell into my hands some three years ago.

A young man complained that for a number of years he had been troubled by the occasional presence of a

* Read before the Section on Abdominal Surgery, at the Third Pan-American Medical Congress, held in Havana, Cuba, Feb. 4-7, 1901.

tumor in the right hypochondriac region. The tumor varied in size, being much larger at times than at others, caused considerable uneasiness when present and usually disappeared in from two to three days after its appearance. The young man's physician had observed the tumor, made a careful examination and, in the absence of any other probable theory, made the diagnosis of enlargement of the gall-bladder, due to some obstruction in the cystic duct, interfering with the free escape of the normal secretions of the sac. Upon my first examination no evidence of tumor could be found. The patient was advised to remain in the hospital until the recurrence of the enlargement, which came on the sixth day after he had presented himself for examination. Immediately beneath the liver, and apparently growing from it, an oblong tumor was easily outlined, seemingly about 6 inches in length and 2 in diameter. It was uniformly smooth on the surface and gave to the touch, on pressure, a sense of bogginess. It remained for three days and then, as usual, disappeared. During its stay several attempts were made to isolate this apparent growth from the liver, without success. After its disappearance an incision was made directly down upon the region where the tumor had been, when the unusual condition of the bowel to the length of about 2 inches was found adherent to the under surface of the liver, probably congenital in history. This looping up of the bowel at times acted as an obstruction to the free passage of the bowel contents, thus creating a tumor which disappeared as soon as the contents finally succeeded in passing. This is but one of the many unlooked for conditions we are called upon to deal with, and we know of no rule or advice that is likely to help us, except perhaps common sense.

### METHODS OF EXAMINATION COMBINED WITH SYSTEM AND ACCURACY OF OBSERVATION.

With the foregoing conditions satisfied, the surgeon is in a position to proceed with his examination and, to the end that his conclusions may be reliable and correct, he must follow some systematized method and be reasonably accurate in his observations. Surgeons too often take things for granted and develop conclusions without first having established the proper premises. Such conclusions must necessarily often be faulty, and *any* practice based on them must be unsatisfactory.

We have found that attention paid to the following subdivisions will lead the surgeon to satisfactory conclusions and reasonably accurate diagnosis: 1. History of case. 2. General appearances of the patient. 3. Special appearances of the abdomen.

The history of the case very frequently suggests the character of the growth, but this suggestion must not be relied on as a sufficient basis for diagnosis, but rather may be utilized as a guide in leading us to the nature of the disease. The patient's description of his first consciousness of the disease, the time of development, the character of the pain, if any, the organ most particularly affected, the general effect on the system, etc., are all pregnant with suggestions as to the nature of the tumor, but we must never forget that they are but suggestions. The general appearances of the patient must not be overlooked or omitted. It is a fact well established and recognized that certain abdominal growths produce well-defined facial expressions as well as characteristic hues of the skin—the facial puffiness of enlarged liver, the facial bogginess of ascites produced by the influence of any general encroachment on the heart, the cyanotic countenance, the cachexia of carcinoma and the jaundiced condition produced by interference with the biliary circulation are among the many of which we must take cognizance.

### SPECIAL APPEARANCES OF THE ABDOMEN.

In the diagnosis of abdominal tumor, the diagnostician must not content himself with the outline and size of the growth, but should earnestly endeavor to determine and satisfy himself from what part of the body it has sprung, and its possible or probable influence on neighboring or adjacent organs. He will thus be enabled to clear up and account for all the symptoms exhibited in the case, and consequently will have removed all doubt as to the diagnosis. To do this, patience, perseverance and gentleness are necessary. With the patient before us in the proper position, our first inquiry should be directed to the general outline of the abdomen. In this inquiry must be included the condition of the abdominal wall—the absence or presence of any special thickening—and, when such thickening is found, its probable cause must be considered; the presence or absence of any special indication of tumors lying beneath the wall. In this connection it must not be forgotten that the absence of external indications of abdominal tumor is no evidence that such a tumor does not exist, and on the other hand we are often deceived by appearances which seem to point conclusively to abdominal tumor, but which, on later being traced to their real sources, are easily accounted for.

Our next information must come through the sense of touch, and in this we should encourage and practice the greatest gentleness; even were it not true that serious consequences occasionally follow undue and unnecessary pressure in examination, there could still be found no excuse for avoidable clumsiness and unwarranted roughness, especially when we can secure better results by gentler means.

By careful, gentle and uniform pressure over the abdominal wall, the tumor, if present, will soon be located; if large, its nature will with little difficulty soon be found out—in short, it is that developed power which enables one to remain unconscious of the intervening wall between the hand and the part being examined, thereby permitting a more careful and reliable conclusion as to the existing conditions. It is the faculty which enables the gynecologist to use the uterus as a connecting medium between his hand and some growth in the abdomen, to determine the nature, size and consistency of this growth. It is the faculty which aids us in approximating the size, shape and, oftentimes, the consistency of any growth with which we are dealing. Words can not describe it; reading can not develop it; thought will not acquire it. It is the one faculty which must of necessity come to us through patient and persistent effort, and the close study of those niceties which go to make up the good diagnostician.

### ANESTHETICS IN EXAMINATION.

The value of anesthetics in the examination of the abdomen, except in rare cases, is not well established. We easily recognize the advantages they afford, but we also recognize the disadvantages and dangers attending their use. They remove, it is true, the muscular resistance of the patient, but in doing so they have also removed the evidences of sensitiveness and the pain of diseased organs, which are often the surgeons' only guide to conclusions. To this we must add the usual dangers, however small, connected with the use of anes-

thetics, and the special possibility of doing harm, through our manipulations to unconscious patients, which might be avoided or prevented were we dealing with the conscious, sensitive and resisting subject. Failing in our first effort to complete the diagnosis, or to satisfy ourselves as to the true nature of the case, we must repeat the examination and exhaust every means before we admit failure.

When all efforts along these lines have proved unavailing, we are then—but not till then—warranted in subjecting the patient to the very useful, though oftentimes unnecessary, exploratory incision.

In conclusion, I desire to say that this paper has not been written upon the presumption that it would instruct, but rather on the assumption that as "constant dropping wears the stone," it may be regarded as at least a drop in the removal of those obstacles which lie between us and correct abdominal diagnosis, and which have exposed us to the doubtful compliment paid us by European surgeons, of being good operators but poor diagnosticians.

## A CONTRIBUTION TO THE STUDY OF MOUNTAIN FEVER.*

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I find in the arid plateaus of the Rocky Mountains three types of fever that predominate during the summer and fall. These more prevalent forms of febrile disturbances are familiarly known as malaria, typhoid and mountain fever. It is true that malarial fever is found to exist throughout the entire year, but it is more prevalent during spring, summer and autumn. We are not yet prepared to say that mountain fever is or is not a modified type of typhoid or malarial fever. Whether or not it is a relative to these diseases, the writer is satisfied that it has enough distinctive features, peculiar to itself, to warrant it in being worthy of separate consideration.

It is not the purpose of the writer in this contribution to attempt to defend the so-called "mountain fever" against those who may disclaim its existence. As a member of the medical profession, I feel it is my duty to record the clinical facts as they present themselves, regardless of my own or any one else's personal prejudice for or against it, with a view of determining, as far as possible, its symptomatology, etiology and pathology.

"Mountain fever" is characterized chiefly by a sudden attack of malaise, followed by a chill, a sharp rise and fall of temperature, often to unusual extremes; occipital headache with pain shooting down the back, but seldom accompanied with loss of consciousness or associated with epistaxis. There is some gastro-intestinal irritation which seems to be confined more particularly to the stomach and transverse colon. There is rarely enteric hemorrhage or vomiting, and it is only occasionally associated with tympanites.

Usually between the tenth and fifteenth day a peculiar eruption appears which extends over the upper extremities, the anterior and posterior portion of the chest, the abdomen, the back, the hips, the thighs and, not infrequently, the legs. The eruption first consists in a small bright red spot between the size of a pinhead and a split pea, and under the finger feels like a small grain of shot in the skin, which is slightly raised at the point of discoloration and is neither vesicular nor pustular. In from three to five days it begins to fade and turn from a red to a dirty brown color. The shotty feeling gradually disappears, the discoloration slowly subsides, and in from seven to ten days more it disappears entirely, this generally marking the initiation of the convalescence, which requires from ten to twenty days longer, making the usual course of the disease range from thirty to fifty days.

I have met cases which to all intents and purposes appeared to be "mountain fever" in which this eruption did not appear, but where the prevailing symptoms indicated this form of fever. Likewise, there is an occasional case where we have epistaxis, but in the majority it does not appear, while hemorrhage from the bowels is practically unknown in this form of continued fever.

Nervousness resembling paralysis agitans is more or less marked according to the severity of the case, and usually lingers well into convalescence. The tongue is coated with a grayish, yellowish fur, but rarely becomes dry and brown, and sordes is seldom present.

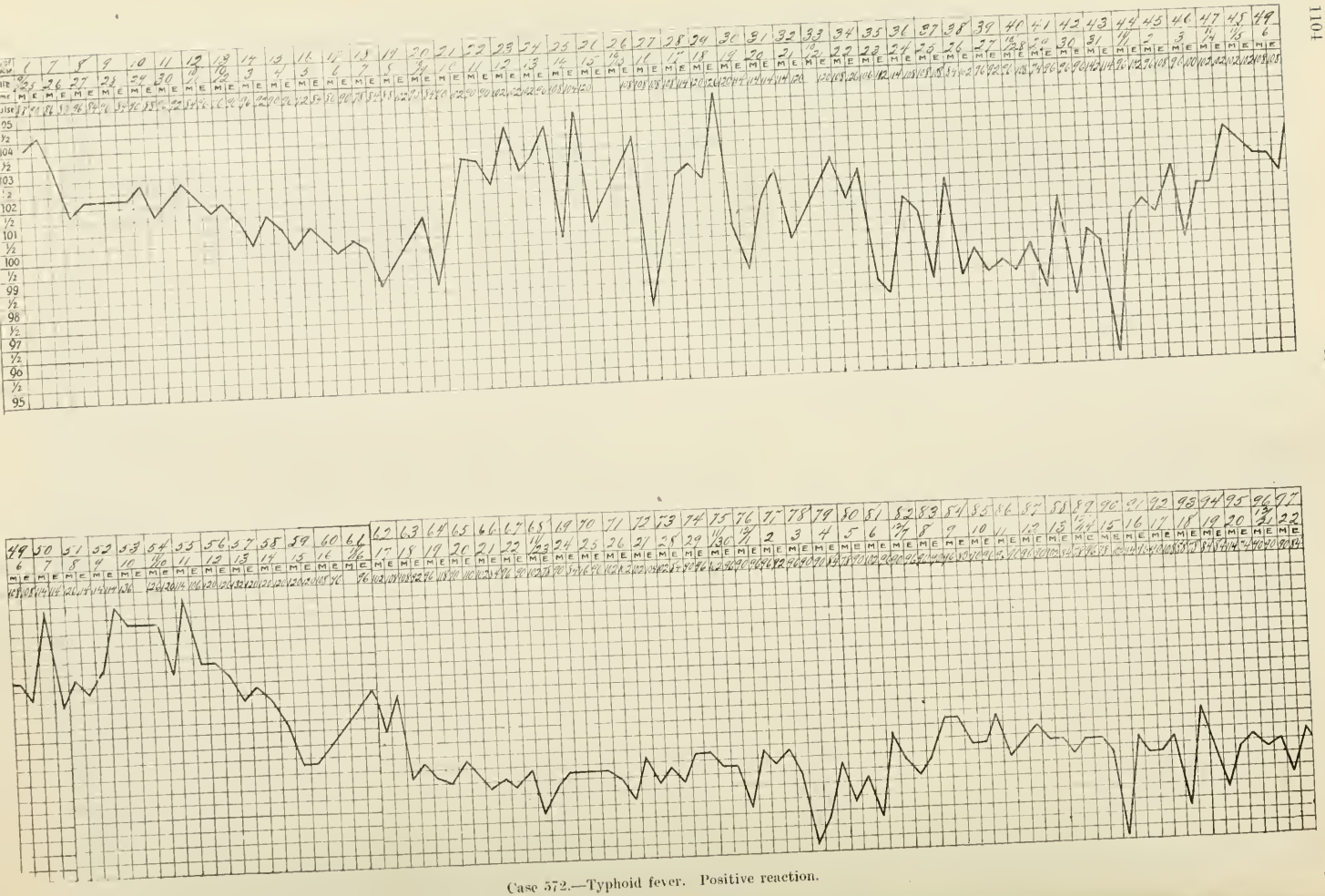
Etiology.—The cause of mountain fever is not at all well understood, and it is to be hoped that in the near future continued and impartial investigations will lead to a definite conclusion as to its true cause and real place in the rôle of diseases.

In this connection, through the courtesy of Dr. Geo. M. Sternberg, Surgeon-General of the United States Army, there were twenty examinations made of the blood of patients being treated in the Wyoming General Hospital in which the diagnosis was that of "mountain fever." Of these cases, which ranged over a period of two years, 12 gave negative reactions with Widal's test and 7 positive. During the same period there were 13 examinations made of cases being treated in the same hospital, diagnosed as typhoid fever, in which there were 2 negative and 11 positive reactions. While these examinations are not yet conclusive, they are sufficiently so to show that there is certainly a difference as to the causes producing typhoid and "mountain fever," and while it is possible to mistake the one for the other, at the same time the distinction between the two is sufficient to make them, as a rule, easily differentiated the one from the other.

Knowing, therefore, that typhoid fever is the result of infection with Eberth's and Gaffky's bacillus, and the fact that out of 13 cases examined during a period of nearly two years, all but 2 gave a positive reaction, while of 20 cases of "mountain fever" treated during the same period, all but 7 gave negative reactions, would lead us to believe at least that mountain fever was not produced by the same cause as typhoid. Fortunately for the patients, but unfortunately for the sudy of the disease, "mountain fever" has not been found to be a fatal disease, the writer never having seen a fatal result in over one hundred cases which have come under his observation during the past three years.

Pathology.—For reasons already mentioned, in speaking of the etiology, the pathology is not at all well understood. It seems to be a disease which effects the stomach and transverse colon, and is particularly marked in the nervous system, producing a condition that simulates paralysis agitans as compared with subsultus tendinis of typhoid. To further aid in the study of this disease I beg leave to submit for inspection the following clinical charts, showing the range in tem-

* Read before the Fourth Annual Meeting of the Wyoming State Medical Society, held at Cheyenne, Wyo., Oct. 9 and 10, 1900.



Case 572.—Typhoid fever. Positive reaction.

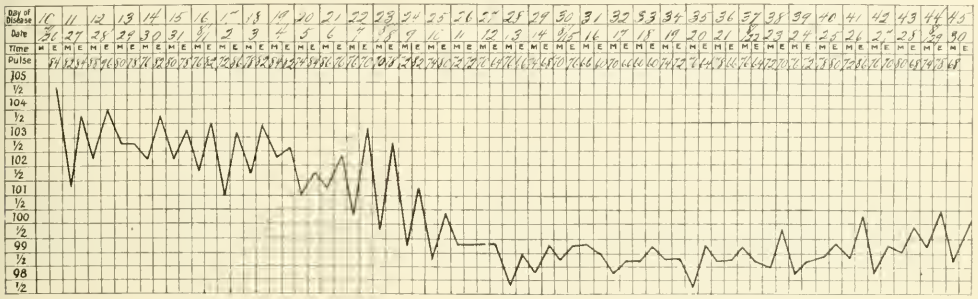
perature in mountain fever as compared with typhoid. These charts have not been made from selected cases, but are simply what might be considered fairly representative cases of each of the two diseases, in which have been included the more difficult as well as some of the milder forms of each.

Case 572 shows a positive reaction with Widal's test. This was an unusually malignant case of typhoid fever, covering a period of 102 days, with a range of temperature varying from 105 to 95 F., a difference of 10 degrees in the extremes.

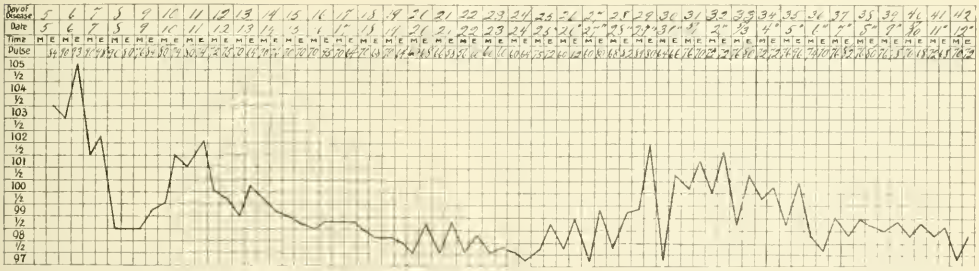
In these four cases of typhoid fever we have the following extremes of temperature: Case 572, 10 degrees; case 413, 7.5 degrees; case 874, 6.5 degrees; case 608, 6 degrees, or an average of 7.25 degrees F.

In reviewing the cases of "mountain fever" we find that:

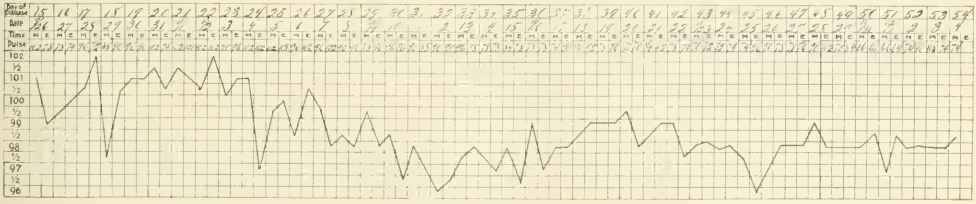
Case 902 gave a negative reaction with Widal's test, and ran a course of only eighteen days, but had a variation of temperature ranging from 103 to 97 F., being an extreme of 6 degrees followed with recovery.




Case 874.—Typhoid fever.




Case 413.—Typhoid fever.




Case 608.—Typhoid fever.

with numerous severe hemorrhages, finally followed by recovery.

Case 874 shows a positive reaction with Widal's test, ran a course of forty-five days with a range of temperature varying from 104.5 to 98 F., a difference of 6.5 degrees between the extremes, terminating with recovery.

Case 413 gave a positive reaction and only ran a course of forty-five days, showing a range of temperature varying from 104.5 to 97 F., a difference of 7.5 degrees between the extremes, terminating with recovery.

In case 608 no test was made. This case, however, ran a course of fifty-four days with a variation of temperature ranging from 102 to 96 F., a difference of 6 degrees in the extremes, and was followed by recovery.

Case 441 gave a negative reaction, ran a course of forty-three days, and had a range of temperature varying from 103 to 97 F., a difference in extremes of 6 degrees and was followed with recovery.

Case 573 gave a positive reaction, ran a course or thirty-four days and showed a variation of temperature ranging from 103.5 to 95 F., a difference in the extremes of 8.5 degrees making a good recovery. This case, according to Widal's test, should have been diagnosed typhoid fever, but owing to the sharp and decisive range of temperature was considered "mountain fever" by the writer, as it lacked the roof-cone ascending and descending temperature.

In case 556 no test was made. This case ranged over a period of twenty-eight days and showed an extreme of temperature

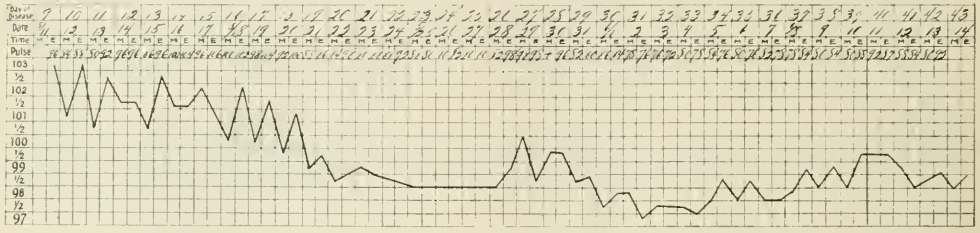
ranging from 106 to 96, a difference in the extremes of 9 degrees, and was followed with recovery.

In observing these temperatures it will be clearly evident that there is a sharper and more irregular rise and fall of temperature in the so-called "mountain fever" than in typhoid, the latter having a more gradual ascent in the majority of cases until it reaches the climax, when it takes a more gradual descent until resolution is established.

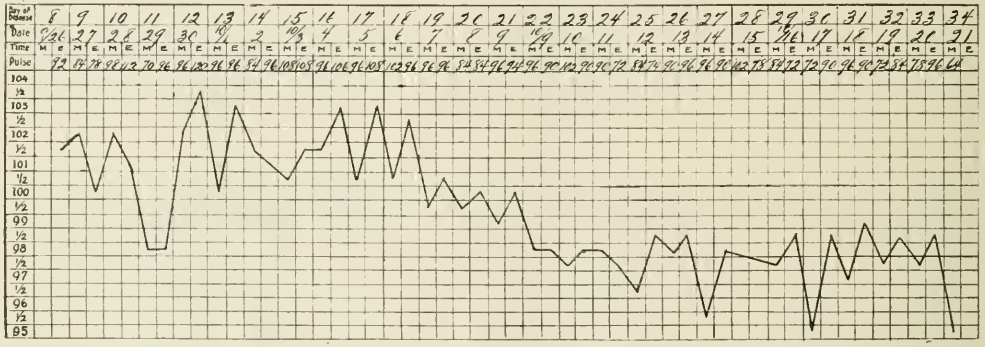
In these four cases of "mountain fever" we have the following extremes of temperature: Case 902, 6 degrees; case 441, 6 degrees; case 573, 7.5 degrees; case 556, 9 degrees, or an average of 7.3 degrees F.

While the average variation of temperature in these cases is practically the same, it extends over an average of sixty days in four cases of typhoid fever and only over an average of thirty days in the same number of cases of "mountain fever," thus making the variation more abrupt when we consider the number of days the patient was sick with "mountain fever" compared with those of typhoid.

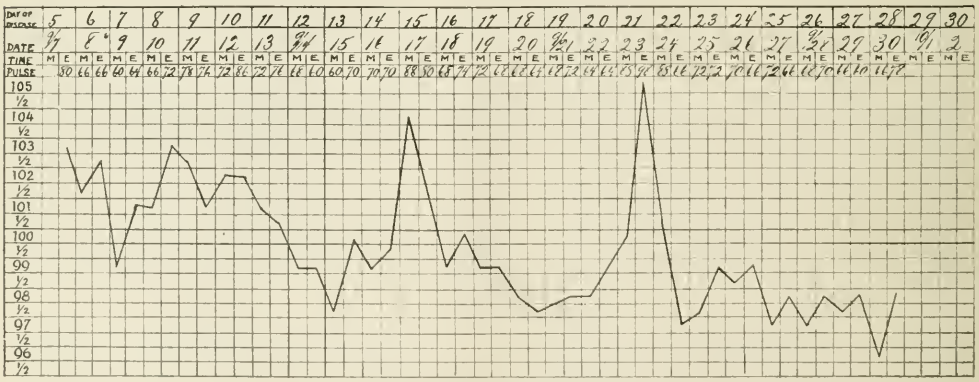
I herewith submit a tabulated report of forty examinations of the blood of thirty-two patients, made under the direction of Surgeon-General George M. Sternberg, and extending over a period of nearly two years. It is as follows:




Case 441.—Mountain fever.




Case 573.—Mountain fever.




Case 556.—Mountain fever.

REPORT OF WIDAL'S TEST IN ORDER OF DATE, MADE AT THE SURGEON-GENERAL'S OFFICE, WASHINGTON, D. C., OF SAMPLES OF BLOOD SUBMITTED BY R. HARVEY REED, M.D., OF PATIENTS UNDER HIS CARE AT THE WYOMING GENERAL HOSPITAL, ROCK SPRINGS, WYOMING.

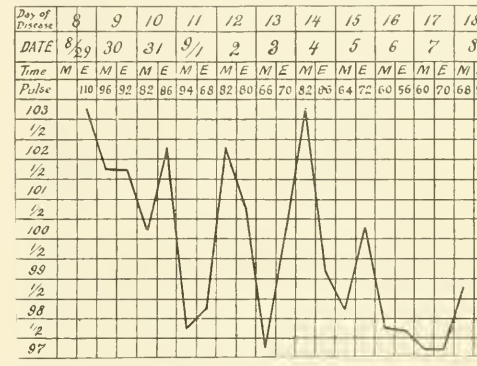
| Case Number. | Date Blood Was Drawn. | Diagnosis Made Prior to Widal's Test. | Reaction. |
|---|---|---|---|
| 379 | 3-5-99 | Mountain fever | Negative |
| 413 | 4-6-98 | Typhoid fever | Positive |
| 427-a | 4-27-98 | Mountain fever | Negative |
| 427-b | 5-17-98 | Mountain fever | Negative |
| 441 | 5-17-98 | Mountain fever | Negative |
| 472 | 6-21-98 | Malarial fever | Negative |
| 520 | 8-15-98 | *Varicocele | Slight Agglutination |
| 526 | 8-17-98 | Mountain fever | Negative |
| 500-a | 8-26-98 | *Malarial fever | Negative |
| 500-b | 8-26-98 | *Malarial fever | Negative |
| 572 | 9-30-98 | Typhoid fever | Positive |
| 573 | 9-30-98 | Mountain fever | Positive |
| 576-a | 9-30-98 | Mountain fever | Incomplete |
| 577 | 9-30-98 | Mountain fever | Negative |
| 580 | 9-30-98 | *Gastralgia | Positive |
| 576-b | 10-17-98 | Mountain fever | Positive |
| 583 | 10-17-98 | Mountain fever | Positive |
| 596 | 10-17-98 | Typhoid fever | Positive |
| 597 | 10-17-98 | Typhoid fever | Positive |
| 661 | 12-13-98 | Mountain fever | Negative |
| 783-a | 5-16-99 | Mountain fever | Negative |
| 783-b | 5-16-99 | Mountain fever | Negative |
| 823 | 6-1-99 | *Acute bronchitis | Negative |
| 845 | 6-30-99 | Mountain fever | Negative |
| 851-a | 6-30-99 | Mountain fever | Positive |
| 851-b | 6-30-99 | Mountain fever | Positive |
| 853 | 6-30-99 | Typhoid fever | Negative |
| 874 | 7-29-99 | Typhoid fever | Positive |
| 887 | 8-18-99 | *Remittent fever | Positive |
| 899 | 8-29-99 | Mountain fever | Positive |
| 902 | 9-2-99 | Mountain fever | Negative |
| 905 | 9-2-99 | Mountain fever | Negative |
| 930-a | 9-29-99 | Typhoid fever | Positive |
| 931-a | 9-29-99 | Typhoid fever | Positive |
| 930-b | 10-7-99 | Typhoid fever | Negative |
| 931-b | 10-7-99 | Typhoid fever | Positive |
| 930-c | 10-16-99 | Typhoid fever | Positive |
| 948 | 10-16-99 | Typhoid fever | Positive |
| 964 | 10-29-99 | Mountain fever | Positive |
| 967 | 10-29-99 | Typhoid fever | Positive |

Of these forty examinations in thirty-two cases I submit the following table of comparisons:

| Name of Disease. | Negative. | Positive. | Incomplete. | Total. |
|---|---|---|---|---|
| Mountain fever | 12 | 7 | 1 | 20 |
| Typhoid fever | 2 | 11 | 0 | 13 |
| Malarial fever | 3 | 0 | 0 | 3 |
| Varicocele | 0 | 0 | Slight agglutination | 1 |
| Gastralgia | 0 | 1 | 0 | 1 |
| Acute bronchitis | 1 | 0 | 0 | 1 |
| Remittent fever | 0 | 1 | 0 | 1 |
| | | | | 40 |

By this table it will be seen that 84.6 per cent. of the cases of typhoid fever when tested showed a positive reaction, while only 15.3 per cent. showed a negative reaction. On the contrary, of the so-called "mountain fever," 60 per cent. gave a negative reaction and 35 per cent. a positive, and 5 per cent. an incomplete reaction. It is also interesting to note that the case of gastralgia gave a positive reaction as well as the one of remittent fever, while the case of varicocele showed a slight agglutination.

In concluding this contribution to the study of "mountain fever" there is apparently a marked difference between typhoid and "mountain fever" in a few particulars, of which the following is probably the most marked: 1. In the reaction with Widal's test a large majority of cases show a positive reaction in typhoid fever, while in mountain fever the majority of tests show a negative reaction. 2. The mortality is much greater in typhoid than in "mountain fever." 3. The average duration of the disease is greater in typhoid than in "mountain fever." 4. The cause of "mountain fever" does not seem to be due to the presence of the Eberth and Gaffky bacillus. 5. The rise and fall of temperature in "mountain fever" is more abrupt than




Case 902.—Mountain fever.

that of typhoid. 6. Tympanites is nearly always present in typhoid and seldom present in "mountain fever." 7. Epistaxis is common in typhoid, but rare in "mountain fever." 8. Enteric hemorrhage is seldom met with in "mountain fever," but common in typhoid. 9. The eruption in typhoid fever is usually confined to the abdomen, is not raised and disappears readily on pressure, returning promptly when the pressure is relieved, while the eruption in "mountain fever" covers almost the entire body, is raised and has a shotty feeling under the finger, and does not disappear on pressure.

From these few differential points which the writer has observed in the study of these diseases, which have occurred in the same community, which have been treated side by side in the same hospital or cared for at their homes, while they belong to the same type of disease, both being continued fevers, both usually occurring in the summer and autumn, yet, he is compelled to look on them as being at least different conditions of the same, if not entirely distinct, maladies produced by separate and distinct causes.

*Note—The blood from the three cases of malarial fever, one each of varicocele, gastralgia, acute bronchitis and remittent fever were purposely sent to ascertain the result of Widal's test in diseases other than typhoid fever.

## A STUDY IN THE HEMATOLOGY OF NEURASTHENIA.*

CHARLES HOWARD LODOR, A.M., M.D.
CHICAGO.

The title neurasthenia would seem to cover a pathologic condition far more widespread than the term itself might indicate. There is scarcely an organ or tissue in the body which does not show more or less deviation from the normal.

In taking up its hematology, facts appear which of themselves are confusing and contradictory. One of the first symptoms noticeable in neurasthenia is the evident anemia or, if not anemia, hemic change. In an able and suggestive article published in the *Medical Record,*

* Read before the Chicago Neurological Society, Dec. 20, 1900.

June 25, 1898, Mary Putnam Jacobi points out that many neurasthenics, and also patients evidently anemic, have a very high blood count, and gives the history and count of several patients where the reds were over 5,500,000. One patient, a palid neurasthenic, had a red count of 6,660,000; whites, 37,777. Following suggestions of Dr. S. Weir Mitchell, Dr. J. K. Mitchell has made a very careful and exhaustive study of many neurasthenics, finding a large per cent. of them evidently anemic, and yet with a blood count either normal or supranormal. Such observers as Mitchell, Oliver, Cabot and Cheron Vigoroux have noticed and noted the changeableness of the red count owing to variation in the condition of the blood drop after massage, static electricity, etc.

It is curious that it never occurred to these careful observers to put together the results obtained by the various means of blood examination. No tissue of the body is so changeable or so changing as the blood, and before any fair conclusions can be drawn certain facts of its condition must be obtained, as: 1, its specific gravity; 2, its chemical composition; 3, rate of flow and caliber of vessels, including vasomotor control, as the red and white corpuscles do not move with the same velocity, the white tending to lag and stick against the blood-vessel wall; 4, temperature of the part furnishing blood for examination; 5, number of reds and number of whites; 6, hemoglobin value in color; 7, bulk value of corpuscular elements as determined by the hematokrit; 8, biochemic activity of the cell as manifested by its ability to take up acid or alkaline staining reagents; 9, the age of the corpuscular elements, a point not practically discoverable clinically, but bearing largely on the condition of the patient and possibly discoverable by *a priori* reasoning, as I purpose showing subsequently; 10, its bacteriology.

In experimental work done by Drs. John Holdam and J. Lorrain Smith[1] to determine the different oxygen capacities of red blood corpuscles, several data were obtained which aid in discovering the age of corpuscles. When blood is centrifugated, the heaviest corpuscles naturally are thrown to the periphery. These observers took specimens from this heavy outer layer of corpuscles and found that they had an increase of 20 per cent. of oxygen-carrying capacity over the layer near the center of centrifugation. The size of corpuscles, according to their statements, in no way influenced oxygen-carrying capacity. A still more interesting point was the fact that blood drawn from animals previously bled had a higher oxygen capacity than that obtained before such bleeding. While such facts were noted, the evident conclusion was not drawn, namely, that the heavy corpuscles were the new ones and the light corpuscles with enfeebled oxygen-carrying capacity were old.

Premising so much, I turn to observations made first in the examination of choreics and afterward carried on in neurasthenics. Patients coming into the examining-room from an outside temperature below freezing showed for some time a marked decrease in the solid constituents of the blood, amounting not infrequently to 10 per cent. by bulk, as shown by the hematokrit over readings obtained in former examination; not only this, but apparently an increase in the proportion of reds over whites. When the patient was thoroughly warmed this discrepancy disappeared. Patients examined after Franklinization showed a decided increase in the bulk of solids and number of reds over readings obtained before the electricity was used. Immersing the hand of a well-warmed patient into cold water rapidly lowered the bulk of reds in circulation. From many examinations made, both in health and disease, it was found that cold uniformly lowered the bulk of solids in peripheral blood and increased the apparent quantity of reds over whites. On the other hand, warmth restored the balance, and massage and electricity uniformly raised the bulk of solids above normal for the individual, thus giving a sway from the abscissa line 0 normal, to from 2 to 10 per cent. below to 2 to 10 per cent. above. A natural deduction would be that some attention should be given and allowance made in the blood count in patients with cold, clammy hands and extremities. The small size of blood-vessels and the vasomotor constriction seen in some neurasthenics may account for part of the apparent hemic disturbance. Furthermore, change of atmospheric pressure materially changes the number of reds, as might be expected. A marked increase in the quantity of solids in the blood from a finger was always obtained by rotating the arm rapidly. Removal of a patient to an altitude causes reds to appear in greater number in peripheral vessels, so that the remarkable gain noted at times in the hemic condition of patients taken to altitudes may be and probably is factitious, due to the altitude and not to an actual increase in the number of reds in the general circuit.

Going back to the study of the red blood column, as shown in the hematokrit, and studying it more in detail, there seem to be three areas in it in normal blood: a heavy one found at the periphery, a middle-weight area in the center, and a lighter-weight area at the proximal end of the clot.

I find that blood taken from these three areas varies much in its capacity to take up acid stains. The heavy blood from the periphery stains deeply and quickly and evenly with the acid stains. The middle area stains fairly well with acid stains and blood from the proximal end of the tube but slightly. There are certain other features of the blood from this last area which attract attention. The corpuscle itself is exceedingly lean, oftentimes almost dumbbell-shaped when on edge, and does not stain evenly. The cytoplasm is apparently pushed to an outside rim with the cell wall collapsed and touching in the center, the cell contents having lost almost all biochemic activity.

Putting the findings together, namely, that in normal blood we have circulating red cells of very uneven value and that some of them are heavy and stain well, that in an animal bled and allowed to recuperate we have a great preponderance of heavy red cells staining deeply, and that in both instances the heavy cells have a greater oxygen-carrying capacity, the conclusion would seem inevitable that these heavy cells are new or recently formed.

Applying these facts, and conclusions legitimately drawn from these facts, to findings in the examination of the blood of neurasthenics, it would appear possible to reconcile many statements apparently diametrically opposed. In all cases coming under my observation there seems to be some hemic disturbance, no matter whether the case has as a basis an autotoxemia, a toxemia as a sequel of preceding disease, or is apparently purely acquired or is of distinctly hereditary type. Each type may have some particular prominent symptom, a sexual one or gastric one, but be the type or special symptom what it may, if the disease persists any length of time there presently appears a condition of blood fairly constant and typical of the disease. The reds may or may not be reduced in count, at times may be even above

1. Jour. of Phys., 1894, p. 465, etc.

count, but the individual erythrocyte has undergone a change so that it resembles the cells in normal blood, which I have called, for want of a better name, old cells. In many cells the cytoplasm in stained specimens seems pushed out to the periphery to such an extent that the cell becomes dumbbell-shaped instead of the normal lenticular or biscuit shape. As a result the cells pack together closely and show a marked diminution in volume by the hematokrit. The oxygen-carrying capacity is lowered, and in consequence the hemoglobin is deficient in color test. The blood in neurasthenia then would seem to be poor in oxygen-carrying capacity and not only this, but, owing to the poor vasomotor control, the peripheral blood at least varies much in its character. Time and again I have noticed the blood issuing from a puncture, not well mixed so that serum came first and then, apparently, a mass of corpuscles. Such findings lead at once to speculation. Certainly many cases of neurasthenia have some form of toxemia as an underlying cause. The value of all means of hemogenesis is at once apparent and, if it were necessary, further proof is furnished for the value of massage, electricity and overfeeding.

## INTUBATION OF THE LARYNX, WITH PERSONAL REMINISCENCES.*

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Professor of Medicine, Clinical Medicine and Laryngology, Medical Department Colorado State University.

DENVER, COLO.

March 20, 1885, it was my privilege to present a paper on the intubation of the larynx to the Chicago Medical Society, and to illustrate the operation on the cadaver. Through the courtesy of Dr. Joseph O'Dwyer, of New York, now deceased, who was experimenting with this operation in the hospitals of that city, I was provided with the crude and primitive instruments then in use.

My first operation was performed April 19, 1885, on a child 2 years old, choking to death with diphtheritic croup. My assistants were an old lady, who held the patient on her lap, and a boy 12 years old, who held the gag and steadied the head. I had never seen the operation done, yet, with these poor and untrained assistants, the tube was successfully introduced on the third attempt, giving prompt and immediate relief. This was the first intubation performed west of New York City, and probably the first ever done in private practice. Previous to this time the mortality of diphtheritic croup, without surgical interference, was almost 100 per cent. It was the most fatal and the most dreaded of all diseases of childhood. Occasionally a patient would struggle through the disease, but it was a rare event. I well remember having been called to a boy, 10 or 12 years old, who was choking to death with this disease. He was rolling and tossing about the bed, purple, gasping for breath, and clutching at the throat in a vain attempt to find relief. I begged, implored and argued with the mother, an Irish dame, for permission to open the trachea to give the poor lad relief. She obstinately refused, saying: "I would ruther see me bye die than have his wind pipe cut." This statement illustrates the prejudice that prevailed against tracheotomy.

I took my departure, after prescribing an emetic, not being willing to stand idly by, with hands tied, to see the boy strangle to death. A few days later I learned that he was well. In his last violent effort for life he succeeded in expelling a membranous cast of the larnyx and trachea and recovered. Those of us who practiced medicine in those days, know full well that such recoveries were very rare, almost like "angels' visits." When tracheotomy was performed the mortality was somewhat reduced. It was generally estimated that in well-selected cases it amounted to about 75 per cent., but in private practice I had saved but one out of twenty operations, and of 300 operated on in Chicago, the recoveries had been only 9 per cent., a mortality of 91 per cent. Confronted by these facts and this fearful mortality, I felt justified in taking any risk, however great, in the hope that better results might be attained.

My first case terminated fatally. My second operation was performed April 23, 1885. The tube, which was one of the early ones, with a very small rim at the top dropped through the glottis, and I lost not only my tube, but my patient as well. This incident led to the enlargement of the head and a similar accident has never since occurred.

My third operation was on July 16, and likewise, resulted fatally. My patients troubled me greatly by coughing up the tubes every few hours, necessitating their frequent reintroduction. Dr. O'Dwyer, with whom I was keeping up a brisk and most kindly correspondence, suggested a shoulder on the tube, to overcome this difficulty. I therefore, had the tubes made with a projecting shoulder, about three-quarters of an inch below the head; this was subsequently modified by the bulge or swelling in the center of the tube, with which all are familiar, and which to a certain extent overcomes this objection.

My fourth operation was done Sept. 15, 1885, and was successful. The child wore the tube five days. This, as far as I know, was the first patient in private practice to recover, and was a great encouragement, not only to myself, but to Dr. O'Dwyer, as we were both becoming disheartened. By November, 1885, I was able to report eleven cases to the Chicago Medical Society, with four recoveries. From this time on cases multiplied rapidly, as did also my trials and tribulations. Demands came from all parts of Chicago and its suburbs for the operation, and life became a burden.

I recall, among others, a case to which I was called in great haste and at much inconvenience, only to be informed on arrival that the father had decided not to allow an operation. The boy, 5 or 6 years old, was in great distress, suffering all the agonies of slow strangulation. I insisted on the operation in no uncertain terms, and finally the father inquired how much I would charge. I told him it did not matter; would relieve the boy first and talk about the fee later, but he insisted on knowing and when I said I would not charge more than $25 he said: "If you want to do the operation so bad go ahead and do it. If he gets well I will pay you $25, but if he dies you have got to pay me $25." This was a new proposition, but I agreed, and in less time than it takes to tell it the child was relieved; however, the patient subsequently died from the extension of the disease. In another case the father disputed a bill of $25, informing me that all I did was to "run a tube down the child's neck, and that he could have done it himself; it was nothing but robbery" and I could have $5 or nothing. Feeling that this was a small sum for a life-saving operation, it was declined.

In another case the father declined to pay a small fee after two weeks of the most faithful attendance because, as he said, "a brass tube was used, which poisoned

* An address, delivered on request, before the Denver and Arapahoe County Medical Society, Dec. 11, 1900.

the child and caused its death." About this time the coroner was called to investigate one of my cases. It was said that I put plugs in the childrens' throats, and that was what killed them. One of my livliest experiences occurred about this time. I was called one night to remove a tube from a desperate case of diphtheria, on which I had operated a few days before. It was in the dead of night and in one of the tough distriets of the city. The patient was desperately ill, and the only hope seemed to be in removing the tube, and while this was quickly and easily done, yet the child suddenly expired in the arms of the assistant from paralysis of the heart. Nothing could convince the father that I had not killed the child, and a hasty retreat was in order. I was followed by a shower of bricks and stones and, with the irate father at my heels, fleetness of foot was all that saved me. During these days my life was frequently threatened by hard, ignorant and tough characters, and it was necessary to go armed, not knowing but that these threats might be carried out any dark night. It appeared to me about time to quit, for in payment for my time and strength and discomfort and risks I rarely received anything but abuse and threats of dire vengeance. Had the city been a smaller one my reputation would have been ruined, but fortunately my patients were so widely scattered that I was still able to hold my own. Dr. O'Dwyer, writing me at this time, said: "I do not know which to admire most, the skill required in doing the operation or the courage in introducing it into private practice." Many and many a time I have said that I would not do the operation again, but this resolve would be no sooner made than there would come an urgent call from some physician who would not be refused, and so the resolve would be broken. An occasional life saved, occasional evidences of the deepest and greatest appreciation and the consciousness that more lives were being saved than by any other known means, enabled me to keep up the work when, otherwise, strength and courage would have failed. I had other trials as well, for it was only natural that any innovation should meet with the disapprobation of many conservative members of our profession. Many a heated discussion occurred over the subject of intubation, as I reported my cases from time to time. The most bitter debate was at the meeting of the AMERICAN MEDICAL ASSOCIATION, held in Chicago in 1887. One of my staunchest and truest friends was Dr. Charles Warington Earle, now deceased, whose magnificent ability, voice and physique many will remember, and whose watchword in every fight was, "Come on boys." He was one of the early converts to the utility of intubation and its superiority over tracheotomy. He never did the operation, but in every debate his voice was raised in its favor. As a result of the bitter discussion over this subject, at the meeting referred to, a committee was appointed, consisting of Larrabee, of Kentucky, and Jones, of Illinois, to visit my patients and report the results of their investigation through THE JOURNAL. After seeing some of the patients who had recovered, others wearing the tubes and operations on others, a most enthusiastic report was made in favor of intubation.[1] Since then there has been but little opposition to the operation. I am convinced that it is a difficult one and that there are but few who can perform it well without long and careful training. To me it has never been difficult, excepting in two instances, and this after a very large experience. In these it was due to subglottic infiltration, and in one tracheotomy was required, while in the other the tube finally crowded through after great difficulty. Dr. O'Dwyer met with the same experience in one or two cases. It is a condition that must be very rare, as in several hundred I have met with but these two.

In my brief experience I have seen the mortality of diphtheritic croup almost 100 per cent. without surgical interference. With tracheotomy I have seen it reduced to 75 to 90 per cent.; with the introduction of intubation, to 60 to 75 per cent.; and finally, with intubation supplemented by antitoxin, I have seen this great mortality reduced to almost nothing. It is now sometimes asked if intubation is not unnecessary when we have a specific remedy in antitoxin. It is true that many operations are unnecessary when antitoxin is given early and repeatedly in large doses. It is true that it at once arrests the progress of the disease, but it is also true that many are neglected and not seen by the physician until the larynx has been invaded and the only possible hope is in an immediate operation. Many again commence as a laryngeal diphtheria and death may occur from suffocation before we can get the specific effect of antitoxin. While it prevents further extension of the disease, it does not immediately cause the destruction or disappearance of the obstructing membrane already present. I well remember a case in point, and a most exciting race for life, in which death for once was defeated, although by a narrow margin. One night I received a message from a doctor some miles distant, informing me that his patient, a boy 5 years old, was in a dying condition from diphtheritic croup, although he had given antitoxin. He implored me to make all possible haste, as it was doubtful if the boy could live over a few minutes. He said he would keep up artificial respiration and endeavor to keep him alive until I could arrive. Hurrying thither, I found the little spark of life still fluttering, although the child was purple, unconscious and in the last convulsive death agony. The jaws were pried apart and the gag inserted with great difficulty, but the tube was quickly placed and the child revived, and is living and well today.

In my first 100 cases there were but 27 recoveries: in the second, 34; in the third, 40; in the fourth, 38, and in the fifth, 39, while of my last 70 operations, in connection with antitoxin, there have been but 4 deaths, a mortality of less than 6 per cent. in a disease that formerly was dreaded above all others. With this experience I feel justified in saying most emphatically that any medical man who does not use antitoxin in the treatment of diphtheritic croup is guilty of malpractice, and he who openly opposes its use should be considered a menace to society, for "there are none so blind as those who will not see and none so deaf as those who will not hear."

I can not close without again paying my tribute of honor to the memory of Dr. Joseph O'Dwyer. His name will ever appear among the honored ones in the history of medicine. I have seen the mortality of diphtheritic croup reduced from almost 100 per cent. without operation to almost nothing with intubation supplemented by antitoxin.

1. The discussion and report will be found in THE JOURNAL A. M. A., of July 30, 1887.

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FOR the distressing annoyance caused by the itching and tingling of chilblains, Chaffee applies tincture of iodin directly to the affected parts for two or three nights, which gives quick and complete relief.

## SOME POINTS IN THE DIAGNOSIS OF GALL-STONES.*

JAMES B. HERRICK, M.D.
CHICAGO.

Repeated attacks of colic with the pain in the right hypochondrium, accompanied by nausea and vomiting and followed in a few hours by a slight jaundice, leave little doubt as to the existence of gall-stones. In the majority of cases it is on a history of such attacks with the finding of the calculi in the feces that the diagnosis is made.

But the stones are not always so frank in making known their presence. They manifest themselves by irregular symptoms, they simulate other diseases, and other diseases simulate them, so that it is true, as Hoppe-Seyler says, that if the uncomplicated, regular cholelithiasis is difficult to recognize, much more difficult is it to recognize the irregular and complicated form of the disease.[1] It is to some of the symptoms most likely to be misinterpreted and to some diseases liable wrongly to be regarded as gall-stones that I wish to direct attention.

*Pain.*—It is well known that the pain of gall-stone colic may not be limited to the right hypochondrium. A favorite spot for its reflection—by way of the phrenic nerve and the cervical plexus—is to the right shoulder and close to the angle of the right scapula. It may be referred to the back and make one think of renal colic, may even shoot downward and toward the genitalia, or be located to the left of the median line, in which condition Mayo Robson has found pyloric adhesions.[2] But the point of reference of the pain that causes many mistakes in diagnosis is one which is frequently complained of by patients and frequently described in articles on the subject, viz., the epigastrium. Recurrent attacks of nausea and vomiting, because they come on a few hours after meals and because there is complaint of pain in the region of the stomach, are repeatedly called gastric neuralgia or acute gastric indigestion, and a slight subsequent jaundice is overlooked or is passed by as a simple accompanying catarrhal jaundice. Attacks of "gastric neuralgia" recurring at irregular intervals, the attacks coming on several hours after meals and especially at night should arouse the suspicion of gall-stones and cause the sclera and urine to be examined for evidence of icterus and the stools for acholia and stones.

*Icterus.*—Not counting the cases of hepatic colic in which jaundice is overlooked because it is slight, or is not sought for, there are many in which no evidence of icterus is to be discovered, even by the most searching scrutiny of the skin, sclera and urine, and at no time are the feces pale because of absent bile-pigment. These cases often prove confusing and errors are made because of the lack of icterus, which has rightly been considered one of the most important diagnostic aids but which is so frequently absent that it can not be regarded as in any sense pathognomonic or even as an essential factor in diagnosis. In reality, aside from the finding of stones in the feces there is no symptom or sign that is pathognomonic. The diagnosis is one of probability and is made by the symptom-complex.

Jaundice may be lacking after colic because the stone, even though in motion, may drop back into the gall-bladder, or from near the narrow choledochus opening back into the wider portion of the common duct and not enough swelling result to produce the obstructive jaundice. Or small or smooth stones may pass quickly and leave so little local damage and swelling that there is no stagnation of bile. Wolff[3] saw icterus in only one-half of his cases, though, in all, gall-stones were found in the stools. And Fürbringer[4] in three-quarters of his cases failed to find jaundice. Angular or faceted stones may even lodge in the common duct and, because of their shape, leave enough space for the escape of bile, so that the feces are still bile-tinged and no discoloration of the skin, mucous membrane or urine occurs.

These are conditions in which stones moving from the gall-bladder through the cystic into the common duct, and perhaps escaping therefrom, may still leave no trace of their existence in the biliary tint of the skin or urine. But there is a large class of cases of biliary colic in which inflammation plays an important, if not the sole, part. Riedel in particular has called attention to them. These are cases of stone in the gall-bladder where an acute inflammation or the lighting up of a dormant inflammation occurs, the condition being one therefore of cholecystitis and cholangitis, at least a portion of cystic duct being inflamed. The bacteria producing it may have entered from the intestine and primarily have caused the formation of the stone through the inflammation excited, or they may have entered later and have lain quiet so long as conditions were not particularly favorable for their development, or, perhaps, so long as there was good drainage through the cystic duct. But for some reason, at a given time, be it increase in numbers or virulence of the microbes, or movement of the stone to the mouth of the bladder-duct, there is an acute inflammation of the gall-bladder, swelling of its mucosa and that of the cystic duct; the outlet is therefore occluded. Pain, nausea and vomiting are present, and in addition there is tenderness over the gall-bladder; this in many instances may be made out as distinctly enlarged, being distended with the retained bile and inflammatory mucoserous, or muco-purulent exudate. The temperature, if carefully taken, will be found slightly elevated, from one to two or three degrees, above the normal, and may so remain for a few days, as may the local tenderness and swelling. Some of these cases are complicated by a slight, local peritonitis, repeated attacks resulting in adhesions and thickenings about the gall-bladder. The important fact, the misleading fact as it would appear from experience, is that there is no jaundice. The probable diagnosis must be made without its presence, upon the history of previous attacks, the location of the pain, especially over the region of the gall-bladder, its radiation, tenderness over the region of the gall-bladder, the enlargement of the viscus and the slight temperature. No definite statements can as yet be made as to the value of the direction of radiation of the pain as an aid toward locating the stone. It has seemed in some cases, and also from observations made while probing biliary fistulæ, as though pain referred to the right scapular region might mean stone in the cystic duct. The importance of early recognition of gall-bladder stones before chronic inflammatory or ulcerative changes in the bladder and its immediate neighborhood have taken place, or the stone has, perhaps, become lodged in the common duct is self-evident, rendering surgical interference possible at a time when the operation is easier and safer and brings about great results in the way of avoiding unfortunate complications and sequelæ of calculi.

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*Fever.*—Since the bacterial era fever in connection with gall-stones has been generally looked on as an evidence of microbic invasion of the biliary tract or of neighboring organs, e. g., the liver, that have been secondarily involved. I wish to make brief reference merely to the fever commonly known, after Charcot, as the hepatic intermittent fever. This is associated with stone or stones in the common duct. Pus or bacteria that can be cultivated, and naked-eye changes in the mucosa are frequently absent. The exact nature of the fever, whether microbic, toxic or both, is still uncertain. It has been compared to urethral fever. In many cases there is jaundice that persists for months or years. At irregular periods chill, fever, sweating, pain in the right hypochondrium, often vomiting, occur, and the jaundice for a time deepens. The freedom with which some of the stones change their position in the duct and the manner in which they intermittently occlude the duodenal opening of the common duct producing jaundice, or of the cystic duct leading to atrophy of the gall-bladder, has been clearly shown by Fenger, in his article on "Stones in the Common Duct and their Surgical Treatment, with Remarks on the Ball-Valve Action of Floating Choledochus Stone."[5]

If in every such case of intermittent hepatic fever there is this periodic closure of the exit of the choledochus, the paroxysm would seemingly be due to retention and absorption of some yet unrecognized toxic material. Osler,[6] who early called attention to this from of gall-stone manifestation, lays, as it seems to me, a little too much stress on the permanence of the jaundice and its invariable appearance after the attack of chill, fever and colic. If in some cases there is an incomplete occlusion, the obstruction may be so slight as to lead to no persistent jaundice. At the time of the paroxysm there is more complete obstruction, but it may be of such short duration that stagnation of the bile and absorption by the lymphatics does not take place to an appreciable extent, and no jaundice appears. That this absence of icterus for long periods, and even after attacks of chill, fever and colic, is not only theoretically the fact but is actually so, is proved by histories of some of Fenger's cases. And I have in two instances seen no jaundice appear after chill, fever, sweat and pain, though, because gall-stones were suspected, the patients, who were under observation in a hospital, were most carefully watched for evidences of the slightest trace of icterus, which ultimately appeared, but was intermittent. And right here I would emphasize the importance, in doubtful cases, of putting the patient in the hospital and keeping him under observation for days or weeks, if necessary, so that the course of the fever, the evidence of icterus in the skin, stools or urine may be properly judged. In both the cases above referred to, it was in this way and this alone that a correct diagnosis was made, as shown by the removal of solitary choledochus stones. The diagnosis in the cases with permanent jaundice or jaundice plainly perceptible after each attack is comparatively easy. The same chill, fever and sweat have been observed in obstruction from pressure, e. g., from carcinoma, hence caution has to be observed in making too positive an ante-operation diagnosis.

*Association with Carcinoma.*—In the adult and aged particularly, the association of gall-stones and carcinoma is so common as to be regarded as more than accidental. While the question as to which is the primary trouble is not positively settled, the preponderance of evidence is in favor of the view that the gall-stone is in most cases the primary disease, the carcinoma arising in the gall-bladder or bile-duct at the point of irritation by the stone. The possibility of carcinoma being found along with the calculus should make one circumspect as to his diagnosis and prognosis, particularly when with advanced age there is an unusually rapid loss of weight and strength, with anemia, and increasing size of the liver that is in these cases so often the seat of secondary growths by direct extension or metastasis. Palpable and perhaps nodular masses in the region of the gall-bladder, when associated with cachexia, would arouse suspicion of a neoplasm. Yet inflammatory exudates and thickening of tissue will readily deceive. In fact, even with the abdomen opened, the surgeon is often in doubt as to whether the hard and thickened tissue in the neighborhood of the stone is inflammatory or neoplastic.

*Riedel's Tongue-Shaped Process.*—A projection of the lower, i. e., anterior border of the liver as a tongue-shaped process has been described by Riedel as found in many cases of gall-bladder stone where there is pericystic thickening. This tongue-like projection is oftenest seen in women with the corset-liver and gall-stone. In its physical properties it is not unlike a tumor of the gall-bladder, the right kidney or the large intestine. If its possible existence is remembered it can frequently be recognized by its shape, its edge, its location, its respiratory mobility, its situation above and in front of colon, as well as by the positive signs and symptoms in the previous history pointing to gall-stones and the absence of symptoms indicating renal or intestinal new-growths. Extremely confusing is the condition in which Riedel's process is crossed by the adherent intestine. The projection is then separated from the bulk of the liver by an area of tympany, especially noticeable with the colon distended with air, and it is not to be wondered at that the process is often regarded as a kidney or as a new growth of the intestine or omentum. Eichhorst, as well as others, speaks particularly of the difficulty of diagnosis in such cases. One such I have seen trip up one of the acutest diagnosticians of Europe.

*Relation of Typhoid Fever to Gall-Stone.*—The relation between typhoid fever and cholelithiasis is in some cases so close that a history of typhoid a few months or years before adds a probability to a diagnosis of gall-stones. The researches of Chiari[7] and others show the great frequency with which typhoid bacilli are found in the gall-bladder and the bile of patients dying of typhoid, there being in some cases naked-eye evidence of cholecystitis. Recent observations have confirmed these statements, and have shown bacilli in bile many months after the subsidence of the fever. The changes they produce in the mucous membrane of the gall-bladder are those favoring the shedding of the epithelium and the increase in the amount of cholesterin, i. e., Naunyn's requirements for the production of calculi are met. Typhoid bacilli have been found in the nuclei of stones; stones have shown themselves by symptoms soon after attacks of typhoid, and autopsies on patients dying several months or a few years after typhoid fever have, in not a few instances, shown gall-stones with typhoid bacilli in the gall-bladder. There seems little reason to doubt that gall-stone formation is favored by the presence of typhoid germs in the gall-bladder, and that they are frequently present in that situation during typhoid. The value, therefore, of inquiry into the history for typhoid is clear.

*Conditions that Simulate Gall-Stones.*—Thus far I have spoken only of points concerning diagnosis where

gall-stones are actually present. I wish now to call attention to a few conditions that may simulate gall-stones and thus lead to error in diagnosis. Ulcer of the stomach, neuralgia of the stomach, renal, intestinal and lead colic are all so freely discussed in text-book articles, and so quickly occur to the mind of one examining a patient with suspected gall-stones, that I will not refer to them further, but take up briefly a few diseases that I have found confusing to myself and others. Theoretically, some of them ought not to confuse. But practice and theory are here, as in many other situations, not always in harmony. Some of these conditions if once thought of will be readily recognized. But one of our great troubles in diagnosis is that our attention is easily attracted by some striking feature of a case toward some particular disease of which it may be a prominent symptom. We are apt to forget that this same symptom may be a minor or exceptional manifestation of some other disease that will be overlooked unless it accidentally comes to our mind, or unless it thrusts itself forward by other symptoms revealed during a thorough routine examination.

To illustrate this point, let me cite the case of a man whom I saw in my ward at the Cook County Hospital, suffering severe pain which he referred chiefly to the epigastrium. In response to my inquiry as to what was the cause of the pain, he replied that it was gall-stones, that he had been operated on for them several months before, had had relief for a few months, but now the same periodic pains had returned and he was sure some stones had been overlooked or others had formed. He had the operation-scar to confirm his statements. My first thought was that the man was right, for stones can be readily overlooked at an operation and recurrences are by no means unknown.[8] But the points to which the pain radiated, into the arms and thighs, made me examine more closely, and I found the ear-marks of tabes—loss of knee-jerk, Romberg's symptom, Argyll-Robertson pupil, etc., and his epigastric pains were but the gastric crises of that disease. I have no reason to question the statement made by the surgeon to the patient, that he removed gallstones but I narrowly escaped wrongly consigning the patient to the surgical ward and to an unnecessary second operation.

*Angina Pectoris.*—I have once or twice been puzzled to differentiate between gall-stones and angina. The pain of gall-stones may, as has been said, be referred to the left side and may even appear in the breast, and anginal pain may involve the epigastrium. In general, however, the thickened condition of the arteries, the enlargement of the heart, the distinct precordial location of the pain with its radiation to the neck and left arm, the violent, grasping, vise-like nature of the pain with the sense of impending death, the absence of later jaundice, etc., make a diagnosis a simple matter.

*Senile Pneumonia.*—The pain of pleurisy, especially when it involves the lower right side and the diaphragm, is often referred to the abdomen. With pneumonia there may be vomiting, and not infrequently icterus, the latter perhaps from an accompanying catarrhal jaundice. A patient, therefore, with acute epigastric and right hypochondriac pain, nausea and vomiting, chill and fever and subsequent jaundice, resembles in many respects a case of gall-stones. This was first impressed on me by the case of a physician of about 60 years, who called me to see him after he had been ill and treating himself for two days. He told me he thought he had gall-stones and cholecystitis, for he had sharp pain in the region of the gall-bladder, with fever and jaundice. The condition was, however, one of right lower lobe pneumonia of the senile type, with comparatively slight cough and expectoration.

*Localized Peritonitis.*—Acute peritonitis or exacerbation of a chronic peritonitis may, if in the region of the gall-bladder, make one think seriously of gall-stones. A man of about 23, who a few years before had passed through an attack of typhoid fever, had been annoyed for ten months with what at first he regarded as indigestion. At irregular intervals, on four or five occasions, he had suffered from poor appetite for a day or two, coated tongue, then severe pain in the epigastrium and right hypochondrium, vomiting and fever. These attacks had gradually subsided, leaving him rather weak, with some soreness just below the right costal arch. His last attack had been quite severe and his physician thought it was due to gall-stones. Jaundice had been doubtful. The history led me to suspect gall-stones with cholecystitis and extension of inflammation to the neighboring peritoneum, for there was in the neighborhood of the gall-bladder, after the acute symptoms had subsided, a resistance and tenderness, though for days no temperature. This diagnosis was concurred in by another physician and by the surgeon who operated. We found an extensive tuberculous peritonitis, but no gall-stones. Recovery from the operation—a simple opening and loosening of adhesions—was followed in the course of several weeks by a great improvement in local and constitutional symptoms and a gain of twenty-five pounds in weight. The patient is still living and reports himself well over a year from the time of operation. Appendicitis, intestinal obstruction, hemorrhagic pancreatitis may resemble gall-stones with inflammation of the gall-bladder or neighboring peritoneum. Of the difficulty of differentiating between gall-stones and intestinal obstruction a case recorded by Fenger[9] is a good example where an operation done for suspected intestinal obstruction revealed no obstruction, but a distended gall-bladder, yielding on opening, a large number of calculi, the symptoms of ileus disappearing after the removal of the stones.

Hernia of the linea alba, Dietl's crisis in floating kidney, hysteria, malaria with neuralgic pain and jaundice, might be mentioned as conditions occasionally simulating gall-stones, and I must call attention to the not infrequent association of cholelithiasis and other diseases. I have already mentioned typhoid fever and carcinoma of the gall-bladder. Diabetes, gout, obesity and renal calculi are many times found with gall-stones; and, accidentally, any disease may occur in a patient who has gall-stones, as in the case of tabes I have cited.

I have aimed in this rather cursory manner to refer only to a few points, especially those I have found puzzling to myself or others, and have made no effort to go into the details of diagnosis of gall-stones with the numerous possible complications and sequelæ.

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# THE PRESENT STATUS OF SPINAL SURGERY.*

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*(Continued from page 1014.)*

## TUMORS.

This field of surgical activity only dates back to 1887. Gowers and Horsley were the first to undertake any operation for intravertebral tumor, but since then many other surgeons have had satisfactory results. It is true that tumors involving the spine had been operated on earlier, but they were favorable cases where there was an extravertebral manifestation. Of the 58 reported by Gowers and Horsley, all the patients died except the one operated on by Mr. Horsley, yet 80 per cent. of these could have been completely relieved by operation, and those which were hopeless might have been benefited if the pressure had been removed. The careful studies made by Starr, Mills and Gowers and many other observers have enabled the surgeon to do brilliant work in this class of cases. There can be no question of what one would do in a case of extravertebral tumor producing pressure on the cord, and with the present status of laminectomy there is no reason why any intravertebral tumor should not be attacked with every confidence of an improvement in the patient's condition. It is hardly necessary for us to attempt a tabulation or a classification of the tumors which may involve this region of the body. This has already been carefully done and can be found in almost any of the standard text-books. The question with us is a simple one. Given the probable existence of compression of the cord, not amenable to medical treatment, surgical intervention should be the rule. The neurologist now localizes these regions so accurately that there is little difficulty in determining the point of the spine to be attacked, and as most of these tumors are small, owing to the confined space in which they develop, the area of the vertebral column which is to be removed is of very small moment. Chipault collected 22 cases of operations on spinal tumors, and Keen added 3 more; 11 of these patients recovered, 11 died, and the result in 3 is uncertain. I have been able to collect 51; of these 16 recovered, 4 improved, 2 were unimproved, and 5 died immediately and 23 some time after the operation.

In the cases reported by Keen I find that he includes my own case of fracture of the third lumbar vertebra, in which the compression was due to callus. If these are to be regarded as cases of tumor, I have had several instances, both in the Pott's and fracture classes, where I have operated that might be tabulated. While the conditions are identical, I do not feel that these cases should be classified among tumors, and have therefore not included them in my tabulation. I have operated on one case of hydatids (see table, Case 51) of the back with compression of the cord. In this case the diagnosis of an inoperable sarcoma had been made. When I first saw the patient my intention was simply to relieve the pressure on the cord, by resecting that portion of the growth which involved the vertebral canal, in order to relieve the compression and the pain. On more careful examination, after the patient entered the hospital, I concluded that I was dealing with a multilocular cystic condition and made a puncture, which at once revealed the presence of the hydatids. A complete operation was therefore undertaken with a complete recovery. At the time that I presented this case before the surgical section of the New York Academy of Medicine, Nov. 9, 1896, I expressed the opinion that the man would ultimately recover. Not long after that he returned to his business as a traveling salesman, and was able to go about with ease. Unfortunately, however, he was killed by a railroad accident about six months later. In this case the compression was between the eighth and ninth dorsal vertebræ.

### TABLE OF GROWTHS, REGION AND FREQUENCY.

The following table gives the different growths that have been recorded, as well as the region and frequency of their occurrence.

| Kind. | Number. | Intradural. | Extradural. | Unclassified. | Intra-Vertebral. | Extra-Vertebral. | Cervical. | Dorsal. | Lumbar. | Sacral. | Recovery. | Improved. | No Improvement. | Death from Operation. | Subsequent death. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cancer | 2 | | 2 | | 1 | 1 | | 1 | 1 | | | | | | 2 |
| Abscess | 2 | | 2 | | | 2 | | | 2 | | | | | | 2 |
| Sarcoma | 15 | 1 | 12 | 2 | 5 | 10 | 2 | 12 | 1 | 1 | 2 | | | 2 | 9 |
| Myxosarcoma | 1 | 1 | | | | 1 | | 1 | | | | 1 | | | |
| Echinococcus | 8 | 1 | 7 | | 2 | 5 | | 2 | 3 | 3 | | | | | 5 |
| Myxoma | 1 | 1 | | | | | | | | 1 | | | | | |
| Connective tissue mass | 2 | | 2 | | | | | 2 | | 2 | | | | | |
| Unclassified | 10 | 4 | 4 | | | 2 | | 2 | | 4 | 1 | 2 | | | 2 |
| Lymphangeoma | 2 | | 2 | | 1 | | | | 2 | 1 | 1 | | | | |
| Psammoma | 2 | 1 | | 1 | 1 | | | 2 | | 1 | | | | | 1 |
| Chondro-sarcoma | 1 | | 1 | | | | | 1 | | | | 1 | | | |
| Osteo-sarcoma | 1 | | 1 | | | 1 | | 1 | | | | | | | 1 |
| Lipoma | 3 | 1 | 1 | | | 1 | | | 2 | 1 | 2 | | | | 1 |
| Enchondroma | 1 | | | | | 1 | | 1 | | | | | 1 | | |

A glance at this table immediately explains the large number of deaths recorded, but not due to operative interference. For instance, 2 of these were due to carcinoma, 2 to abscess, 9 to sarcoma, 5 to echinococci, 2 were unclassified, 1 was due to psammoma, 1 to an osteo-sarcoma, and 1 to a lipoma. It is at once evident that a complete and radical cure was impossible in many of these, and yet no one who has witnessed the sufferings that these patients have to bear and the relief they receive when the pressure is removed, will say that the operation was unjustifiable. Only 8 per cent. have died as a direct result of the operation itself. In the 23 dying some time after the operation, there was marked relief, as a rule, from the intense pain and general discomfort, and it may be considered an established fact that the patient was more comfortable and died a less horrible death than would have been the case without the operation. The recoveries here are 31.37 per cent. with only 9.80 per cent. immediate or operative deaths. Undoubtedly earlier diagnosis and a consequent earlier operation will improve these results.

### TUMORS.

Case 1.—Operator, Lecat, 1751. Lumbar region; extravertebral carcinoma; male. After a traumatism, tumor appeared which destroyed the spinous processes of the 4 upper lumbar vertebræ and the medullary sheath. Removal. Death after 2 days. Reference: Chipault, Chir. Medullaire, p. 350.

Case 2.—Operator, Reydellet, 1819. Lumbar region; extradural hydatid cyst; female, 26. Complete anesthesia of lower limbs, difficulty in defecation, right leg became paralyzed. Tumor opened and hydatids enucleated, cord exposed. Death. Reference: Idem.

Case 3.—Operator, Johnson, 1856. Duration, born so; sacral region; extradural, extravertebral lipoma; male, 10 months. Child born with an opening in the sacral region; 3 weeks later an ulcer appeared situated on a small tumor. The ulcer healed, but the tumor increased in size. Convulsive movements of the right leg were noticed. One tumor enucleated, another found with pedicle passing into vertebral canal. This also enucleated. Improved. Reference: Idem.

Case 4.—Operator, Gerster, 1878. Dorsal region, extradural at first; intravertebral sarcoma. Paraplegia. Removal of greater part. Dura was destroyed at many points. Escape of large amount of cerebrospinal fluid. Sensibility and motion improved. Death Reference: Idem.

Case 5.—Operator, Bazy, 1886-91. Duration, 18 months; lumbar region; both extra- and intradural and extra- and intravertebral hydatids; female, 45 years. Gradual weakening of the lower limbs with accompanying pain, and also in lumbar region. Incontinence of urine, incomplete paraplegia specially marked on right

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side; projection in the lumbar region, fluctuating. Right lamius of 4th was found destroyed, cavity into the body of the vertebræ. Dura had been perforated and hydatids found therein, which were washed out with boric solution; rubber drain. Pain in lower limbs; large amount of cerebrospinal fluid escaped. Death 15 days later. Reference: Idem.

CASE 6.—Operator Bazy, 1886-91. Cervical region; intradural cysts; male adult. Atrophy of the muscles of the scapula led to the diagnosis of compression at the 4th C. Removal of 4th and 5th C. arches. Dura opened and cyst found under pia. Reference: Idem.

CASE 7.—Operator, Wright, 1888. Duration, 20 years; cervical region; intravertebral fibrosarcoma; male, 38. Tumor on left side of neck, which gradually increased in size, weakness in the left arm, then left leg, right arm, right leg; reflexes exaggerated. Tumor encapsulated. Prolongation into the 3rd foramen. Another tumor found, both in contact with brachial plexus. Improvement. Reference: Idem.

CASE 8.—Operator, Abbe, 1889. Dorsal region; extradural, intravertebral. Eighth and 10th arches removed. Improvement. Reference: N. Y. Medical Record, Feb. 9, 1889.

CASE 9.—Operator, Sonnenberg, 1889. Dorsal region; extradural, extravertebral sarcoma. Removal of whole tumor impossible. Death in 6 weeks. Reference: Verhand. d. Deutsch. Gesell. f. Chir., April, 1889.

CASE 10.—Operator, Abbe, 1890 Dorsal region; extradural sarcoma; male, 42. Eighth and 9th dorsal arches removed. Death on 9th day. Reference: N. Y. Medical Record, 1890, p. 85.

CASE 11.—Operator, Horsley, 1890. Intradural; male, 52. Complete paraplegia. Four arches removed. Death from shock. Reference: International Congress, Berlin, 1890.

CASE 12.—Operator, Kelly, 1890. Dorsal region; intradural. Recovery. Reference: Southern Med. Record, vol. xx.

CASE 13.—Operator, Bardeleben, 1889. Dorsal region; extradural, extravertebral and intravertebral enchondroma; male, 65. Tumor size of nut, 7 cm. from spine at bottom of scapula. Slow in growth. Paraplegia, and vesical paralysis. Removed, seen to pass into canal between 7th and 8th dorsal. Death. Refereuce: Chipault, Chir. Medullaire.

CASE 14.—Operator, Leaquer, 1890. Duration, 2 years; dorsosacral region; extradural lymph-angioma; male, 19. Pain in sacral region most intense at night; pain on pressure; slight lumbar kyphosis, slight atrophy of quadriceps, diminution of tendon reflexes, rectal and vesical paresis. Posterior wall of sacrum opened, tumor taken from middle of sacrum. Improvement. Reference: Idem., p. 357.

CASE 15.—Operator, Fenger, 1891. Dorsal region; extradural, intravertebral; sarcoma. Male, 38. Complete anesthesia of trunk and lower extremities. Removal of 4th and 5th dorsal arches. Death on 5th day from septicemia. Reference: Am. Jour. Med. Sc., vol. cili, p. 405.

CASE 16.—Operator, Lane. Duration, 3 years. Dorsal; extradural, intravertebral; boy. Fell and struck side 12 months ago; felt pain; 1 month later found projection on back. Wore Sayres jacket 3 months. Six months ago lost power in legs, sensation decreased, occasional incontinence, knee and ankle clonus marked, plantar reflex absent. Arch of 4th, 5th, 6th snd 7th D. removed. Abscess snterior to cord. It contained cheesy matter and large pieces of necrosed bone. Cavity filled with iodoform; drain for 36 days. Movement and sensation increased, then movement almost disappeared. Second operation showed more caseous matter; very slight improvement. Reference: Brit. Med. Journal, 1891, p. 1227.

CASE 17.—Operators, Ramson and Anderson. Duration, 32 months; dorsal region; extradural intravertebral hydatid cyst; male, 42. Had had gonorrhea and was alcoholic; gnawing pain in back and down legs, which suddenly left at the end of 4 weeks and returned occasionally during next 4 months; it then returned and legs were stiff, weak and numb. Lost sexual power, knee-jerks absent; no ankle clonus. Finally, loss of sensation and motion of lower limbs; bedsores. Arches of 11th and 12th D., 1st and 2nd L. removed; forceps used; dura not sutured. Death. Postmortem examination showed 2 cavities in the right erector spinæ muscle containing grey pultaceous matter. Tumor in canal at 10th D. not connected with the others. Reference: Brit. Med. Journal, 1891, vol. ii, p. 1144.

CASE 18.—Operators, Davies and Colley, 1892. Duration, 7 years; dorsal region; extradural extravertebral sarcoma; female, 23. Shooting pains in back and chest; 1 month ago lost sensation in lower limbs; had incontinence of urine and feces and then lost power of motion. Is well nourished and healthy. Large boss opposite 4th snd 5th D., projection hard; no pain, knee-jerk, plantar reflex and ankle clonus present. Smooth whitish growth, in right vertebral groove, attached to the right 5th and 6th D. laminæ. These were removed. Dura healthy, but cord compressed and soft. Drain used. Complete recovery. Reference: Trans. of Clin. Soc., London, 1891-2, xxv.

CASE 19.—Operator, Temoln, 1892. Duration, since birth; lumbar region; intradural lipoma; female, 11 months. At birth there was a small tumor about size of hazel nut in lumbar region; gradually increased in size. Tumor removed; pedicle going into canal closed with catgut sutures. Respiration ceased momentarily while pulling on pedicle. Reference: Chipault, op. cit., p. 359.

CASE 20.—Operator, Rehn, 1891. Duration, 2 years; sacral region; extradural intravertebral lymphangioma; male, 19. Severe pains in sacral region; 1 year later, complete anesthesia snd paraplegia of lower limbs; patellar reflex present, bladder and rectum normal; pain on pressure and constant boring sensation over sacrum. Later, rectal and vesical paralysis; tendon reflexes absent. Sacral canal opened up to 5th L. Marked improvement. Reference: Neurol. Centralbl., 1891, p. 193.

CASE 21.—Operator, Zavaleta. Duration, 4 months; lumbar region; extra- and intradural and extra- and intravertebral lipoma; aged 6 months. Child otherwise normal. Firm, irreducible tumor at 4th L. Pedicle penetrated canal between 4th and 5th arches, through dura; was dissected away from arachnoid; dura closed. Death 2¼ months later. Reference: Chipault, op. cit., p. 346.

CASE 22.—Operator, Lichtheu, 1890. Dorsal region; intradural psammoma. Death after two days. Reference: Deut. Med. Woch., 1891, p. 1386.

CASE 23.—Operator, Lichthen, 1890. Dorsal region; psammoma. Improvement. Reference: Idem.

CASE 24.—Operators, Ransom and Thompson. Dorsal region; extradural sarcoma. Death on 6th dsy. Reference: Am. Jour. of Med. Sci., cix, p. 634.

CASE 25.—Operators, Ransom and Anderson, 1892. Dorsal region; hydatid cyst. Operation too low down; cyst not found. Death 3 days later. Reference: Brit. Med. Jour., 1892, ii, p. 1144.

CASE 26.—Operators, Capanoto and Pescarolo, 1892. Dorsal region; intradural myxo-sarcoma. Improvement after 5 months. Reference: La Reforma Med., 1892, p. 543.

CASE 27.—Operator, Szekeres, 1893. Duration, 12 years; dorsal region; extradural extravertebral echinococcus; male, 32. Swelling over spine for 12 years; pain disappeared with application of cold; complete paraplegia and anesthesia in lower limbs. Recovery. Reference: Pester, Chir. Presse, 1894, p. 43.

CASE 28.—Operator, Lamphear, 1892. Duration, 17 months; dorsal region; extradural intravertebral; female, 47. Had dizzy spells in 1886. Two years before operation, slight loss of motion and spasmodic contraction in lower limbs; 17 months before operation, intense pain and paraplegia in legs, anesthesia to diaphragm, bladder and rectum involved; two months later had slight control over legs for a short time, which was soon lost; large bedsore. Bedsores covered with collodion and excised. Arches of 12th D., 1st, 2nd and 3rd L. removed with saw and chisel. Hard, almond-sized tumor on periosteum. Lamina of 2nd D. soft; granulation-like tissue pressing into canal. Death through carelessness of nurse. Reference: Medicine, vol. ii, 1896, p. 25.

CASE 29.—Operator, Horsley. Dorsal region; extradural echinococcus. Recovery. Reference: Chir. Jour., London, 1896-7, p. 97.

CASE 30.—Operator, Ignatoff. Dorsal region; extradural chondrosarcoma; female, 35. Improved. Reference: Vayenno Med. Jour., 1896.

CASE 31.—Operator, Curtis, 1893. Duration, 6 months; extravertebral cancer; female, 35. Breast amputated for tumor. Pain and stiffness on left side and shoulder, anesthesia of forearm, pharynx and conjunctiva; knee reflex increased; complete anesthesia and paraplegia below umbilicus; rectal and vesical paralysis; kyphosis at middorsal region. Sixth D. arch removed. Death 16 days later. Reference: N. Y. Med. Record, vol. liii, p. 346.

CASE 32.—Operator, Rogers, 1897. Duration, 7 months; dorsal region; extravertebral tumor; male, 28. Submitted to long exposure. Pain in thorax increased for 4 months; no motion without pain. Slight recovery, then seusation of something "moving down inner side of legs." No pain. Six months later could not stand or void urine; lost motion of lower extremities; T. 102, P. 110; anorexis, vomiting, pain; 1st D. spine sensitive to pressure; knee-jerks increased, especially left; ankle clonus slight on right, decided on left. Diagnosis, "tumor of spine." Removal of 4th and 5th dorsal arches; extended afterward; 4th and 5th D. completely disorganized, the transverse processes being separated at their bases. Lesions too extensive for removal. Death 9 days after. Reference: Phila. Med. Journal, 1898, vol. i, p. 332.

CASE 33.—Operators, Eskridge and Freeman, 1897. Duration 1 year; D. region; intradural tumor. Paralysis, motion and sensation varied, sometimes absent; superficial reflexes absent; pain in back. On admission T. 100 F., P. 96, resp. 22; paralysis of bladder and rectum; sensation further impaired. Laminæ of 4th and 5th dorsal removed. An almond-shaped tumor of the arachnoid. Complete recovery. Reference: Idem, vol. ii, 1898, p. 1236.

CASE 34.—Operators, Quesnel and Garten, 1896. Duration, 2 years; dorsal region; intravertebral sarcoma; male, 28. Mother neurasthenic and lame; patient healthy. Fell 3 meters, struck on back, was unconscious; worked next day. Well 1 year, then had bladder trouble and weakness in legs; symptoms increased; in bed last few months. At time of operation paraplegia and anesthesia of lower limbs, bladder and rectum; pulse normal; left plant. reflex stronger; no ankle clonus; sensation absent below 11th D. After Urban, 5th to 9th arches removed; slight pulsation appeared. Death in 6 days. Post-mortem examination showed meningitis basilaris. Reference: Neurol. Centralbl., 1898, p. 482.

CASE 35.—Operator, Thompson, 1893. Duration, 20 months; dorsal region; extradural intravertebral sarcoma; male, 50. Pains in epigastrium and over dorsal spines; 3 weeks later weakness and pain in legs; knee-jerks exaggerated, no ankle clonus; 4 days later double ankle clonus and anesthesia in front of thighs; lost power in lower limbs; 3 weeks later sensation lost near 8th and 9th D. spines and anterior ends of corresponding ribs. Trephine used; 7th, 8th, 9th and 10th D. arches removed; cord normal. Death 6 days later. Reference: Brit. Med. Journal, 1894, p. 395.

CASE 36.—Operators, Burns and Creda. Duration, 22 months; intradural; female, 24. Severe pains in back extending afterward to legs and abdomen; one year later weakness in right foot, with slight paralysis; one year later left leg also affected; fibrosarcoma in right ear; bladder disturbance, patellar reflex weak. All symptoms became worse. No tumor found, no pulsation of cord. Death. Reference: Archiv. Psychiatrie, xxviii, p. 97.

CASE 37.—Operator, Burns, 1894. Dorsal region; extradural sarcoma. Sudden death within 24 hours. Reference: Neurol. Centralblatt, 1894, p. 389.

CASE 38.—Operator, Burns. Dorso-lumbo-sacral region; sarcoma. Tumor not found. Death after 14 months. Reference: Idem, p. 281.

CASE 39.—Operators, Saenger and Krause, 1894. Dorsal region; extradural sarcoma. Tumor removed. Death on 4th day. Reference: Munich. Med. Woch., 1894.

CASE 40.—Operators, Horsley and Gowers, 1888. Dorsal region; intradural myxoma. Removal of 4th and 5th D. arches. Recovery. Reference: Starr, Am. Jour. Med. Sci., cili.

CASE 41.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Removal of 5th to 7th D. arches. Recovery. Reference: Idem.

CASE 42.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Tumor removed. Recovery. Reference: Idem.

CASE 43.—Operator, Barclay, 1894. Duration, 29 months; cervicodorsal region; extradural endothelioma; male, 28. Fell from bicycle. Partial paralysis of all limbs; gradual increase of paraplegia and anesthesia; knee and ankle clonus and plantar reflexes present; upper abdominal reflex absent; no control over bladder. Fourth, 5th, 6th and 7th C. arches removed. Death from hemorrhage. Reference: Brain, xvill, p. 256, 1895.

CASE 44.—Operator, McCosh, 1894. Dorsal region; extradural sarcoma. Progressive anesthesia reaching to 7th intercostal space behind, ensiform in front. Third, 4th, 5th and 6th D. arches removed. Death 17 days later, supposedly from sarcomata in viscera. Reference: Am. Jour. Med. Sci., cix, p. 618, 1895.

CASE 46.—Operators, McBurney and Starr. Dorsal region. Com-

plete anesthesia and paraplegia in lower limbs. Arches of 9th, 10th and 11th D. removed; tumor removed. Partial recovery; recurrence and death later. Reference: Idem, p. 626.

Case 47.—Operator, Warren, 1898. Duration, 16 months; dorsal region; intradural; female, 52. Severe pains over lower ribs; six months later weakness and pain in left leg, pain on moving head and opening mouth; knee-jerk exaggerated, ankle clonus present. At time of operation could not stand alone nor control bladder; lost sensation in lower limbs, especially right. Eleventh and 12th D. arches removed. Tumor size of an olive in pia; dura stitched with silk; gauze drain. Good recovery. Reference Am. Jour. Med. Science, vol. cxviii, 1899.

Cases 48 and 49. Case 1, operator, Keen, 1891; Case 2, operator, Warren. Duration, Case 1, 11 years; Case 2, 17 years. Dorsal region; intradural; cord seemed like sarcomatous tissue. Male, 34. Great pain, then gradual loss of sensation and motion for 9 years; finally complete paralysis of motion and sensation, bladder and rectum involved. Chills (not malarial) 4 years after pain in back. Case 1, operation, arches of 7th, 8th and 9th D. removed. Complete recovery. Case 2, operation, same location. Complete recovery. Reference: Idem.

Case 50.—Operator, Elliott. Duration, 3 years; upper cervical region; extradural sarcoma. Male, 24. Fell from ladder; neck injured twice later. Gradual paralysis below neck of all muscles except diaphragm. Posterior surface of axis eroded. Sarcomatous tissue removed. Fair recovery. Reference: Idem.

Case 51.—Operator, Lloyd, 1896. Duration, 9 years; dorsal region; extradural intravertebral echinococcus; male, 57. History of slight rheumatic attacks in back for 5 years, then severe pain in lumbar region when standing. Two years later small tumor at right of lumbar spine, gradually increasing until a series of cysts extended from left side of upper margin of sacrum and over to right side and upward to middle of scapula. Another cyst, size of fetal head, extended retroperitoneally into abdomen. Twelve years later paraplegia began and became almost complete in 1 year. Tactile, pain and temperature senses decidedly impaired as high as crests of ilia. Exaggeration of patellar reflexes. No reaction of degeneration; vesical paralysis; girdle pain; crepitation over tumor peculiar to echinococcus cysts; dyspnea, anemia. Laminæ of 8th and 9th dorsal on right side partially removed during extirpation of large number of cysts. Complete recovery. Reference: Am. Med. Surg. Bull., Dec. 5, 1896.

## FRACTURES.

Thanks to the work that has been done by the neurologists, we are able to get a better idea of those cases of fracture of the spine which are amenable to operative interference, although as yet we must confess that the rules advanced can not be absolutely applied to any definite case. One must consider the region of the spine involved before attempting a prognosis. The recoveries from operative interference in the cervical region have been very few; the mortality is much greater than in such interference in other regions. The functional results are by no means so satisfactory as when the lower dorsal or lumbar regions are involved. The type of fracture also naturally affects the prognosis. An indirect fracture, i. e., one with bending of the spine accompanied by fracture-dislocation of one or more vertebræ and with the symptoms of complete separation or degeneration of the cord, as evidenced by the rapid appearance of bed-sores, not due to the direct pressure, and to the complete paraplegia and anesthesia, including the paresis of the rectum and of the bladder and with obliteration of the reflexes, would naturally contraindicate operative interference. There can be no hope of restoring function to a destroyed spinal cord in these cases. The injury has been sufficient to pulpify the cord and that area of softening is usually of considerable extent and produces complete obliteration of all nervous control below the segment affected. As there is no known way of grafting new cord or removing destroyed portions of it, or of grafting posterior nerve roots into the cord below, as suggested by Dana, it is a waste of time and an unnecessary cruelty to the patient to submit him to any operative interference.

In the other class of cases, however, where the patient has recovered sufficiently from the immediate shock, where the cord shows that it has not been completely destroyed by the recovery of more or less of the sensation or motion or exaggeration of one or several reflexes, by the continued healthy condition of the skin, even though atrophy be present, operative interference may result in great benefit to the patient.

Keen has said that 20 per cent. of fractures of the spine are simple fractures, that 20 per cent. are simple dislocations, while 60 per cent. are both fracture and dislocation.

Fracture dislocations of the vertebra nearly always produce more or less injury to the cord, and Chipault does not believe in the generally-accepted idea that the spine in these cases springs forward so as to bruise and destroy the cord, and then immediately on the removal of the force producing the lesion, springs back again into, or nearly into, place. Thorburn, however, believes this cause to be exceedingly common and much more so in the cervical region than elsewhere.

Naturally a serious injury to the cord—in this way—in addition to producing degeneration of the involved segment is rapidly followed by inflammatory softening, so that we frequently find, as these cases recover from the immediate shock of the injury, that we have an increasing paraplegia and anesthesia. The bodies of the vertebræ are more frequently fractured than the arches, and, naturally, when this occurs the cord may be destroyed by the displaced fragments of the body, but fractures of the spinous processes or of the arches do occur without any injury to the cord itself. In this latter set of cases no treatment may be necessary other than the rest in bed, and possibly the application of a plaster jacket or other spinal assistant, but it should be remembered that occasionally where the arches are fractured without injury to the cord the paraplegia may begin at a later date and may be due to the formation of callus on the inner side of the lamina, as in the case I reported in my former paper, or to inflammatory exudation.

The question of localization of injuries of the spine has been thoroughly considered by Thorburn, Keen, and others, and it is not necessary for us to repeat what is already thoroughly outlined. It is, however, important that we should in all cases of fracture of the spine that may come to operative treatment observe the difference between the effects of total and partial injuries of the cord as shown by the reflexes. Bastian, Bowlby, Thorburn, and Herter have studied these phenomena. Their conclusions may be briefly stated, that in complete transverse destructive lesions of the cord there will invariably be complete paraplegia below the level of the injury, complete anesthesia below the level of the distribution of the injured nerves, and complete and permanent obliteration of the knee-jerk and deep reflexes of both sides, but if the transverse lesion of the cord is only partial, the paralysis and anesthesia will be incomplete, while the deep reflexes may remain normal or be exaggerated, and the bladder and rectum follow the same general rule as the deep reflexes. Keen says that if immediately after the accident the knee-jerk on both sides is absent and remains so, operation is contraindicated. He adds that there is no question that as a general rule the persistent absence of the reflexes, especially of the knee-jerks, is an evidence that the cord has been so completely destroyed that operation would be unwise, and yet he adds, there are a few happy exceptions to the rule. In this connection he reports a case of Schede's, one of Hammond and Phelps', and one of his own. In this last case, one of dorso-lumbar dislocation, the knee-jerks had been absent for eighteen months, but returned within a week after the operation. He considers that Schede's success was owing to the early date of the operation, sixteen hours after the accident.

Had this rule of not operating in the absence of the knee-jerks been followed in these cases, the patient would undoubtedly have remained permanently

paralyzed, while in every instance they regained more or less complete function. This has also been illustrated in the case of mine, operated on within the past few days. Here complete paraplegia and anesthesia below the fifth lumbar segment, according to Starr's classification, were present at the time of the injury. The deep reflexes were also obliterated. Six weeks later the patient had recovered slight power in the adductor muscles of the right side, and had some control over the rectum and bladder. The day following the operation hyperesthesia was present on the right side over a large portion of the formerly anesthetic area, while the adductor power had moderately increased; and forty-eight hours later he had begun to recover his reflexes and was markedly hyperesthetic on both sides. This, then, can not be taken as an absolute rule, and I feel inclined to differ with Keen in the conclusion that the obliteration of the deep reflexes is an absolute contraindication to operation. It is important for us to decide whether the lesion is a complete degeneration of the cord or whether it is a simple compression of that organ. In the former case it is useless to operate; in the latter it becomes necessary to consider at what time the operation can best be performed.

In my former paper I said that if operation is undertaken at once there is danger of interference where a spontaneous cure would result if the patient were left alone, or where a complete destruction of the cord renders operative interference useless. If, however, operation be delayed too long, and a compression be allowed to continue, a degeneration may result which would be as serious as though the functions of the cord had been destroyed by the original injury. Lauenstein said that if, after the lapse of six or ten weeks, there is incontinence of urine with cystitis or incontinence of feces, and especially if there has also developed a spreading of bed-sores, but little is to be hoped from the efforts of Nature. Horsley insisted that operation should be undertaken early, and this was my own opinion as expressed at that time, provided the symptoms present indicated interference with the functions of the cord. In other cases I should wait until the shock following the injury had been overcome, watching the patient's condition carefully, however, and at the slightest indication of any symptoms pointing to an extension of the interference with the action of the spinal cord, whether that interference be due to hemorrhage or to compression from depression, callus or to the exudation of lymph, I should operate at once. Chipault says, in this connection, that in all traumatisms of the cord there are three serious lesions: 1. A zone consisting of that portion of the cord which is directly destroyed, which may be of greater or less extent, and which undergoes complete necrosis following the destruction of the nervous elements; this degeneration is complete. 2. A zone above and below the former, in which the nervous elements are injured but not absolutely destroyed. Within two or three days the nerve cells are increased in size and their protoplasm becomes granular, the cylinder axes form a sort of chaplet, the myelin is broken into segments. This beginning of degeneration close to the injured part can be determined by noting the involvement of the motor and sensory centers immediately above the site of the injury. If the cause of compression is removed, both cylinder axes and myelin may undergo a certain amount of regeneration by the ninth day. If the cause of the compression persist or the injury is sufficiently grave, the destruction of the cord of this zone is permanent and is followed by sclerosis. 3. Secondary degeneration sets in at a very early date; this is due not to the direct injury but probably to the separation of the nervous elements from the trophic centers. The degeneration extends above and below the site of the lesion, and begins as early as the fourth day, and continuing to extend for many months it follows the general trend of the Wallerian degeneration; from the site of the lesion downward the motor fibers degenerate and the sensory proceed in the reverse direction. The early date at which these lesions have been recognized, especially by animal experimentation, as well as by clinical experience, shows that if intervention is undertaken at all, with any hope of amelioration, the earlier it is done the better.

In this connection, however, it is important to take into account the general results following fractures of the spine treated without operation, and the same statistics that I used in my former paper will illustrate this point. Thus, Gurlt reported 217 deaths out of 270 fractures, or over 80 per cent.; while Burrill, from the tables of the Boston City Hospital, cited 82 cases with 64 deaths, or 79 per cent., and of the 22 per cent. of recoveries, only 11 per cent. were satisfactory, the other 11 per cent. being completely disabled. These statistics also show that in the fatal cases the greater number of deaths occurred within a few days. It is, therefore, evident that if we operate immediately after the injury we will have failures that should not be charged against the operation itself, and if possible we should wait before operating until the question can be settled whether the patient will overcome the shock or succumb directly to the effects of the injury.

There is another objection to immediate operation. In so-called concussion of the spine, there may be a certain amount of anesthesia and paralysis. The recovery, however, will be complete, or at least so nearly so that no appreciable lesion can be made out. Immediate operations in these cases would be unnecessary, as they would have recovered spontaneously had they been left alone for a sufficient length of time. It is impossible, too, in the first few hours, to determine with any degree of certainty, how severe the injury really is, nor can we absolutely localize the injury to the cord. In my opinion, therefore, we should wait until this period of shock has passed and until it is evident that there will be no spontaneous recovery complete enough to render life bearable. If after this period has passed, the patient still continues to improve, no operative interference should be considered, but as soon as the symptoms begin to show retrograde phenomena or seem to have reached the end of the improvement, operation should be undertaken.

*(To be continued.)*

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Spinal Cocainization Free from all Dangers.—Bier announces in a private letter to Reclus, published in the *Presse Médicale* of April 3, that he has worked out a technique of spinal cocainization which is "exempt from dangers." He was to make it public at the German Medical Congress that convened at Berlin April 11. After a few attempts and a personal experience with spinal cocainization on himself, he warned against the methods in vogue at present as mentioned in The Journal at the time. Folet reports, in the *Echo Médical* of March 31, another death in progressive collapse five days after spinal cocainization. No analgesia was induced and the operation was postponed for two days and performed under chloroform. The patient was a man of 50, in satisfactory condition.

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## A NEW FORENSIC METHOD OF DIFFERENTIATING HUMAN AND ANIMAL BLOOD.

The difficulty in determining the character of stains resembling blood, and, when they are recognized as such, in deciding whether they are derived from human beings or lower animals, is often a matter of the highest importance, particularly from the medicolegal standpoint. Under favorable conditions, when the stains are not too old, it can be determined that they are due to blood, by spectroscopic examination and by the development of hematin crystals, and their source can sometimes be established from the physical characteristics of the cells contained, more especially with regard to their size and form and the presence or absence of nuclei. Inasmuch as life may hang in the balance in accordance with the decision, the need of more trustworthy procedure must be only too obvious.

It has been discovered that the blood of an animal to which has been added blood from another species contains specific substances that cause agglutination and solution of the red cells of the latter, but have no influence upon the blood from any other source. It was next found that the employment of other fluids in the same way yielded corresponding results. In pursuing this line of investigation Wassermann and Schütze[1] started out to determine whether the substances thus formed are strictly specific, that is active only with regard to the albuminous fluids employed for injection. They found that the serum obtained after the injection of cow's milk contains substances capable of coagulating the casein of cow's milk, but not of the milk of other animals, and vice versa. It then suggested itself that this biologic method might be employed for the special differentiation of various proteid substances.

Accordingly, rabbits were treated with defibrinized human blood, but it was found necessary for a considerable number of well-preserved red blood-corpuscles to be present in the suspected material to be examined in order that a reaction should be discerned. For this reason cell-free blood-serum was then employed. Accordingly, rabbits were given five or six subcutaneous injections of 10 c.c. each of cell-free human blood-serum at intervals of about two days. Some six days after the last injection the animal was bled, and the blood placed upon ice to permit of separation of the serum. If, now, to a dilution of human blood-serum with physiologic salt-solution or to a dilute solution of human blood with distilled water, .5 c.c. of the rabbit's blood-serum were added, a distinct cloudy precipitate took place at once at room-temperature, becoming more marked at a temperature of 37 degrees in the thermostat. On the other hand, no turbidity whatever developed on addition of serum to diluted blood from any of the animals with which one ordinarily comes in contact—twenty-three different animals being examined for this purpose—with the single exception of the monkey, and in this animal the reaction was less prompt and less marked than in man. So much having been determined for fresh blood, the same tests were applied to blood dried on various articles, after the lapse of three months, with the same results.

The reaction may, therefore, be considered specific, and it should prove of great value, especially for medicolegal purposes. If the diluted blood is turbid before addition of the serum it should be filtered until it becomes absolutely clear. Further, no cloudiness was induced with the blood-serum from a rabbit not previously treated with human blood-serum. In actual practice it is advisable to divide the solution of the suspected blood into two equal parts, one of which is exposed to the action of the blood-serum of a previously treated rabbit and the other to that of a rabbit not so treated. Besides, the blood-serum of the prepared animal might be added to a dilution of blood from another animal. The development of the reaction in the first and not in the other two would be positive evidence that the suspected substance is really derived from human blood.

It is pointed out that the blood for the objects of the test could be obtained from the application of leeches or other form of bleeding for therapeutic purposes, or by expression from the placenta after parturition. Further, it may be found that a similar end can be attained by the use of considerable amounts of human pleural or abdominal effusion. Observations of an entirely analogous character to those here recited are reported also by Uhlenbluth.[2]

1. Berliner Klin. Woch., No. 7, 1901, p. 187.

## THE HISTOPATHOLOGY OF THE PANCREAS, ESPECIALLY IN ITS RELATIONS TO DIABETES.

The pancreas is an acinar gland, but its structure is not as simple as indicated by this statement. As shown first by Langerhans, in 1869, there are also peculiar, round groups of small cells distinct from the acini, penetrated by wide, tortuous capillaries, and without connection with the pancreatic ducts. These bodies are present in all vertebrates from an early embryonal period. In honor of their discoverer these bodies are referred to as the islands of Langerhans. Studied by Kühne and Lea, Lewaschew, Laguesse, and Schafer, their nature and function have remained obscure. Recently their behavior under pathologic conditions of the pancreas has commenced to attract attention.

2. Deutsche Med. Woch., Feb. 7, 1901.

Ssobolew[1] has made a brief preliminary statement concerning these bodies under abnormal conditions with especial reference to diabetes, and Opie,[2] in an important series of papers dealing with the histology and pathology of the pancreas, brings out much of interest in regard to the islands of Langerhans. Opie found that in the tail of the cat's pancreas each lobule contains in the center one of these bodies. In the human pancreas the arrangement is much more irregular, though the bodies are several times more numerous in the pancreas than elsewhere. In the chronic interstitial pancreatitis of congenital syphilis, in which there is a very extensive interlobular and interacinar production of new fibrous tissue, the islands seem to maintain their integrity, as shown in instances examined by Opie, Condon, and others. Opie distinguishes two types of chronic pancreatitis in the fully developed organ, based largely upon the distribution of the fibrous tissue, namely the interlobular and interacinar. In the first, in which the tissue between the lobules is especially affected by the sclerotic process, the islands of Langerhans remain intact except in the most advanced areas. Ssobolew notes the long persistence of the islands in atrophy of the pancreas from ligation of the duct. Among other anatomic factors that may explain this resistance may be mentioned the fact that the islands do not communicate with the lumen of the ducts, and are thus not directly involved when there is obstruction or infection of the ducts. In the interacinar form of chronic pancreatitis there is new fibrous tissue produced within the lobules, and in this form there is proliferation of interstitial tissue within the islands of Langerhans as well.

Now as to the relations of changes in the islands of Langerhans to diabetes mellitus of pancreatic origin, it may be noted that Opie found demonstrable lesions in the islands in four cases of this kind examined: one was an advanced interlobular, sclerotic pancreatitis with altered islands, two were chronic interacinous inflammations, and one—the fourth—was associated with a remarkable hyaline change of the islands so that intact islands were no longer discoverable; the hyaline areas were nearly a millimeter in diameter and visible to the naked eye. Ssobolew states that he found no trace of the islands in the pancreas of two diabetics. While far-reaching deductions are out of question without more and greatly extended observations, the last case of Opie's, diabetes with hyaline islands, is an interesting one indeed, because here the lesion is confined so closely to the bodies that conditions are produced almost answering the requirements of experimental excision, which is impossible.

These observations, taken in conjunction with the intimate relations of the cells of the islands to rich capillary networks, show that there is nothing radically unreasonable in the as yet largely theoretic suggestion that the islands of Langerhans have an internal secretion the suspension of which leads to diabetes mellitus.

1. Centralb. f. Path., 1901, xi, 202-3.

2. Jour. Exp. Med., 1901, iv, 397-428; Jour. A. M. A., p. 54, p. 1146.

## RUPTURE OF THE DUCTUS ARTERIOSUS.

During intrauterine life, when the functions of the fetus are largely performed by its parent, blood from the mother passes through the umbilical vein, the hepatic veins and the inferior vena cava to the right auricle and ventricle. Some of the blood of the right auricle passes through the imperforate interauricular septum into the left auricle and thence into the left ventricle. The left auricle receives comparatively little blood from the lungs through the pulmonary veins. From the right ventricle the blood is sent into the pulmonary artery, but inasmuch as the lungs of the embryo are not actively engaged in their function of pneumatosis the greater portion of this blood is diverted through the ductus arteriosus into the aorta, which receives comparatively little blood from the pulmonary vein, through the left auricle and ventricle. With the entrance of the child upon extrauterine existence the lungs expand and the blood is sent to them through the pulmonary artery in increased amount, and therefore through the ductus arteriosus in lessened amount. After being aerated in the lungs, the blood is returned in increased amount to the left auricle through the pulmonary veins. The necessity for the communication between the auricles and between the pulmonary artery and the aorta being removed, they gradually close under ordinary conditions, although exceptionally one or the other remains patulous for a varying length of time and perhaps even throughout a long life.

It has been shown that the entrance of the ductus arteriosus into the aorta is controlled by a sort of valve-like arrangement, and that while it is possible to inject the duct with gelatin or plaster under ordinary pressure through the aorta in a backward direction, this is not possible in the forward direction. If, however, the pressure is increased beyond a certain degree the restraining influence of the valve will be overcome and the injection material will enter the duct also under the latter condition. Under ordinary circumstances, thus, the flow of blood through the ductus arteriosus ceases soon after birth, and with the cessation of its usefulness the duct gradually loses its elasticity and finally undergoes obliteration. Under extraordinary circumstances, however, as in two cases recently reported by Roeder,[1] the pressure in the aorta may be so greatly increased that the duct is ruptured; and the suggestion is made that such a condition—if not actual rupture, at least, laceration of intima or media of the duct—might be found more commonly than reports would show, if it were carefully looked for. The cases of Roeder are believed to be the first of the kind recorded in the literature. The mother of each child was healthy and presented no evidence of syphilis. One was a primapara, 25 years old, and had been illegitimately

1. Berliner Klin. Woch., 1901, No. 3, p. 72.

pregnant. The other was the wife of a laborer and had previously borne two healthy children. In both cases pregnancy and parturition had been normal and the umbilical wound had healed without complication. The one child was a male, had presented by the sacrum and had died on the third day. It was feeble and jaundiced and exhibited considerable dyspuea with small mucous râles. Postmortem examination disclosed the presence of bronchitis, general stasis, multiple rupture of the ductus arteriosus, laceration of the intima of the pulmonary artery near the duct, marked gastric catarrh with erosions, uric-acid infarction of the kidney, and respiratory furrows in the liver. The second child was a female and was found dead on the fourth day. She presented an enlarged thyroid gland and marked acceleration of breathing with numerous râles. Postmortem examination disclosed extensive hemorrhage into the middle lobe of each lung, rupture and a dissecting aneurysm of the ductus arteriosus, bronchitis, congenital goiter, uric-acid infarction of both kidneys, gastrointestinal catarrh and edema and hyperemia of the brain. The question is raised whether, in the first of these cases, the slight lesion in the duct, that may be supposed to have occurred as a result of increased pressure in the aorta in connection with the sacral presentation, might have led to no ill result had not the aspiration of mucus and amniotic liquor given rise to the development of bronchitis, with interference in the evolution of the lungs, and further increase in the blood-pressure. In the second case the question naturally suggests itself as to the part played by the enlarged thyroid gland in causing circulatory disturbances by compression of the trachea and large veins. In each case no histologic abnormality of the walls of the ruptured vessel was found on microscopic examination.

## PROFUSE HEMATEMESIS WITHOUT LESION OF THE STOMACH.

Blood in small amount may escape from vessels without solution in continuity as a result of increased blood-pressure or from changes in their walls induced by mechanical, chemical or thermal influences. Free hemorrhage, on the other hand, can, it is believed, occur only when a blood-vessel is opened. Occasionally, however, cases are seen in which the escape of blood is so considerable as to justify the inference of a vascular lesion, which postmortem examination may fail to disclose, and for which we are as yet without a satisfactory explanation. Such bleeding may take the form of gastrorrhagia and hematemesis, and enterorrhagia and hematuria. It is possible that in some cases the actual source of hemorrhage has been overlooked, while in others careful histological examination might disclose unsuspected disease of the vessels.

A case of profuse hematemesis simulating gastric ulcer with perforation, terminating fatally, and in which no lesion was found after death has recently been reported by H. G. Chapman.[1] The patient, after vomiting and bringing up a "basin full of blood" came under observation on account of weakness and vomiting. She was anemic and complained of epigastric pain made worse by eating. The temperature was normal, the pulse accelerated, respiration easy. There was tenderness over the upper part of the abdomen and some retraction and rigidity. Food by the mouth could not be retained, and nutrient enemata were therefore given. After the patient had been under observation for two weeks she was suddenly seized with pain, which grew severe and was followed by vomiting. The abdomen became slightly distended and the abdominal muscles markedly rigid, with complete loss of hepatic percussion-dulness. The patient was collapsed and perspiring freely. Her pulse was 120, of small volume and low tension. Perforation was diagnosed and celiotomy undertaken. The stomach was brought entirely out of the wound but no abnormality could be found. Further search failed to disclose perforation of the bowel, ruptured tubal gestation, perforation of the appendix or the gall-bladder, and the peritoneum was quite clean and free from inflammation. The wound was closed and saline and brandy enemata given, but the patient failed to rally, and commenced to vomit brown-colored, coffee-ground material in the course of a few hours. Stimulants, cardiants and infusions were also employed, but death took place on the third day after operation.

On postmortem examination the stomach contained some dark-brown fluid, with a few clots, but careful search from the esophagus to the sigmoid flexure failed to disclose any ulcer or abrasion. The liver and spleen were normal, and the lungs exhibited no pathologic condition. The aorta was the seat of slight degenerative change. The capsules of the kidneys were slightly adherent, but the cortex of these organs was wide and regular. The opinion expressed by the pathologist is that a specific arteritis was present and that the hemorrhage had resulted from the rupture of a small vessel into the stomach.

## A PHYSICIAN NOT OBLIGED TO ANSWER CALL.

Some time ago we noticed the starting of a suit against a physician of Indiana for damages for refusing to respond to a call for his services. The plaintiff's complaint was based on the theory that under the state laws of Indiana, the defendant, having been duly licensed, was obliged to meet demands for his services when it was in his power to do so. The defendant physician, through his counsel, demurred to each paragraph of the complaint, holding that the facts did not constitute a cause for action against him. The demurrer was sustained in the circuit court and an appeal taken by the plaintiff to the supreme court, which has just rendered its decision that the medical practice act is a preventive, not a compulsive measure. This decision will be found in our medicolegal department this

1. Intercolonial Med. Jour. of Australaaia, 1901, No. 2, p. 369.

week. In obtaining a state license to practice medicine, it says, it is not required and the license does not engage that the recipient will practice at all, or that he will practice on any other terms than he may choose to accept. In other words, the physician is his own master and not a public slave, at the beck and call of whoever may demand his professional care.

Without discussing the merits or demerits of the special case involved, the principle established by the decision is the only rational one and it is well that it has been authoritatively settled in a community where such a suit could be seriously maintained. It is strange that the belief can anywhere be held that a professional man who draws no compensation from the state or community should be considered a public, or quasi public, servant simply because the law demands of him certain qualifications before permitting him to earn his living in his chosen way. That would be adding to the burdens of the already overburdened practitioner with a vengeance. The fact is, the public has often very little sense of justice as regards the medical profession, notwithstanding its dependence upon it in times of trouble. Good evidence of this is given in the newspaper comments on the present case, some of which are magnificent examples of Pharisaic virtue, feeling acutely for others' sins and utterly unconscious of their own.

We would not be understood in the least as ignoring the moral obligations of the physician to attend cases in need—no physician worthy of the name would be wilfully guilty of violating them, and it is safe to say that there is no class in the community that lives up to them more. In the present instance we are informed that some of the *ex parte* statements sent out, on which some of the criticisms were based, were falsehoods, and this materially alters certain aspects of the case. However this may be, there is no right nor justice in falsely assuming a legal obligation that may be made to embarrass the physicians where no moral obligations exist. The decision, while it is the only rational one, may serve as a useful precedent and as a preventive of future similar misconceptions of law and justice.

## THE WORKING OF THE TENNESSEE MEDICAL LAW.

At the recent state medical examination in Tennessee there were thirteen applicants from outside the state, ten of whom passed, and 150 from Tennessee colleges, all of whom were passed without examination. This shows the effect of recent legislation exempting Tennessee graduates, but this is not all; a number of new schools were reported and at least one had already its graduate applying for a license. Besides medical schools of varying pretensions there were magnetic schools whose output had also to be licensed under the law. The state has now over two thousand medical students in its institutions, of all classes, and bids fair to become overrun with its own legalized graduates before the idiotic legislation responsible for present conditions can be repealed. There are possibilities almost as bad as being a dumping-ground from outside sources, and Tennessee seems likely to experience them.

## ANTIVIVISECTION IN MASSACHUSETTS.

A number of eminently and otherwise respectable individuals in Massachusetts have recently been pushing, in the legislature, certain bills against physiologic experimentation as at present practiced in that commonwealth. All the stock arguments were employed to advance the bills, together with the usual misrepresentations that are regularly sent out by them in their Boston publications. Massachusetts, however, is a rather compact community, and the legislators sensibly concluded that personal knowledge of what was directly under their eyes was a better basis for law making than hysterical sentimentalism. They have, therefore, inspected for themselves, and while we have not yet learned the result, it is hinted by the eastern papers that the indications are not favorable to the antivivisectionists. In any case we have the assurance that the facts have been presented to the legislative committee by men fully competent to demonstrate the utility of physiologic experimentation and its humanity in the highest sense of the word. If they decide wrongly it will be with the full responsibility of knowledge on the subject.

## RESPIRATORY CHEMISM OF TUBERCULOSIS.

The studies of the respiratory chemistry in phthisis, by MM. Robin and Binet, a résumé of which is given elsewhere in this issue of The Journal, are striking in several respects. In the first place it is a research along a comparatively new line in the study of tuberculosis, and the facts developed are significant. They open up a wide field for conjectures; the research seems incomplete and suggestive rather than satisfying in most respects. The most important point thus far established is the diagnostic one; if we are to be able to foretell a predisposition not otherwise revealed, it is a step in advance. Why one descendant of tuberculous parents, without any evidence of bacterial infection, should show these anomalies of pulmonary gas exchange and another not is not readily explainable, and the authors' suggestion of a special soil in these cases is perhaps the one most allowable. The fact also that the conditions in arthritism are the reverse in this respect from those in tuberculosis are significant in connection with the apparent observed incompatibility of the two conditions. Robin and Binet's work, though as yet incomplete, is apparently one of the important recent contributions to the literature of pulmonary tuberculosis. It need hardly be said that it does not make out, as some of the lay press has reported it, that a surplus of oxygen is a cause of pulmonary phthisis, but, if its findings and views are to be accepted, it justifies pathologically the name "consumption" that has always been the popular designation of the disease.

## INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

It is a common failing of mankind to long for what it has not and to be unappreciative of what it possesses. No medical man whose studies necessitate reference to

the literature of his subject can have failed, many times and deeply, to regret the dissolution of the *Index Medicus*. It is true that the deficiency resulting therefrom has been made good in part by the publication of various indices and digests, but it must be admitted that none, or even all of these together, represent the completeness that gave especial value to the *Index Medicus*. The latest endeavor in this direction consists in the formation, under the auspices of the Royal Society, of an international catalogue of scientific literature, as the result of several international conferences in the course of the last few years. The work of cataloguing has already been begun and is in active progress; and it is hoped that all papers published after January 1 of the present year will be indexed, both according to subject and according to author. Each participating nation is to be responsible for the indexing of the papers published in that country, and a central bureau is to collect, coordinate and publish the results of the labors of the various national bureaus. The perfection and the success of the work can be materially contributed to by the cooperation of medical authors, in sending to the respective bureaus separate copies, or full titles, with notes and place and date, of their publications; and, also index-slips indicating under two or three main headings the subjects treated. Such a bureau has already been opened in London for Great Britain, but we have not as yet seen any notice of the establishment of an American bureau, and we are without details as to the exact mode and form of publication and distribution. The plan appears to be entirely feasible, and it is most heartily deserving of success. It should receive the unstinted support of the medical profession the world over, as the utility of such a catalogue is not to be overestimated.

## EXPERIMENTAL LUMBAR PUNCTURE TO PROVE TUBERCLE BACILLI PRESENT.

It is well known that in the fluid obtained by lumbar puncture in cases of tuberculous meningitis, tubercle bacilli are often missed in cover-glass preparations and in cultures. The inoculation experiment is more positive in its results, but these results are only obtained after several weeks have elapsed, at which time the patient may be dead. More rapid, yet just as certain, inoculation methods have been sought, and to this end there has been practiced direct injection of the fluid into the cerebral subarachnoidean space through a trephined opening. Results have been uncertain and traumatic damage to the meninges and brain not inconsiderable. Recently Hellendall[1] has tried, by means of lumbar puncture, the injection into the spinal subarachnoidean space of the guinea-pig, of fluid from cases of tuberculous meningitis, hoping in this manner to excite a tuberculous meningitis, with symptoms and macroscopic anatomical changes developing more rapidly than where the injection of the suspected fluid is in the peritoneal cavity. This case will enable an earlier diagnosis to be made. To his surprise, however, meningitic symptoms did not appear. Instead, by way of the lymph-channels, the retroperitoneal lymph-glands became tuberculous and there was general diffuse tuberculosis of the liver, spleen, lungs, etc., as after injections into the peritoneal cavity, death occurring in from four to eight weeks. On Hellendall's own showing the lumbar puncture in the guinea-pig is not easy of accomplishment, considerable uncertainty always being felt as to whether the point of the needle is in the subarachnoidean space. While, therefore, tubercle bacilli may find the soil and environment more favorable for growth in this locality than in the peritoneum, so that a smaller quantity of the suspected fluid may suffice, the advantage, where a sufficient amount of fluid can be obtained by lumbar puncture from the suspected case, will still remain with the peritoneum.

1. Deutsch. Med. Woch., March 28, 1901.

## MALPIGHI, SWAMMERDAM AND LEEUWENHOEK.

We hear so much of the superiority of modern methods of investigation, of modern research and modern discoveries that we are apt to forget that there is a great debt owing some of the investigators of decades and even centuries ago. Not only did these men labor earnestly and carefully, but they often inculcated correct methods, and made many positive and permanent additions to knowledge. One is surprised to find, in reading Laennec, not only what acute clinical observations he made and how he correlated these with the results of painstaking autopsy findings, but how he, the pioneer in auscultation, worked out the subject in such a manner that comparatively little has been added to it in three-quarters of a century. Too little credit is given to the earlier workers; the thought of the present is constantly taken up with the wonderful discoveries of the recent past and the earnest search for the truths of the future. It is fitting, therefore, that our attention occasionally be directed backward. Prof. W. A. Locy has done this in an interesting article on Malpighi, Swammerdam and Leeuwenhoek.[1] It must excite the admiration of all who read to learn how much was accomplished by these seventeenth century enthusiasts. The Italian not only left his name on a layer of the skin and certain structures in the spleen and kidney, and not only did he make important observations on the structure of the heart, the lung and glandular structures, "but he was the first to insist on the analogies of structure between organs throughout the animal kingdom, and to make extensive practical use of the idea that discoveries on simpler animals can be utilized in interpreting the similar structures in the higher ones." His monograph on the structure and metamorphosis of the silkworm, his work on the anatomy of plants and his labors in embryology stamp him as a skilled naturalist imbued with the true scientific spirit. And the same spirit is seen in the Hollanders, Swammerdam and Leeuwenhoek. The work of the former, especially his "Anatomy and Metamorphosis of Insects," is declared to be, in its descriptions, a model of accuracy and completeness. Leeuwenhoek, with his crude microscopes, yet careful observations of histologic structure in plants, man and the lower animals, contributed much to the stock of knowledge and aided in establishing scientific methods in place of the mystic and fantastic theorizing then in vogue. When we think of the limited opportunities, the poverty in suitable instruments, the sim-

1. Popular Science Monthly, April, 1901.

plicity of histologic technique, and the preconceived notions of anatomy and physiology tending to lead one astray toward theory and away from fact, the wonder is that they wrought so well and accomplished so much. It is good for us to pause occasionally and consider whether, after all, with our added facilities and advantages for work, we are so superior in methods, in scientific spirit and, relatively speaking, in results, to some of these master minds of long ago.

# Medical News.

## CALIFORNIA.

**Walter E. Garry, Ph.D.,** has been elected professor of physiology in Cooper Medical College, San Francisco.

**A new hospital** is to be built in West Redding, by Dr. John M. Read, and will accommodate ten or more patients. The building will cost about $4000.

**The French Hospital,** San Francisco, at its annual meeting elected Drs. Luke H. F. J. Marson, F. R. Orelia and Joseph E. Artigues, members of its staff.

**The State Board of Medical Examiners** has filed its answer in the suit brought by a graduate of the Pacific Coast Regular College of Medicine to compel the issuance of a license to practice. The answer sets forth that the college did not meet the minimum standard of requirements for recognized colleges of medicine, and that the refusal to accept and recognize its diplomas was taken after an investigation and due deliberation, in which no prejudice or malice entered.

## COLORADO.

**The Jefferson medical bill,** which contains an amendment providing that "Christian Scientists" shall not be permitted to treat infectious or contagious diseases, has passed the senate.

**"Dr." A. C. Burroughs,** Ouray, has been deprived of his license to practice, by the State Board of Medical Examiners which held that his affidavit of ten years' practice was false, and that he was a "healer" and not a physician.

**An Industrial Sanatorium** for the relief of consumptives has been incorporated in Denver, by Dr. A. Mansfield Holmes and others. The plan provides for the erection of a sanatorium about twenty miles from Denver, which is to be conducted as an industrial colony. It is expected that the large amount of money required will be raised by the "cottage endowment plan." By utilizing the labor of patients it is expected that nearly all of the work of the institution will be performed, the entire sanatorium supplied with provisions, and a great variety of remunerative industries carried on.

## GEORGIA.

**The State Board of Medical Examiners,** at its session in Augusta, April 3, examined sixty-nine applicants for license to practice medicine in the state.

**Georgia Pasteur Institute and Laboratory.**—The board of governors held its first semi-annual meeting in Atlanta, April 12. The report of the physician-in-charge, Dr. James N. Brawner, showed that since December 1, 11 patients had been treated, 8 of whom were bitten by rabid dogs, as proved by inoculation of rabbits. All the patients improved under treatment and were dismissed as cured. Dr. Claude A. Smith, the secretary and pathologist, made a satisfactory report of work done in his department.

## IDAHO.

**An epidemic** of smallpox prevails at Samaria, where sixty cases are reported with, it is said, no effort being made to quarantine the infected houses.

**C. K. Ah Fong,** Boise, who filed a petition asking the district court to review the action of the State Board of Medical Examiners in refusing to issue him a license to practice medicine, has won his suit and the board has been instructed to issue a license to Dr. Ah Fong.

**The State Board of Medical Examiners,** at its recent meeting in Boise, examined eleven candidates, to seven of whom it issued licenses to practice. It also passed a resolution urging on regular practitioners the necessity of creating by voluntary contributions a fund for the prosecution of illegal and irregular practitioners.

## ILLINOIS.

**Report of Births and Deaths.**—A bill has been introduced in the senate and referred to the committee on judiciary which provides for the report of births within thirty days, and a payment of 25 cents for each report, and for the report of deaths, a similar payment; it regulates interment or other disposal of dead bodies, and prescribes a penalty for non-compliance with the provisions of the act.

**State Colony for Epileptics.**—Two sites are contending for the location of the state colony for epileptics, to be founded if the bill now before the legislature becomes a law; one at Grand Detour about 100 miles from Chicago, and the other at Elsah, 270 miles from Chicago, and 230 miles from the center of population of the state. The project will involve an initial expenditure of about $250,000.

### Chicago.

**Low Mortality.**—Another week of remarkably low mortality is reported by the health department, the total deaths, 445, being 6 fewer than reported during the previous week and 113 fewer than in the corresponding week a year ago. Thus far this year there have been 1046 fewer deaths than in the first fifteen weeks of 1900—a decrease of more than one-eighth, or 13 per cent. The deaths for the week numbered 445, a death-rate of 13.16 per 1000, per annum. Of these 148 were due to diseases of the respiratory system and 30 to violence. Influenza, which was at its height in the middle of last April, continues steadily to decline—only 3 deaths being referred to this cause last week and 27 in the corresponding week of 1900. To the subsidence of this mischievous malady is attributed the continued low death-rate among the aged and the decrease of pneumonia deaths—93 deaths of those over 60 last week, 142 last year; 67 deaths from pneumonia last week, 127 last year.

**The Smallpox Situation.**—The unusual character of the smallpox epidemic continues to attract the attention of sanitarians and health officers. Since the beginning of the year 12,344 cases of the disease have been reported to the Marine-Hospital Service as against only 7410 last year, an increase of nearly five thousand cases, or 66.5 per cent. On the other hand, only 180 deaths are reported this year against 391 last year, a decrease of 72.4 per cent. in the mortality rate. It is probable that some share of the increased number of cases reported this year is due to more careful diagnosis; the disease has been so mild and the mortality so insignificant throughout this epidemic that cases frequently escaped recognition in the early period. In this city, for example, there has been but one death from the disease since the first case detected, Nov. 30, 1900. The experience in New York City, however, shows that smallpox is still to be dreaded by the unvaccinated. Between December 1, last year, and March 23, 1901, out of a total of 474 cases there were 70 deaths—a mortality rate of nearly 15 per cent. In this city the lesson of neglected vaccination, although not so deadly, is still sufficiently striking. There have been 175 cases of smallpox found in Chicago between Nov. 30, 1900, and April 13, 1901, the period of the present epidemic; of this number 143 had never been vaccinated. Of the remaining 32 cases, 30 were adults showing faint, poor or irregular scars claimed to be evidence of attempted vaccination in infancy or early childhood—the most recent being 23 years old. Only two out of the 171 cases exhibited typical scars of successful vaccination. Of these one was 35 years old—"vaccinated when a child," revaccination attempted three years ago, without results; vaccin lymph probably inert. The other was 40 years old, also successfully vaccinated in childhood, but never revaccinated. These are the only two cases out of the total 175 on whom vaccination was ever successfully attempted, and the most recent of these was more than thirty years ago. This shows conclusively that successful vaccination in childhood, and successful revaccination after, are the only sure safeguards against smallpox.

## INDIANA.

**St. Edward's Hospital.**—A permit has been issued by the city of New Albany to the Sisters of St. Francis to erect a hospital at Seventh and Spring Streets.

**The Central College of Physicians and Surgeons,** Indianapolis, held its thirty-second annual commencement, April 4, and issued diplomas to a class of 22. Prof. A. J. Banker, Columbus, delivered an address on "Medicine as a Profession vs. Medicine as a Business."

**The Medical College of Indiana** held its thirty-first annual commencement exercises at Indianapolis, April 8. President Gobin of De Pauw University delivered the address of the evening on "The Physician as a Publicist." Degrees were conferred on a class of forty-six, six of whom were women.

**Rare heroism** was displayed by Margaret Wallman and Kate Nolan, nurses at the Woman's department of the insane hospital at Mount Jackson, near Indianapolis. When the building caught fire, April 10, these nurses succeeded in removing all the patients uninjured, but in this work the rescuers were severely scorched. The fire caused a property loss of about $1500.

**Smallpox.**—During March 472 cases were reported with 5 deaths. In Switzerland County, 220 cases, and in Lawrence county 101. The disease is generally mild, but not a few are more or less severe. In all new localities invaded, the uninformed physicians fail to recognize the disease, but what is worse, usually cling to their erroneous diagnosis and so make it hard to apply preventive measures.

**State Board of Health Report.**——This, for March, shows 3272 deaths, a mortality of 15.3 per 1000 per annum, slightly higher than that for March, 1900—15 per 1000. Tuberculosis caused 373 deaths: influenza, 174; pneumonia, 603; and violence, 114. In cities, 1164 deaths occurred, and in rural districts, 2108. The diseases which decreased in area of prevalence during March were: bronchitis, influenza, pneumonia, tonsillitis, diphtheria, typhoid fever, and inflammation of the bowels. Those increasing in area of prevalence were: rheumatism, measles, intermittent fever, diarrheal troubles, whooping-cough.

## IOWA.

**Dr. Carl Teske** has been elected health officer of Sioux City, on the seventieth ballot.

**Keokuk Medical College** held its commencement exercises April 9, and conferred degrees on a class of 51. Prof. William C. Howell delivered the doctorate address.

## KENTUCKY.

**Dr. Joseph M. Mathews,** Louisville, will deliver the doctorate address before the graduating class of the medical department of the University of Illinois.

**Dr. Henry E. Tuley** read a paper entitled "Some Rambling Thoughts on Infant Feeding," at the regular monthly meeting of the Lexington and Fayette County Medical Society, April 10.

**General vaccination** has been ordered in Lexington. Dr. Frank O. Young, president of the board of health, has appointed Drs. W. S. Van Meter, Joseph E. Riley, Charles L. Wheeler and Thomas Lewis as assistants, each to have a section of the city to vaccinate.

**The Louisville Medico-Chirurgical Society** will hold a special meeting May 27, at which Dr. Hobart A. Hare, Jefferson Medical College, Philadelphia, will read a paper. Arrangements are being perfected for the Clinical Society, the Surgical Society and the regular medical profession to be present.

**Resignation.**—In the issue of THE JOURNAL for April 13, mention was made of the differences between the faculty of the Hospital College of Medicine and Prof. Dudley S. Reynolds, of Louisville. We have been asked to state that no dissentions exist in the faculty, although the resignation of Dr. Reynolds was requested, and he is not now a member of that body.

## MARYLAND.

**Vaccin physicians** have been appointed as follows: Drs. George F. Chambers, Philip Briscoe, Abram J. Williams and Elsworth H. Hamman, for Calvert County.

**Smallpox.**—The Maryland State Board of Health will establish a quarantine against Sussex County, Del., unless the authorities of that county take prompt measures to control the epidemic prevailing there. These measures as laid down by the board will include: the isolation of those affected or exposed in a pest camp, or hospital or a place of detention under medical and police surveillance; general vaccination; disinfection of houses and destruction of articles that can not be disinfected; daily official reports to be furnished to the health officers of the adjoining counties of Maryland, and the appropriation of enough money to cover the cost of this work. If a satisfactory reply is not promptly received, notices will be sent to the railroads not to sell tickets from Sussex County to Maryland. The board is considering the propriety of proceeding against the authorities of Somerset County, the only county in Maryland that has not complied with the law requiring local health boards. The smallpox situation in the state was as follows on April 14: 1 case each in Montgomery, Garrett and Caroline counties, 5 each in Allegheny and Wicomico counties, and 2 in Dorchester County. At Seaford, Del., between March 16 and April 9, 65 cases were treated.

### Baltimore.

**Dr. and Mrs. William Green** sailed for Italy April 13, and will spend the summer abroad.

**The Alumni Association** of Baltimore University School of Medicine has elected Dr. N. Van Wirth Wright, president.

**Two lots** have been purchased on the corner of Fayette and Calhoun streets by the Maryland Medical College, to be used for a hospital.

**Instruction of Epileptics.**—The superintendent of schools has drawn the attention of the school board to the necessity of making provision for the instruction of epileptics who are barred from the schools. He proposes that a school room be set apart for such children.

**Prof. Alexander C. Abbott,** of the University of Pennsylvania, will deliver the annual address at the meeting of the Alumni Association of the University of Maryland School of Medicine, May 2, his subject being: "Some Advances that have been Made in Preventive Medicine."

**The Robert Garrett Free Hospitals for Children** have issued the 1900 report. To the city institution 262 cases were admitted. During the summer cases are treated at the sanitarium at Mt. Airy. The charity was established in 1888 by Mrs. Robert Garrett, and is under charge of Dr. Walter B. Platt.

**Baltimore University School of Medicine** held its commencement exercises, April 11. There were thirty-one graduates, among them two women, one being the head nurse at the hospital. Thomas A. Magness, of Maryland, and Daniel A. Shay, New York, were the prize winners, and William J. Kavanaugh, of Brooklyn, valedectorian.

## MICHIGAN.

**Dr. Allen D. McLean,** Detroit, has received an appointment as captain and assistant surgeon of volunteers.

**An amendment** to the medical bill has been proposed, providing that physicians who have practiced in the state for five years may be registered regardless of their qualifications.

**Kalamazoo courts** have issued a peremptory injunction requiring the local school authorities to admit unvaccinated to the schools, the children of a mental healer who objects to vaccination on the grounds of religious belief.

**Mortality for March.**—The total number of deaths reported during the month was 3488, corresponding to a death-rate of 17.2 per 1000 per annum. This is an increase of 343 over the number for the preceding month, and of 355 over the number returned for March, 1900. There were 673 deaths of infants under 1 year of age, 203 of children aged 1 to 4 years, and 1024 deaths of persons aged 65 years and over. Important causes of deaths were as follows: tuberculosis, 251; typhoid fever, 45; diphtheria, 35; scarlet fever, 44; pneumonia, 489; influenza, 320; carcinoma, 112; violence, 126. There were 3 deaths from smallpox during the month.

## MINNESOTA.

**Dr. William H. Rowe,** St. James, has been appointed a member of the State Board of Health.

**Mayor Albert A. Ames,** Minneapolis, has been appointed surgeon-general of the National Guard of the state.

**For refusing to be vaccinated,** a Minneapolis man was fined $10, on April 2, and the fine was not remitted as in the previous cases.

**Dr. Arthur B. Ancker,** St. Paul, has been unanimously re-elected physician of St. Paul and of Ramsey County, and superintendent of the City and County Hospital.

## MISSOURI.

**Barnes Medical College,** St. Louis, held its annual commencement exercises, April 12.

**Dr. Robert D. Haire,** Clinton, fell while going down stairs, at Schell City, April 2, and sustained a comminuted fracture of the right leg.

**St. Louis College of Physicians and Surgeons** held its commencement exercises April 9. Prof. Albert Fulton delivered the faculty address.

**A physician in charge** at the Kansas City post-office is provided for by the appropriation bill just passed. The duties of the office will be light and the salary $1200 a year.

**The verdict against Weltmer,** the "magnetic healer" of Nevada, for $7500 damages for injuries received by Mrs. Longan, while receiving treatment by one of his operatives, has been confirmed by the circuit court.

## MONTANA.

**The State Board of Health,** at its meeting in Helena, April 1, elected Dr. William Treacy, Helena, president, and Dr. Albert F. Longeway, Great Falls, secretary.

**The Board of Medical Examiners,** at its meeting April 4, examined four candidates for license to practice medicine, and elected Dr. John A. Sweet, Great Falls, president; Dr. William C. Riddell, Helena, secretary, and Dr. George H. Barbour, Helena, treasurer.

## NEW JERSEY.

**The Board of Health of Northampton** has issued instructions commanding all persons to undergo vaccination by April 15.

**Christ Hospital,** Jersey City, is to receive $10,000 on the death of the daughter, and of the executor of the will of Mrs. Edna J. McPherson, widow of the senator from New Jersey.

**Dr. Alexander W. Rogers,** Paterson, after more than sixty years practice has decided to lighten his duties and has resigned from the Medical Board of the General Hospital, of which he had been a member since its origin.

## NEW YORK.

**An epidemic** of smallpox is reported in an orphan asylum at Albany.

**A training school for nurses** has been inaugurated at the German Hospital, Buffalo.

**Sanatorium for Consumptives.**—The committee has reported Senator Davis's bill providing for the erection of a sanatorium for consumptives, in the Adirondacks, with the amendment that the $20,000 for furnishing must be taken out of the appropriation of $100,000.

**Society for the Prevention of Consumption.**—This society has been formed in Buffalo, and Dr. Benjamin Long made chairman of a committee to effect an organization. Dr. Bissell, city bacteriologist, was made secretary of the committee. It will be a society similar in scope to the Laennec Society of Baltimore.

**Divided Examinations.**—A bill has been introduced providing that the regents of the University of the State of New York may, in their discretion, divide the examinations required for a license to practice medicine, permitting a candidate to take the examinations in anatomy, physiology and hygiene and chemistry at the end of two years of study, instead of requiring, as by the present law, the examinations in these subjects to be taken with the others at the end of the four years' course.

### New York City.

**Dr. William E. Young,** formerly in charge of the hospitals on Randall's Island, has been appointed superintendent of the insane pavilion at Bellevue Hospital.

**New Cases of Smallpox.**—Three cases were discovered in the New York Foundling Hospital, and so far this month there has been an average of 7 a day. In January the average was less than 3 cases, and in March it was 6. Since the commencement, on November 5 last, there have been altogether 590 cases, with 89 deaths, or a mortality of about 15 per cent.

**Obstacle to Nurses Home.**—A friend of the Presbyterian Hospital having given $300,000 for the erection of a nurses' home, steps were at once taken to carry out the provisions of the gift. But an obstacle has already been met in the shape of a temporary injunction issued on the application of a neighboring property owner. The contention is that the deed of the property contains a clause restricting the buildings to be erected to those which shall not be "noxious and offensive to the neighboring inhabitants," and some of the property owners seem to think that such a home will be offensive to the neighbors.

**Burning of South Hospital.**—The advantages of a properly conducted fire drill were well exemplified when the old South Hospital on Randall's Island took fire on the night of April 10. Ninety-four inmates, all boys between 6 and 14 years, were awakened by the familiar sound of the fire gong, and almost mechanically they jumped out of bed, pulled on their trousers and gathered up their other clothes as they had been taught to do. In less than two minutes they had formed in line and were out of the building. The building is nearly seventy years old. It was nearly destroyed before the arrival of the city fire apparatus.

**Tenement House Legislation.**—Governor Odell has signed the four tenement house bills, thus putting on a firm footing a movement which should do much toward improving the condition of the tenement dwellers in New York City. The definition of a tenement, i. e., any building in which three or more families reside, has not been changed. The greatest evils of the present system arise from the lack of proper sanitary supervision. Under the new law, it will be the duty of the Board of Health to inspect each tenement house in the city at least twice before 1902. In the past the responsibility for the enforcement of tenement house laws has been divided among the health, building, police and fire departments. The present bill creates a tenement-house commissioner, to be appointed by the mayor, and hold office at the latter's pleasure. His salary will be $7500, and he will be under bonds for $20,000 for the faithful performance of his duties. The principal reforms contemplated by this new law are furnishing more air and light to the dwellers in tenements, the doing away with dark interior rooms, securing proper sanitary appliances for each family, proper protection against fire and the enforcement of the laws in regard to such houses. A novel feature of the law is that it fixes what shall be the minimum size of rooms, i. e., they must have at least 120 square feet of floor area.

## PENNSYLVANIA.

**Dr. William B. Ulrich** has been elected a member of the board of managers of the Chester Hospital.

**Smallpox in the State.**—An epidemic is now prevalent in the eastern part of Mercer County; 25 cases had occurred with one death up to April 9, all of which had developed during one week. A shotgun quarantine is being maintained until the State Board of Health takes charge of affairs. At Sandy Lane there are 20 cases of smallpox now under quarantine, with 1 death. At Steelton the disease is on the increase and 5 new cases have occurred, making a total of 40 in this locality. Under the advice of Dr. Benjamin Lee, secretary of the State Board of Health, all public meetings will be discontinued. Considerable excitement occurred at Greensburg on April 9, on the recognition of a case of smallpox on the public streets. The man was followed home and is now under quarantine. In Steelton, April 11, the health authorities, on recognizing 2 cases of smallpox, attempted to remove the patients to a hospital, where they met with resistance on the part of the father, who absolutely refused to permit the removal of the children. The Board of Health may carry the matter into the courts. At Bradford, on the same day, citizens set fire to an abandoned school-house near the city in order to prevent the health authorities from converting it into an isolation hospital for the care of smallpox.

### Philadelphia.

**Dr. L. Webster Fox** has been appointed a member of the board of managers of the Orthopedic Hospital.

**Through the will** of Hannah H. Toland, $2000 has been left the Ladies' Executive Committee of the Presbyterian Hospital, and $5000 to the Germantown Hospital and Dispensary.

**A portrait** of the late Dr. William Pepper has been presented to the American Philosophical Society. The presentation speech was made by Dr. Horace Howard Furness on behalf of the donors.

**"Hospitalism"** has again shown its manner of doing business here during the past week, where it is claimed that the rivalry existing between certain of these institutions has become so great that a real competition for cases has begun. It is claimed that a children's hospital has been receiving adult accident cases, and that a protest was made by other hospitals. It is now announced that the above hospital will receive no more such adult cases.

**Medical Inspection of Schools.**—Drs. Charles A. E. Codman and J. H. McKee, representing the Association of School Medical Inspectors of this city recently appeared before the committee on hygiene of the board of education to consult relative to the powers of the school medical inspectors, which is at present very limited. The present regulations governing this matter are insufficient since they have not the power to exclude children suffering from certain diseases. The complaint has been made that the principals in some of the schools are not in harmony with school medical inspection and do not like to be bothered with it. The work of the inspectors is voluntary, with small hopes of receiving compensation.

## GENERAL.

**Plague at Ann Arbor.**—The young man whom we reported last week as probably suffering with plague contracted while conducting experiments is still in an isolation hospital, doing finely, and out of danger. The disease is of the pneumonic type. There are no new cases, and as every precaution has been taken there is no fear of any.

**Wyoming State Hospital.**—Owing to the extensive mining interests it has been necessary for the state to add another wing to the hospital at Rock Springs, Wyo., which is now about completed. When finished there will be accommodation for about eighty patients. Building of a nurses' dormitory and other buildings has also been authorized by the legislature.

## CANADA.

**Dr. J. F. W. Ross,** Toronto, has returned from Havana, Cuba.

**Dr. John Marquis,** Brantford, has been appointed surgeon to the Ontario Institute for the Blind.

**Dr. James Third,** professor of medicine at Queen's University, was seized with an attack of apoplexy recently and is not expected to recover.

**Dr. Robert Bell** has succeeded the late Dr. G. M. Dawson as head of the Canadian Geological Survey. Dr. Bell took his medical degree in 1878, at McGill.

**Dr. V. H. Moore,** Brookville, has been appointed a member of the corporation of the Royal College of Physicians and Surgeons, Kingston, in place of Dr. Lavell, deceased.

**Nova Scotia** expended, during the past year, on public charities, $132,100, an increase of $3,900 over the previous year. The excess was due to improvements at the Mount Hope Hospital Asylum.

**Cigarette smoking** is a prevailing habit among the schoolboys of Halifax, N. S.; inquiry has elicited the fact that 2500 have used tobacco at some time during school life, and that over 1000 use it occasionally now.

**The Ontario Teachers' Association,** at the recent meeting in Toronto, decided to ask the Minister of Education to substitute the teaching of physiology in the public schools of the province for hygiene, with simple lessons on food, drink, diet, clothing, light, ventilation, exercise, narcotics and stimulants.

**Personals.**—Dr. Adam H. Wright, professor of obstetrics in Toronto University, has about recovered from a prolonged attack of blood-poisoning received through attending a charity case at the Burnside Lying-in Hospital. He will leave shortly for the Mediterranean, accompanied by Dr. W. P. Caven, associate professor of clinical medicine, and Dr. J. T. Fotheringham, professor of therapeutics at Trinity Medical College.

**Victoria General Hospital, Halifax.**—A bill has been introduced into the Nova Scotia legislature to correct the evil of allowing patients to remain in the general hospital after having been cured of their maladies, this having become common practice in that institution. The bill provides that hereafter, if the patients are not removed after a reasonable time, the superintendent shall notify the clerk of the municipality or town from which a patient came, and if after such notice the patient shall not be removed, the superintendent is at liberty to place the patient in the poor-house at the cost of said municipality or town.

**Concerning the Prevalence of Heart Failure.**—A leading Montreal daily newspaper notices, editorially, that there have been a great number of sudden deaths throughout Canada during the past year, and that in the great majority of cases there has been no inquiry into their cause. La grippe, it is suggested, may have had something to do with this, and this disease has brought evils in its train in the way of a host of patent "cures," which, along with cures for headaches, etc., have come to be considered not above suspicion. In this connection, it is pointed out to coroners that it would be within their duty to institute closer inquiries in connection with every sudden death, for the purposes of ascertaining whether the deceased had been using these new remedies.

**Concerning the Universities.**—While Toronto University is anxious that it be the only provincial or state-aided university, and is declaiming against Queen's receiving any government aid, the government, at the tail-end of the session of the legislature, brings down a supplementary estimate which casts a deep gloom over the friends of Toronto University, while Queen's is jubilant over its good fortune, and will profit to the extent of $22,500 annually for the next five years. Queen's University is full of corporate life. The graduating class, which numbers seventy students, has contributed $50 each toward the founding of a fellowship which will increase the facilities for the prosecution of post-graduate work in that institution. The amounts can be paid when it suits the convenience of the subscriber, in the meantime he paying the interest alone. A Chinese laundryman of Kingston contributed $50.

**The Barbers' Laws in Quebec.**—The Barbers' Association has been the means of doing a great deal of good in Montreal and the province of Quebec since its formation. The jurisdiction of the Association is only in cities having a population of 5000 or over; and under the provincial law a man can not work in a factory during the day and run a barber shop at night and on Sundays. This law, as it now stands, compels barbers to take out a license or else go out of business; and the rules of the Association make it obligatory on the part of customers having any skin or scalp diseases, to have their own razors, soap, brushes, etc. Antiseptic measures are carried out in all of these barber shops; and the Association has submitted to the Board of Health of the Province, an antiseptic cabinet which has been approved of, and hot water is required by law to be constantly in all of these shops. The public in Quebec province does not run the same risk as formerly since the adoption of the provincial law.

**Chinese Sanitation in Victoria, B. C.**—There is a commission at present sitting in Victoria, B. C., inquiring into the question of Chinese labor; and before that body Dr. O. M. Jones, the medical health officer, appeared to give evidence as to the health and sanitation of Celestial quarters in Victoria. He states that lately there has been much improvement from new buildings, but that the Chinese neither regard nor observe the well-known laws of sanitation. He considers them a slight menace to public health, especially as there is always smallpox in the Chinese ports, although, personally, they are very careful to be vaccinated. The medical health officer has attended about five cases of leprosy. The Chinese took every precaution to conceal cases of leprosy, but there has not been recorded a distinct case of leprosy originating among children of white people. Once there was an outbreak of mumps among the clerks of the city banks, and Dr. Jones attributed it at the time to handling Chinese money, as there was then an epidemic of mumps among the Chinese. As to calling in physicians when sick, many of them, especially the wealthy class, get white physicians when sick. Dr. Jones said he would not advise medical supervision of the Chinese hospital, other than occasional inspection, which is now being carried out by the city medical health officer.

## FOREIGN.

**The Scalpel,** edited by Dr. Thomas Dolin, Halifax, Eng., has discontinued publication on account of the incompatability of editorial work with the demands of a large practice.

**League Against Syphilis.**—A society has been formed at Paris, officially entitled the "League against Syphilis," with Fournier as the president. The annual dues are $2. The membership is open to physicians and other persons interested in the campaign against syphilis, including women. The board is composed of eighteen prominent physicians.

**Deaths in the Profession Abroad.**—O. von Weiss, privat docent of obstetrics and gynecology at Vienna, in charge of the pioneer hospital in Bosnia. . . . A. M. Berger, a prominent ophthalmologist of Munich. . . . S. Asch, of Breslau, said to be the original of L'Arrondés "Doctor Claus." . . . V. Maecherano, professor of surgery at Palermo. . . . E. Sacchi, privat docent at Geneva.

**Attempted Bribery.**—The mayor of Marseilles, France, and his assistant, are physicians. The latter was approached by a young doctor who offered him $200 if he would annul a certain competitive examination for the post of surgeon of the hospitals in which the young physician had been defeated. He was arrested for attempted bribery, and he has been condemned by the courts to three months' imprisonment.

**Medal for Brouardel.**—The students and friends of Professor Brouardel, dean of the Paris faculty of medicine and the great medico-legal authority, have opened a subscription to present him with a gold medal on the occasion of his promotion to be grand officier in the Legion of Honor. A copy of the medal will be sent to every person who subscribes $5. The medal is to be the work of Roty. Twenty-five francs and the visiting card of the subscriber should be sent to Dr. Pupin, secretary of the Faculté de Médecine, before July 1.

**Progress of the Plague.**—For the week ending March 30 there were in Capetown 60 fresh cases of plague and twenty-two deaths. The total number of cases since the beginning of the outbreak are 287 and the deaths 99; of the latter, 19 occurred in Europeans. On April 1 there were under observation 630 persons ill with the disease or as "suspects" or "contacts." Corpses of natives are occasionally found, which shows that cases of the disease are being concealed. In all India during the week ending March 9, there were 7879 deaths from the disease, an increase of 952 over the previous week, and the highest number ever recorded in one week. In Bombay City

the deaths were 1196, in the Bombay presidency exclusive of the city, 754. In Bengal, exclusive of the metropolis, there were 4525 deaths, an increase of 459 over the previous week. In Calcutta the deaths have also increased to 557. In Mauritius, for the week ending March 28, two cases of plague both fatal were reported. Advices from New South Wales report that plague made its appearance in the large cities of Australia a little over a month ago, and while American ports are in close shipping connection with Australian ports by regular mail boats to San Francisco and Vancouver, sailing vessels to Oregon and Washington, and steamers to New York City, the period necessitated for the trip covers the quarantine time and the only danger would be from the cargoes. One case was reported there on a transport arriving from Cape Town, and a few lays later, after the cargo was removed, another appeared. There was one case in Colmslie, the quarantine station and the largest city in Queensland. Sporadic cases are reported from several towns and 1 new case in Sydney, and 2 in Perth, as late as March 15, the date of our correspondent's advice.

**Mr. Arthur Coppen Jones,** whose death on March 8 is announced in the *British Medical Journal*, though not a medical man, was one whose services to medical science deserve recognition here. He is best known to the profession for his researches in bacteriology, and especially in connection with the morphology of the tubercle germ, which he suggested is a fungus rather than a bacterium. He was a prominent authority in this department of microscopic botany, and the value of his work generally recognized. His death, which occurred at the early age of 35, was due to tuberculosis from which he had suffered, first as a pulmonary involvement which became quiescent, but later appeared in the form of vesical tuberculosis.

**Prof. Joseph Von Fodor,** whose death is announced from Hungary, was one of the most prominent sanitarians of eastern Europe. He was born July 16, 1843, studied medicine at Budapest, Vienna, and Munich, and was connected with the University of Budapest from very shortly after his graduation. His regular appointment as ordinary professor of state medicine in the University of Klausenburg, occurred in 1882, and two years later he was called to the newly-founded chair of hygiene at Budapest, where he has been an active worker ever since, leading in his special department. Besides the honors given him at home, the degree of LL.D. was conferred on him by the University of Cambridge in 1891, and he was corresponding member of many foreign scientific societies. At home he was dean of the faculty of medicine in his own university, and in 1894 rector. He was ministerial councillor of the Hungarian government and one of the presidents of the Superior Health Council of Hungary. Among his numerous writings, many having received prizes and been recognized otherwise, his chief work was "Hygienic Researches on the Air, Soil and Water," in two volumes, published in 1881 and 1882. He was also the author of a text-book on hygiene for schools, which appeared in 1887. As a teacher, he was one of the most successful. His personality was said to be most amiable, and, as the *British Medical Journal* says, in his premature death at the early age of 58, the world has suffered a real loss.

## LONDON LETTER.

### The Microbe of Rheumatic Fever.

At the Chelsea Clinical Society, Drs. F. G. Poynton and A. Paine read a paper on the "Infectivity of Acute Rheumatism," with especial reference to chronic types of the disease. They said that acute rheumatism is a definite disease with definite peculiarities. Therefore, if one microbe is constantly present which, when isolated, produces identical lesions in animals, probably it is specific. From 14 cases of rheumatic fever they isolated a diplococcus which grew in liquid media in streptococcal chains and on solid media in staphylococcal masses. Triboulet before and Wasserman and Malkoff during the time the authors were working had also isolated a diplococcus from cases of acute rheumatism. The authors isolated the organism three times from the blood of patients suffering from rheumatic pericarditis, twice from the throat, four times from the pericardium, twice from the urine, three times from the cardiac valves, and once from a rheumatic nodule. In the rabbit, by inoculation, they had produced lesions identical with those found in man.

### Myasthenia Gravis.

At the Edinburgh Medico-Chirurgical Society, Dr. E. Bramwell has pointed out the necessity of every practitioner being acquainted with this recently recognized disease, since it is often mistaken for hysteria, is often fatal, and in some cases can be recovered from, under appropriate treatment. He described the case of an unmarried woman, aged 23, who had previously enjoyed good health. Ten weeks before he saw her, without apparent cause, she gradually developed difficulty in speaking, swallowing and chewing, and weakness of the muscles of the eye, palate, neck and arms. In the morning she was usually free from symptoms, but as the day went on weakness in the muscles developed. The use of any of these muscles induced temporary paresis and a feeling of fatigue. There was no atrophy, and the deep reflexes were brisk. Absence of weakness in the legs and of ptosis was an unusual feature in the case. In making a diagnosis, attention should be paid to the following points: 1, the presence of muscular weakness often slight and unassociated with atrophy; 2, the facility with which the muscles become exhausted by voluntary effort (myasthenic state) and by faradism (myasthenic reaction); 3, absence of sensory symptoms apart from the fatigue caused by exhaustion, of sphincter trouble, and of mental disturbance. The prognosis is uncertain. Most cases are characterized by temporary improvements and relapses. Of 60 collected cases, 23 were fatal. In the majority death was due to dyspnea. Since exertion and excitement increase the symptoms they must as far as possible be avoided. All solid food should be minced in order to spare the muscles of mastication and to avoid the risk of choking.

### The Company of Barbers and the Royal College of Surgeons.

With mediæval ceremony the Honorary Freedom of the Barbers' Company has been conferred on Sir William MacCormac. The quaint charge was read in the presence of the assembly, the members of the court and recipient standing, while those below the ranks of an assistant and the visitors remained seated. A banquet followed. This is a very ancient institution among the barbers. As far back as 1388 the Master certified that it was the practice once a year to assemble in feast and that there was an ordinance that none of the brotherhood should pay more than 14 pence each toward the feast. Sir William MacCormac expressed his appreciation for the distinction conferred on him by the venerable company. The Guild of Barbers is of such ancient foundation that its earliest records can not be traced. In the thirteenth century, before its final development into a trade guild it was partly religious in character and partly social. The barbers used to assist the monks to perform operations. In 1462, in the reign of Edward IV, they obtained a charter of incorporation and became a city company, "the better to protect the King's lieges from going the way of all flesh through the ignorance and negligence of various unskillful barbers and other practitioners of surgery." From remote time there was also a "Surgeons Guild," small in number and poor, and chiefly consisting of military surgeons. They become merged into the Barbers Company in 1540 and remained united until they separated in 1745 and were constituted a Company of Surgeons, a movement attended by many quarrels. From this body was evolved the present College of Surgeons, incorporated in 1800. The election of the president of the College of Surgeons to the honorary freedom of the Barbers' Company constitutes the first official link between the two societies since their separation.

### The Nature of Yaws.

At the Polyclinic, Mr. Morgan Finucane, assistant medical officer of Fiji, recently read a very remarkable paper on yaws. He maintained, in the most uncompromising manner, that the disease is syphilis. This view has long been held by Mr. Jonathan Hutchinson, in opposition to all the colonial surgeons who have observed the disease. Mr. Hutchinson had not till quite recently himself observed a single case of what is asserted to be yaws. He based his views on the published descriptions and portraits of the disease, which show complete similarity to syphilis—a primary stage of a local lesion which can originate in contagion, a secondary general eruption, tertiary manifestations of bone disease, and amenability to mercury and iodid of potassium. The frambesial or mulberry-like type of eruption Mr. Hutchinson attributes to the influence of race and climate. Yaws is simply the parent form of syphilis, which was introduced into Europe at the time of Columbus. Mr. Hutchinson's arguments, though enforced with his usual dialectic skill and command of facts and his unrivalled knowledge of syphilis, have always failed to convince the colonial surgeons who have observed yaws in its native haunts. His great argument is: If yaws is distinct, how is it that a chronic disease which is so widely scattered over different parts of the world never comes to Europe? Because when it does it is always recognized as syphilis. Hence the great importance of Mr. Finu-

cane's view, formed after an intimate acquaintance with Fijian yaws for seven years, that the disease is "modified syphilis allied to though not identical with the syphilis of Europe." He thinks that the syphilitic poison was introduced into the Fijian race—probably from Tonga—by early voyagers to the South Sea in the latter part of the eighteenth century, and there took on an epidemic character. In Scotland a disease named sibbens or sivvens, which was epidemic as late as the last century, is recognized by many authorities as syphilis. Coko or Fijian yaws is epidemic in Fiji and scarcely any native escapes the disease. It is usually contracted in infancy—between the ages of 6 months and 2 years—by actual contact with yaws-sores or it is possibly conveyed by flies. The commonest sites are the angles of the mouth and nose and the anal and vaginal margins. A few large isolated sores of a papular character like a mulberry appear. On mucous membranes the sore in no way differs from a syphilitic condyloma. Successive crops of minute roseolar papules, soon becoming vesicular, are formed. If the child survives he lapses into an anemic stage, pigmented scars being left. A stage of health then follows. From the age of 8 or 9 to 30 there is a "late stage" of the disease. Circular punched-out ulcers are formed, especially on the legs. The general health becomes again affected, and anemia sets in. Periosteal nodes on the legs, ribs, forearms, face and forehead are common. In severe cases the whole shaft of a long bone is involved in periostitis, producing deformities which are common among the Fijians. They have a special name for the deformity: "*A tamata seleva*" from the shape of the bone resembling the curve of a cutlass. It is interesting, in this connection, that the French speak of the sabre-shaped tibia of syphilis. Serpiginous ulceration of the mucous membranes may ocur, producing hideous deformity. There may be deep ulcerations on the body and limbs, rhagades of the hands and feet, and palmar and plantar psoriasis. Abortion is very common in Fijian women and is principally due to yaws. Extensive ulceration of the nose and throat, with bone destruction, may take place. When the Indian coolie or Europeans contract yaws the disease is not distinguishable from syphilis. Evidences of hereditary syphilis are rare, perhaps because severely syphilized children are still-born. But typical cases showing Hutchinson's teeth, Parrot's nodes, etc., are occasionally seen. Syphilis and yaws appear to be mutually protective against one another. Mr. Finucane has never been able to obtain a history of previous syphilis in an Indian who contracted yaws, nor of one who contracted yaws suffering subsequently from syphilis. Syphilis as seen in Europeans is extremely common in the Indian coolies of Fiji. Fijian plantation laborers frequently have intercourse with Indian coolie women, among whom syphilis is common, yet Mr. Finucane has never seen or heard of a primary sore in a Fijian. He suggested that as the colonial office is now sending out malaria commissions it should not overlook the subject of yaws, and that a commission of skilled dermatologists should be sent out to settle the question of the nature of the disease and the means of mitigating it.

## Association News.

**Hotel Accommodation at the St. Paul Meeting.**—St. Paul will be able to care for the visiting physicians at the meeting of the AMERICAN MEDICAL ASSOCIATION without trouble, and we can assure all who attend comfortable and convenient quarters. The headquarters of the ASSOCIATION will be at the Ryan Hotel, a large and excellently equipped hostelry, with well-lighted and roomy apartments, modern plumbing, tasteful furnishings, and a cuisine which will satisfy the taste of the most exacting. Spacious quarters have been set aside for the officers of the ASSOCIATION, and the beautiful lobby will prove a favorite meeting place for the members. In the adjoining building, the Ryan Annex, space has been provided for the bureau of registration, exhibits, and assembly rooms for the pathological and other Sections. Within half a block is the Metropolitan Opera House, where the general meetings will be held, and the assembly rooms of the various sections will be within a radius of four blocks of the hotel. Street-cars on all lines pass the door at intervals of from two to five minutes, by means of which all parts of the city will be accessible. The Aberdeen Hotel is a beautiful hostelry of modern construction, situated in the residence district, three-quarters of a mile from the Ryan, and easily accessible by street-cars which run at intervals of three minutes. It is beautifully furnished, the rooms large and commodious and the cuisine unsurpassed by any hotel in the country. The Aberdeen is especially desirable for those members who expect to bring ladies with them, as it is free from the objection of the noise and dust of the center of the city, and is convenient to the homes which will be thrown open by the hospitality of the ladies of St. Paul. It is expected that this hotel will be largely occupied by those members who will bring their families with them. The Merchants' Hotel is situated within two blocks of the Ryan and will accommodate several hundred guests. It has been refitted and refurnished throughout and is in every way desirable. It is famous for its hospitality and will be found to be comfortable and attractive in every respect. The Windsor and the Metropolitan hotels are large modern ones, conducted either on the American or European plan, and will accommodate about 400 guests each. They are situated in the business center of the city, convenient to all assembly halls and street-cars. The rooms are comfortable, beautifully furnished and their table service is unsurpassed. As auxiliary to the above list are the Clarendon, Colonnade and the Astoria hotels, which are comfortable, and in every way desirable, although the rates are somewhat less than at the larger hotels. It is expected that many members will take quarters by preference at these hotels, as they are much quieter and more free from the turmoil of convention time than other more crowded hostelries. In addition, the Minnesota Club and other similar institutions will throw open their doors for the accommodation of guests. At all the hotels many reservations have already been made and the choice rooms are being picked out by those who write early for accommodations. No favoritism is being shown, and the old rule, "first come, first served," will be observed in the reservation of rooms. In regard to rates at hotels, an arrangement has been made that in no case shall the charges be more than the customary and usual rates. It is to be observed, however, that as it will be necessary to accommodate a large number of people, it will be impossible to give to one person quarters that usually accommodate two people without charging him the rate for two. Any one desiring a room which has two beds will be required to pay for two persons, but can, without extra charge, share his quarters with a friend and thus lessen the expense. It is expected that there will be at St. Paul more people than can be accommodated at the hotels without overcrowding, and the Committee has arranged that many private houses will be opened to receive such guests. At the depot and hotels members of the Committee will be stationed with a corps of messenger boys and when comfortable quarters can not otherwise be secured, the guest will be sent in company with a messenger to comfortable rooms in the residence portion of the city. By this arrangement no one will have to wait for accommodations, but every guest who can not be accommodated at the hotels will be at once shown to pleasant and comfortable rooms in the various apartment houses and homes of the city. It is desired by the Committee that such of the members as intend to come to St. Paul shall write without delay to the Chairman of the Committee on Hotels, Dr. Arthur Sweeney, stating the number of persons in the party and the character of accommodation desired. By this method definite reservations of rooms can be made, the details of price and location settled, and on the arrival the physician thus provided for can be shown to his room without delay. In addition to the above-named hotels St. Paul's sister city, Minneapolis, taking thirty to forty minutes by electric cars, has many magnificent hotels.—J. FULTON, Chairman of Committee of Arrangements.

**The St. Paul Meeting.**—The Committee of Arrangements reports that it has arranged for the entertainment of the ASSOCIATION members in a manner that will be pleasant to all. On Tuesday evening the customary section banquets will take place, and these will be as attractive as possible. On Wednesday evening there will be an out-door promenade concert on Summit Avenue, one of the most beautiful residence streets in the world, and which will be quite generally illuminated. A number of private receptions will be given and the entertainment as a whole will be a very attractive one. Later in the

same evening a "smoker" will be given at the Ryan Hotel. On Thursday evening a ball and promenade will be given on the grounds of the University of Minnesota, with dancing in the Armory. The grounds of the university will be illuminated and various buildings be thrown open. Special cars will be provided for taking the guests from St. Paul to Minneapolis and return. On Friday evening the special train for the Yellowstone Park will leave. There is a large general committee of the ladies of St. Paul who have arranged for a number of entertainments and excursions to take place during the mornings and afternoons of the meeting, but the details have not yet been definitely decided. The weather in St. Paul is always fine during the first week in June, and there is every reason to believe that everything possible will be done for the convenience and pleasure of all who attend the meeting.

**To Commemorate Invention of Ophthalmoscope.**—At the last meeting of the ophthalmic Section of the American Medical Association, the undersigned were appointed a committee to arrange exercises, etc., at the coming meeting in St. Paul, to commemorate the fiftieth anniversary of the invention of the ophthalmoscope. The Committee is preparing an historical exhibit of ophthalmoscopes and is endeavoring to secure such older models as they can borrow. Due credit will be given.—Harry Friedenwald, M.D., 1029 Madison avenue, Baltimore; Casey A. Wood, M.D., Chicago.

**Election of Delegates.**—The Medical Society of Northampton County, Pa., at its annual meeting, elected the following delegates to the American Medical Association: Dr. Albert A. Seem, Bangor; Dr. John C. Keeler, Windgap; Dr. William H. Dudley, Easton; Dr. Henry D. Miehler, Easton; Dr. E. Wallace Richards, Easton; Dr. Samuel S. Appel, Easton; Dr. Charles McIntire, Easton, and Dr. William P. Walker, South Bethlehem.

**Minnesota State Medical Society.**—Through an oversight the Minnesota State Medical Society was omitted from the list of affiliated societies published last week.

## Section Programs for the St. Paul Meeting.

### Section on Obstetrics and Diseases of Women.

Progress in Gynecology and Obstetrics. Henry P. Newman, Chicago.

Indication for Vagino-abdominal Hysterectomy. Rufus B. Hall, Cincinnati, Ohio.

Electrothermic Hemostasis in Abdominal and Pelvic Surgery. A. J. Downes, Philadelphia.

The Advantages and Disadvantages of Drainage After Abdominal Surgery. Hunter Robb, Cleveland, Ohio.

The Uses and Abuses of Morphin in Abdominal Surgery. L. H. Dunning, Indianapolis, Ind.

Bladder and Ureteral Surgery. Howard Kelly, Baltimore, Md.

The Relative Merits of the Different Methods of Uretro-ureteral Anastomosis. J. Wesley Bovée, Washington, D. C.

Results, Immediate and Remote, of Conservative Surgery. A. Goldspohn, Chicago.

Fibroid. Thomas S. Cullen, Baltimore, Md.

The Complication and Degeneration of Fibroid Tumors, as Bearing on Treatment of These Growths. Chas. P. Noble, Philadelphia.

How Shall We Deal with Uterine Myomata. E. E. Montgomery, Philadelphia.

Contributing Factors in the Production of Peritonitis. J. D. Clark, Philadelphia.

Enterostomy in the Treatment of Diffused Peritonitis. W. E. B. Davis, Birmingham, Ala.

A Case of Streptococcus Infection Following Labor; Operation; Recovery. W. H. Humiston, Cleveland, Ohio.

Carcinoma of the Uterus. J. M. Baldy, Philadelphia.

The Accidents and Complications of Pelvic Surgery and Their Treatment. John B. Deaver, Philadelphia.

Treatment of Posterior Displacement of the Uterus. Augustin H. Goelet, New York City.

Surgical Treatment of Retroversion of the Uterus. Franklin H. Martin, Chicago.

A New Operation for Retrodisplacement of the Uterus. Emil Ries, Chicago.

Atresia Hymenalis. O. Thienhaus, Milwaukee, Wis.

Causes of the Increasing Sterility of American Women. George J. Engelmann, Boston.

Treatment of Incomplete and Inevitable Abortion. J. Clarence Webster, Chicago.

Position of Patient During Delivery. W. D. Porter, Cincinnati, Ohio.

Asepsis in Midwifery. E. Gustave Zinke, Cincinnati, Ohio.

The Indication and Contraindications for the Use of the Curette in Obstetric Practice. Henry D. Fry, Washington, D. C.

Puerperal Asepsis. John F. Moran, Washington, D. C.

Obstetrics as a Specialty. Joseph Price, Philadelphia.

The Advantage of Drill upon the Manikin. Eliza H. Root, Chicago.

Cesarean Section as a Method of Treatment for Placenta Previa. W. J. Gillette, Toledo, Ohio.

Pregnancy Following Ventro-snspension of the Uterus, Reuben Peterson, Chicago.

Puerperal Eclampsia: Its Etiology and Treatment. T. J. Beattie, Kansas City, Mo.

### Section on Nervous and Mental Diseases.

Titles for additional papers sufficient to complete the program up to thirty, according to the Constitution of the Association, with short abstracts, should be sent to the Secretary before May 1, 1901.

This program is not in the order in which it will finally appear, although the endeavor will be to place the papers in the order of reception as far as consistent with the proper arrangement of the list.

Any members desiring to attend the banquet of this Section, on the second evening of the meeting, will confer a favor by reporting early to the Secretary, 1407 Locust St., Philadelphia.

Chairman's Address. H. A. Tomlinson, St. Peter, Minn.

SYMPOSIUM ON SYPHILIS OF THE BRAIN.

(This symposium is arranged with especial reference to the needs of the general practitioner.)

Nervous Manifestations. Hugh T. Patrick, Chicago.

Mental Manifestations. Richary Dewey, Wauwatosa, Wis.

General Pathology of Nervous Syphilis. F. W. Langdon, Cincinnati, Ohio.

The Specific and Non-specific Lesions Resulting from Syphilis, and Their Influence upon Diagnosis, Prognosis and Treatment. J. T. Eskridge, Denver, Colo.

Etiology of Paretic Dementia. Frank P. Norbury, Jacksonville, Ill.

Symptomatology of Cerebral Hemorrhage. F. Savary Pearce, Philadelphia.

Treatment of Cerebral Hemorrhage. D. R. Brower, Chicago.

The Virile or Genesiac Reflex as Pudic Nerve Innervation Phenomena. C. H. Hughes, St. Louis, Mo.

A Case of Alexia Caused by a Bullet Wound with Successful Location and Removal of the Latter. G. W. McCaskey, Fort Wayne, Ind.

What Can Be Done for the Epileptic in a Medical Way. R. H. Porter, Chicago.

The Treatment of the Acute Psychoses in Private Practice. C Eugene Riggs, St. Paul, Minn.

Title to be announced. A. J. Pressey, Cleveland, Ohio.

Title to be announced. Curran Pope, Louisville, Ky.

Treatment of Neurasthenia. J. G. Biller, Cherokee, Iowa.

Title to be announced. Henry Waldo Coe, Portland, Ore.

Three Cases of Paralysis of the Serratus Magnus (Posterior Thoracic Nerve)—Alar Scapula. Augustus A. Eshner, Philadelphia.

Mirror Writing and Inverted Vision. Albert B. Hale and Sidney Kuh, Chicago.

Fear as an Element of Nervous Diseases and Its Treatment. John Punton, Kansas City, Mo.

A Case of Localized Amnesia with Remarks Thereon. Edward E. Mayer, Pittsburg, Pa.

Incipient Amyotrophic Lateot Sclerosis with Recovery. Persistent Brachial Neuralgia from the Hypodermic Needle. Leo. M. Crafts, Minneapolis, Minn.

Injuries, Feigned and Real, with Their Differentiation and Medicolegal Aspect. Lambert Ott, Philadelphia.

Space Neuroses. John E. Purdon, Turlock, Cal.

### Section on Stomatology.

Chairman's Address. R. R. Andrews, Cambridge, Mass.

SYMPOSIUM ON STATE BOARDS OF DENTAL EXAMINERS IN THEIR RELATION TO THE PROFESSION AND THE COLLEGES.

Methods of Appointment: 1. By State Universities—New York. 2. By State Boards of State Officials ex-officio, Nebraska. 3. By Governors on Recommendation of the Profession. William Carr, New York City.

Revenue for conducting the Work of the Boards of Examiners: 1. By Taxation of the People. 2. By Fees from Examination of Candidates. 3. By Taxation of the Profession. George L. Parmele, Hartford, Conn., and V. E. Turner, Raleigh, N. C.

The Dental College Standard: 1. Is it What it Should Be? 2. If Not, What Improvements Should Be Made? 3. How May the Requirements be Improved? Charles Chittenden, Madison, Wis.

Licensing: 1. By Examination. 2. By Diploma. J. A. Libby, Pittsburg, Pa.

SYMPOSIUM ON DEGENERACY OF THE PULP.

Preliminary Work. Eugene S. Talbot, Chicago.

Literature of the Pulp. Vida A. Latham, Rogers Park, Ill.

Cutting, Staining and Mounting. Martha Anderson, Moline, Ill.

Local Anesthesia. A. H. Peck, Chicago.

A Remedy for Certain Injustice Both to the Insured and the Company. W. E. Walker, Pass Christian, Miss.

Periods of Stress and their Dental Marks. Jas. G. Kiernan, Chicago.

Surgical Treatment of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.

Infectious Diseases. Alice Steeves, Chicago.

Simple Gingivitis. Geo. T. Carpenter, Chicago.

Military Dental Practice, Its Modifications and Limitations. Henry D. Hatch, New York City.

The Tongue as a Breeding Place for Bacteria. M. H. Fletcher, Cincinnati, Ohio.

Pathology of the Alveolar Process. Eugene S. Talbot, Chicago.

Tuberculosis of the Alveolar Process and Surrounding Tissues and a Few Methods of Differential Diagnosis. V. A. Gudex, Milwaukee, Wis.

## Married.

NELSON H. HENRY, M.D., to Mrs. Sarah Sloan, both of New York City.

WADE THRASHER, M.D., to Miss Olive Schmuck, both of Cincinnati, April 3.

EDWARD H. ABBOTT, M.D., to Miss Ethelyn Wells, both of Elgin, Ill., April 3.

P. C. BARNARD, M.D., to Miss Aggie Leslie, both of Indianapolis, Ind., April 5.

GEORGE W. HARRINGTON, M.D., to Miss Lizzie Williams, both of Hazleton, Pa., April 9.

H. E. MCLENNAN, M.D., Bay Mills, Mich., to Miss Camilla Knaggs, Bay City, Mich., April 3.

JOHN B. REYNOLDS, M.D., St. Joseph, Mo. to Miss Lula Moore, Platte City, Neb., April 10.

JOSEPH S. DEMAREE, M.D., Mackville, Ky., to Miss Eva Hatchett, Springfield, Ky., April 2.

EDWARD VERNON SILVER, M.D., to Miss Bessie M. Larson, both of Salt Lake City, Utah, April 3.

MARTIN A. ROBINSON, M.D., Victor, Colo., to Miss Aurora Catlett Horn, Hernando, Miss., April 18.

JOHN HERBERT CLAIBORNE, JR., M.D., to Miss Marie Louise Claiborne, both of New York City, at New Orleans, April 16.

GEORGE G. WENRICH, M.D., Grand View Sanatorium, Wernersville, Pa., to Miss Anna May Coar, New York City, March 6.

## Deaths and Obituaries.

**William Jay Youmans, M.D.**, New York University, 1865, died at his home in Mt. Vernon, N. Y., April 10, aged 62 years. After instruction under Professor Huxley he returned from Europe and finally settled in Minnesota, where he passed three years in the practice of medicine. After coming to New York he devoted most of his life to the *Popular Science Monthly*, of which, after the death of his brother, Dr. E. L. Youmans, he became chief editor. His preferences were always in the direction of chemistry and natural science.

**John H. Grove, M.D.**, University of Pennsylvania, Philadelphia, 1849, died April 6, in Philadelphia, where for many years he had been connected with St. Agnes and St. Mary's hospitals. He was made a brevet lieutenant colonel for distinguished service in the Union military hospitals during the Civil War. He was a member of the AMERICAN MEDICAL ASSOCIATION, Association of Military Surgeons of the United States, and of local medical societies.

**Albert Edgar Summers, M.D.**, Jefferson Medical College, Philadelphia, 1848, died at Charleston, W. Va., April 1, from pneumonia, after a short illness, aged 57. He was a private pupil of Dr. Goss, had charge of a Union army hospital at Charleston during the Civil War, and had been both speaker of the House of Delegates and president of the Senate of the state.

**John Ferguson, M.D.**, College of Physicians and Surgeons, New York, 1855, who had practiced in Manchester, N. H., for forty years, with the exception of the period of the Civil War, when he was surgeon-major of the Tenth New Hampshire Volunteers, died at his home in Manchester, April 6, from paresis, after an illness of two years, aged 71.

**William F. McClelland, M.D.**, Jefferson Medical College, Philadelphia, 1859, who had lived in Denver since 1862, and who was a pioneer in the study of the climatic influence of Colorado on pulmonary disease, died at his home in Denver, April 12, aged 80.

**James C. Larsh, M.D.**, University of Maryland, Baltimore, 1842, died in Baltimore, April 3, from paralysis, aged 80. For forty years he practiced at Reisterstown, retiring and moving to Baltimore about eighteen years ago.

**John Ambrose McKinley, M.D.**, Northwestern University Medical School, Chicago, 1894, died from tuberculosis, at El Paso, Texas, where he had gone in search of health, March 8, after an illness of one year.

**George L. Gurney, M.D.**, Medical School of Maine, Brunswick, 1879, died at his home in St. Paul, Minn., April 6, aged 47 years.

**Merritt H. Chandler, M.D.**, University of Vermont, Burlington, 1869, died at his home in Woodstock, Vt., April 6, after an illness of three months, from Bright's disease, aged 56.

**John R. Kirkland, M.D.**, University of Pennsylvania, Philadelphia, 1859, died from angina pectoris after an illness of five days, at his residence in Meridian, Miss., April 5, aged 66

**Columbus C. Wright, M.D.**, Ohio Medical University, Columbus, 1897, died April 6, at his home in Columbus, from pulmonary tuberculosis, after a long illness, aged 24.

**Charles H. Dana, M.D.**, Jefferson Medical College, Philadelphia, 1851, of Tunkhannock, Pa., died after a long invalidism from paralysis, at Bartow, Fla., March 25.

**Wilson A. Smith, M.D.**, University of Cincinnati, Ohio, 1888, died at his home, in Middlebourne, W. Va., March 23, from consumption, after a long illness.

**T. S. Stewart, M.D.**, retired, one of the oldest and most esteemed citizens of Marietta, Ga., died at that place, April 4, after a short illness, aged 84.

**W. B. Harlan, M.D.**, University of Louisville, 1853, died at his home near Danville, Ky., April 6, after an illness of several months, aged 72.

**Louis T. Dawson, M.D.**, University of Tennessee, Nashville, 1886, died at his home in Cub Run, Ky., March 29, from typhoid fever, aged 36.

**George Perry Jones, M.D.**, University of Maryland, Baltimore, 1865, died from apoplexy at his home in East Newmarket, Md., April 2, aged 55.

**Albert E. Kelley, M.D.**, New York University, 1891, a practitioner of South Butler, N. Y., died at Newark, N. Y., April 2, after a short illness.

**Vincenzo Centaro, M.D.**, University of Naples, Italy, 1880, who had practiced medicine in Chicago for about eight years, died April 15, from congestion of the brain.

**Henry H. De Beck, M.D.**, University of Vermont, Burlington, 1881, died after a long illness at his home in Winn, Maine, March 23.

**Colon C. Watson, M.D.**, Rush Medical College, 1878, died at his home in Crystal Lake, Ill., March 20, aged 45.

**William P. Smith, M.D.**, Rush Medical College, Chicago, died April 5, after an illness of five years, aged 50.

# Miscellany.

## Report of Special Commission on the Plague in San Francisco.

| No. | Name. | Age, Sex and Color. | Place of Death. | Date of Death, 1900. |
|---|---|---|---|---|
| 1 | Wing Chut King | 41, M., Mong. | 1001 Dupont | March 6. |
| 2 | Chu Gan | 22, " " | 723 Sacramento | " 15. |
| 3 | Ng Ach Ging | 37, " " | 905 Dupont | " 17. |
| 4 | Lee Sun King | 47, " " | Oneida Place | " 18. |
| 5 | Law An | 38, " " | St Louis Alley | April 24. |
| 6 | Lim Fa Muey | 16, F., " | 739 Clay Street | May 11. |
| 7 | Chu Sam | 38, M., " | 717 Jackson | " 11. |
| 8 | Chin Moon | 16, F., " | 730½ Commercial* | " 13. |
| 9 | Herr Woon Jock | 53, M., " | 740 Pacific | " 14. |
| 10 | Dang Houg | 40, " " | 706 Pacific | " 29. |
| 11 | Chen Kney Kim | 49, " " | 819 Clay | June 2. |
| 12 | Jay Man Tong | 60, " " | 759 Clay | " 9. |
| 13 | Lee Wing Tong | 40, " " | 767 Clay* | July 6. |
| 14 | William Murphy | 34, " White | Pacific Hospital* | August 11. |
| 15 | Ham Tan | 29, " Mong. | 900 Dupont | " 15. |
| 16 | Lea Do Hen | 50, " " | 710½ Dupont | October 5. |
| 17 | Chun Yen | 37, " " | 767 Clay | " 10. |
| 18 | Taik Dong Leong | 39, " " | 705 Clay | " 14. |
| 19 | Young Moon Li Chee | 30, F., " | 802 Dupont | " 31. |
| 20 | Young Wah Noui | 9, " " | 802 Dupont | November 1. |
| 21 | Anne Roede | 28, " White | Pacific Hospital* | " 3. |
| 22 | Lee Ho | 30, M., Mong. | 844 Washington | December 7. |
| 23 | Chun Wey Lung | 60, " " | 720 Jackson (1901) | January 6. |
| 24 | Leam Wing Low | 59, " " | 833½ Clay | " 15. |
| 25 | Angela Colombo | " White | 5 Lafayette Place* | " 15. |
| | (Following observed by Commission.) | | | |
| 26 | Chun Ah Chou | 44, M., Mong. | 814 Washington | February 5. |
| 27 | Lum Hong Yuen | 37, " " | 28 Ross Alley | " 6. |
| 28 | Wong Chi Lin | 50, " " | 15½ Waverly | " 7. |
| 29 | Tom Shom | 51, " " | 814 Washington | " 10. |
| 30 | Ng Ah Back | 45, " " | St Louis Alley | " 11. |
| 31 | Foong Ah Feng | 12, F., " | 747 Sacramento St | " 12. |

To Surgeon-General Wyman, Marine-Hospital Bureau,

Department of the Treasury, Washington, D. C.

*Sir:*—The special Commission appointed by the Honorable, the Secretary of the Treasury, for the purpose of ascertaining the existence or non-existence of bubonic plague in San Francisco, or other ports or places in the state of California under instructions furnished by the Surgeon-General of the United States Marine-Hospital Service begs leave to submit the following report:

In accordance with instructions received, the members of the Commission proceeded as early as possible to San Francisco, one of them (Dr. Barker) arriving on Friday, Jan. 25, 1901, the other two (Dr. Flexner and Dr. Novy) on Sunday, January 27.

The first formal meeting of the Commission was held at the Occidental Hotel shortly after the arrival of all the members. At this meeting it was decided, in accordance with your instructions, to call and pay our respects to the Honorable, the Governor of the state, to place ourselves in communication with the local authorities in order to obtain facilities for the examination of the sick and dead in Chinatown, or elsewhere should suspected cases arise, and to arrange for a laboratory in which pathological and bacteriological examinations could be undertaken.

Owing to the miscarriage of a letter sent to the Commission by the Honorable, the Governor of the State, the call of your Commissioners upon him was delayed until Saturday, February 16. On this date, however, they had the privilege of paying their respects to the Governor and of informing him of their orders. The Governor received your Commissioners most courteously and stated that the authorities in California desired to facilitate by every means in their power the investigation concerned.

A call was also made upon the mayor of the city of San Francisco and upon the President of the City Board of Health, both of whom offered to aid in any way possible to them the work of your Commissioners. The City Board of Health supplied the Commission with a map of Chinatown, on which were charted the location of cases which the Board had examined and regarded as plague.

During the first fifteen days of our visit, a bureau was opened in the Occidental Hotel; the Commission met at 11 o'clock daily, and it was announced in the press that its members would be glad to confer with any one who had information to give with regard to the existence or non-existence of plague in the city. In addition, letters were sent to a number of physicians in town requesting an interview. The majority of those written to responded; opinions were divided, some of the physicians being confident that plague existed, others being sure that the disease was not here. The establishment of this bureau proved to be of great service, not so much in affording us information about plague, as in putting us into relation with the medical and business interests of the city. Through it, a plan of work became easy to formulate; through it we learned how to gain access to the sick and dead Chinese and how to proceed without exciting the opposition or suspicion of those among whom we were to work.

The representatives of the principal commercial interests of the city of San Francisco, including the Merchants Association, the Manufacturers and Producers Association, the Board of Trade, the Pacific Coast Jobbers and Manufacturers Association, the Chamber of Commerce, the Pacific Mail Steamship Company, and the Southern Pacific Railway called upon the Commission, welcomed them to California and offered their aid. Through the courtesy of Colonel Mendel, Room 161 of the City Hall, previously used as a license office, was put at the disposal of the Commission. It was fitted out as a laboratory, the outfit being purchased new in San Francisco.

### Inspections of the Chinese Sick and Dead.

The attorney of the Chinese Consolidated Benevolent Associations (ordinarily known as the Chinese Six Companies) advised the Chinese to co-operate with the Commission. As a result, proclamations were issued ordering the Chinese to report all cases of sickness and death, no matter what the cause, to the offices of the Chinese Six Companies in order that daily inspections might be made. Mr. Wong Chong, the secretary of the Six Companies, accompanied a member of the Commission (Barker) daily to each house whence a report had been made, aided in finding the cases, acted as interpreter, and assisted in obtaining the necessary histories. It is believed by the members of the Commission that the Chinese Six Companies acted in good faith and that they made every attempt to give access to the sick. Certain cases of sickness, it is true, were not reported and were not known of until the dead bodies were found, but this, it is believed, was due to negligence on the part of the Chinese concerned rather than to any attempt at concealment.

The daily inspections of the sick and dead permitted of observations relative to the mode of life of the people in the fourteen blocks of San Francisco which makes up "Chinatown." These observations were extended by special trips of inspection under the guidance of officers of the city detective force and by numerous independent trips of inspection made by your Commissioners.

The dwellings of the poorer classes of Chinese were found to be here, as they seem to be everywhere, shockingly unsanitary. In places there is marked overcrowding; the rooms are small, they are often entirely devoid of light or means of ventilation, and nearly always insufficiently lighted and ventilated; many of them are filthy; some of them, especially those situated in basements, are damp and emit a foul stench. These faults in sanitation are not confined to the tenement houses of the Chinese; on the contrary, in the rear of, or over or under some of the more pretentious business buildings are to be found sleeping and living apartments which are most objectionable from a sanitary point of view.

The Chinese in San Francisco are, however, in many respects much better off than are their countrymen in great native centers like Canton or even than those in a city like Hongkong. There is almost an entire absence of the utter destitution met with among so many of the Chinese in Asia; the Chinese in San Francisco are, on the whole, very well fed, for wages are high and food is abundant and cheap. They are also well clothed as a rule and particular emphasis is to be laid upon the fact that the Chinese here wear shoes, stockings and trousers, since it is believed by many that the bare legs and feet of the Chinese in Hongkong and Canton had much to do with the frequency of infection with plague in those places.

A large percetage of the Chinese in San Francisco, it is said, smoke opium. There are a number of Chinese proctitutes, but inspection of the quarters occupied by the latter would indicate that the rooms in which they live are on the whole more wholesome as regads air space, light, ventilation and cleanliness than those of the other inhabitants of the district.

On Wednesday, Feb. 6, 1901, systematic daily rounds of visits were made by one of the Commissioners in company with Mr. Wong Chung to the rooms of the sick as reported each day to the offices of the Chinese Six Companies. Rapid clinical examinations were made and notes kept of the results.

* Particular places of death of following numbers was as follows: No. 8, Pacific Hospital, Stockton and Chestnut Streets; No. 13, City and County Hospital; No. 14, City and County Hospital; No. 21, Children's Hospital, 3700 California Street. No. 25, City and County Hospital.

A number of the cases met with were obviously instances of advanced tuberculosis; others were affected with various chronic diseases, such cases being of no interest for the investigation was made only once. When patients were found who presented symptoms which were suggestive of plagne a careful examination was made; in doubtful cases, the first visit was followed by others and the progress of the illness carefully watched. These regular visits of daily inspection were maintained until Feb. 16, 1901, during which period a sufficient number of instances had been observed to permit your Commissioners to conclude beyond possible doubt that cases of bubonic plague were occurring among the Chinese.

Inspections of the dead in Chinatown were made also daily by the same member of the Commission, beginning Feb. 5, 1901. Access to the dead was gained in two ways. In the first place the assistant city physician, Dr. F. P. Wilson, makes the rounds of the undertaking establishments in Chinatown each forenoon. He inspects the bodies of the dead and where necessary advises a pathological and bacteriological examination by Dr. Kellogg, the bacteriologist of the City Board of Health. Permission was obtained from these gentlemen for the making of simultaneous and independent inspections and of pathological and bacteriological examinations by the Commission.

A second mode of access to the dead was that afforded by the reports made by the Chinese directly to the offices of the Six Companies. By this mode, it was in some instances possible to learn of the death of individuals and to make inspections of bodies before the city officials were informed of them.

*(To be continued.)*

# Societies.

## COMING MEETINGS.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
Texas State Medical Association, Galveston, April 23, 1901.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.
American Gastro-Enterological Association, Washington, D. C., May 1, 1901.
Kansas Medical Society, Pittsburg, May 1-3, 1901.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

**German Dermatological Congress.**—This Congress will meet in Breslau, May 28-30.

**Gloucester (Mass.) Medical Club.**—At the annual meeting of this Club, April 4, Dr. Edward S. Eveleth was elected president and Dr. Percy C. Procter, secretary and treasurer.

**Pennsylvania Society for the Prevention of Tuberculosis.**—At the annual meeting of this Society, held on April 10, in Philadelphia, Dr. Guy Hinsdale was elected president, and Dr. Alex. Heron Davisson, secretary.

**Paducah (Ky.) Medical and Surgical Society.**—This Society held its meeting for the annual election of officers, April 3, and elected Dr. Charles H. Brothers, president; Dr. Delia Caldwell, secretary, and Dr. Horace T. Rivers, treasurer.

**Everett (Mass.) Medical Society.**—The annual meeting of this Society was held March 27, and Dr. E. Cazneau Newton elected president; Dr. George E. Whitehill, vice president, and Dr. Belle D. Curtis, secretary and treasurer.

**San Diego County (Cal.) Medical Society.**—At the annual meeting of this Society, April 5, Dr. George Cleary was elected president; Dr. Eugene St. Clair Beadles, vice-president, and Dr. Thomas L. Magee, secretary and treasurer.

**Upper Des Moines Medical Association.**—At the semiannual meeting of this Association, at Estherville, March 28, Dr. Edmund D. Putnam, Lake Park, was elected secretary, vice Dr. Charles S. Shultz, of the same place, resigned.

**American Climatological Association.**—The eighteenth annual meeting of this Association will be held in Niagara Falls, N. Y., May 30, 31 and June 1, under the presidency of Dr. Robert H. Babcock, Chicago.

**Louisiana State Medical Society.**—The twenty-Second annual meeting of this Society will be held at the medical department of Tulane University, New Orleans, April 18 to 20, president Frederick W. Parham in the chair.

**Medical Society of the State of West Virginia.**—The thirty-fourth annual meeting of this Society will be held in Grafton, May 22 to 24. Dr. G. A. Aschman, Wheeling, secretary, requests that titles of papers be send to him before April 30.

**Nashville (Tenn.) Academy of Medicine.**—The annual meeting of the Academy took place April 2, and the following officers were elected: Dr. William D. Haggard, president; Dr. Carl C. Warden, vice president, and Dr. Deering J. Roberts, secretary.

**Kansas Medical Society.**—The thirty-fifth annual meeting of this Society will be held at Pittsburg, May 1 to 3, under the presidency of Dr. J. W. Porter, of that city. The physicians of the city will tender a banquet to the Society, May 3, at the close of the evening session.

**Clinton County (Iowa) Medical Society.**—At the quarterly meeting of this Society, held at Clinton, April 2, delegates were appointed to the state medical society, and Dr. F. A. Hohenschuh, Clinton, was elected secretary to succeed Dr. David T. Nicoll, removed to Clarence.

**West Tennessee Medical and Surgical Association.**—This association will hold its tenth annual session at Jackson, Tenn., May 2 and 3, instead of the usual time, the last of May. The change is made on account of the nearness of the time of the meeting of the AMERICAN MEDICAL ASSOCIATION.

**Whatcom County (Wash.) Medical Association.**—The physicians of the county met at Whatcom, March 30, and organized this association, with the following officers: Dr. Hays A. Compton, Fairhaven, president; Dr. Euclid Vanzandt, New Whatcom, vice-president, and Dr. Joseph F. Cross, New Whatcom, treasurer.

**McLean County (Ill.) Medical Society.**—At the annual meeting of this Society, at Bloomington, April 4, the following officers were re-elected. Dr. Charles E. Chapin, Bloomington, president; Dr. William R. Shinn, Chenoa, vice-president; Dr. Franklin C. Vandervort, Bloomington, secretary, and Dr. Ernest Reedy, treasurer.

**International Association of Railway Surgeons of the United States, Canada and Mexico.**—The executive board of this Association has decided that the next annual convention shall be held in Milwaukee, Wis., June 10 to 12. The local committee of arrangements consists of Drs. Harry A. Sifton, Solon Marks and William Mackie.

**Cuyahoga County (Ohio) Medical Society.**—The annual meeting of this Society occurred at Cleveland, April 4. The election of officers resulted in the choice of Dr. Carl A. Hamann, president; Drs. Charles C. Stuart and Leroy S. Chadwick, vice-presidents; Dr. Frederick C. Herrick, secretary, and Dr. Charles G. Foote, treasurer, all of Cleveland.

**Canadian Medical Association.**—The annual meeting of the Canadian Medical Association will be held in Winnipeg, Manitoba, August 28-31, under the presidency of Dr. Henry H. Chown, of that city. Special arrangements have been secured from the Canadian Pacific Railway for trips there and to other parts of the northwest as well as to the Pacific Coast.

**Howard County (Ind.) Medical Society.**—This Society, at its annual meeting, held in Kokomo, April 4, elected Dr. S. Roscoe Chancellor, Kokomo, president; Dr. Daniel C. Peters, Greentown, vice-president; Dr. William Harrison, Kokomo, secretary, and Dr. J. McLeon Moulder, Kokomo, treasurer. Delegates to the state society and the AMERICAN MEDICAL ASSOCIATION were also elected.

**Medical Society of the State of North Carolina.**—The annual meeting of this Society will be held in Durham, May

21 to 23, under the presidency of Dr. Julian M. Baker, Tarboro. Dr. Earle Grady, Tryon, will deliver the oration, and Dr. Robert S. Primrose, Newbern, the essay. The annual discussion will be led by Dr. David A. Stanton, High Point. Dr. Albert G. Carr, Durham, is chairman of the committee of arrangements.

**Southern Idaho Medical Association.**—The quarterly meeting of this body was held in Boise, April 4. The retiring president, Dr. Robert L. Nourse, Hailey, addressed the Society on "How Can We Best Secure the Enforcement of the Medical Laws of Idaho?" Dr. Lucien P. McCalla, Boise, was elected president; Dr. Ed. E. Maxey, Caldwell, vice-president, and Dr. Hubert A. Castle, Pocatello, secretary.

**Tennessee State Medical Society.**—At the sixty-eighth annual meeting of this Society, at Nashville, April 10, the following officers were elected: Dr. Deering J. Roberts, Nashville, president; Drs. James B. Murfree, Jr., Murfreesboro, L. A. Yarbrough, Covington, and William B. St. John, Bristol, vice-presidents; Dr. A. Bennett Cooke, Nashville, secretary, and Dr. William C. Bilbro, Murfreesboro, treasurer. Memphis was selected as the next place of meeting.

**Medical Association of the District of Columbia.**—The annual meeting of this Association was held in Washington, April 2. The following officers were elected: Dr. H. L. E. Johnson, president; Drs. George C. Ober and William H. Fox, vice-presidents; Dr. Monte Griffith, secretary, and Dr. Frank Leech, treasurer, all of Washington. Delegates were also elected to the American Medical Association, and Dr. G. Wythe Cooke was designated to confer with the Association on state organization.

**Hornellsville (N.Y.) Medical and Surgical Association.**—The annual meeting and dinner of this Association occurred at the Steuben Sanatorium, April 1. Dr. Charles O. Green was elected president; Dr. Charles M. Brasted, vice-president, and Dr. Ray G. Lawrence, secretary and treasurer. After the president's address, Dr. William S. Ely, Rochester, read a paper entitled "Some of the Certainties and Uncertainties in Medicine," and Dr. Floyd S. Crego, Buffalo, discussed "Some of the Improvements in Medicine and Their Relation to Nervous Diseases."

**New London County (Conn.) Medical Society.**—The one hundred and tenth annual meeting of this Society was held at Norwich, April 4. The Society adopted a resolution that it supports and urges the passage, with such modifications as may seem best, of the bill known as "An act to establish a state hospital in some suitable location for the treatment of incipient pulmonary tuberculosis and making an appropriation therefor. It also elected delegates to the American Medical Association and the following officers: Dr. Charles B. Graves, New London, president; Dr. Newton P. Smith, Norwich, vice-president, and Dr. Carlisle F. Farrin, New London, clerk.

**Colorado Medical Library Association.**—The eighth annual meeting of this Society was held at Denver, March 20. The secretary, Dr. Carroll E. Edson, reported that 770 volumes had been added to the library, and that donations had been received from the Denver and Arapahoe Medical Society, of $150; and from Dr. John Boice, of 200 bound volumes of periodicals. The president, Dr. Henry Sewall, spoke on the needs of the library. Dr. Leonard Freeman was appointed to consult with the authorities of the County Hospital regarding some arrangements whereby the resources of the Hospital for medical literature might be made available for the Association, and whether a fee on attendance on clinics could be collected from medical students, said fee to be applied to the purchase of medical journals. The election of officers resulted as follows: Dr. Charles D. Spivak, president; Dr. Edward Jackson, secretary and treasurer, and C. R. Dudley, librarian.

**Association of American Medical Colleges.**—The next regular meeting of this Association will be held at the Hotel Ryan, St. Paul, Minn., June 3, under the presidency of Dr. Albert R. Baker, Cleveland, Ohio. It will consist of an educational and a business session. The educational session will be opened at 2 p. m., by the president's address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are invited. The representatives and associates of the Association of Southern Medical Colleges have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 p. m., the business session will be held and the amendments to the Constitution, proposed by several colleges, considered. The report of the judicial council, the election of members and the election of officers for the succeeding year will close the program.

## CINCINNATI ACADEMY OF MEDICINE.

*Meeting held March 25.*

President Dr. N. P. Dandridge in the chair.

### A Case of Cerebral Abscess.

Dr. E. W. Mitchell reported that on January 27 he was called to see a well-developed and well-nourished boy of 13, who, three years ago, had suffered from a fracture of the right frontal bone which had been trephined and from which he had made an uneventful recovery. He had had no headaches since, was intelligent, and there could be said to have been no brain or mental symptoms up to the time of this last sickness. For two or three days previous to the time Dr. Mitchell saw him, he had complained of a cold, but this did not prevent him from taking part in the games and exercises of his friends. On the morning of the 27th, he complained of headache and pain at the root of the nose. He gradually grew worse during the day, developing fever and soreness of the throat. Dr. Mitchell saw him at 10 p. m., and found him unconscious, temperature 103, pulse 96, full and strong, respirations 30, pupils slightly contracted but reacting normally to light, heart normal, lungs normal except for some coarse mucous râles, pharynx congested and tonsils swollen; his bowels had moved twice during the day and he had vomited several times. He could be aroused slightly, responding to questions only in monosyllables, and again relapsing into stupor. The next morning he responded somewhat more readily to direct questions; temperature was 101, pulse 92; he had had a spasm at midnight and another at 5 a. m., the convulsions being general but most marked on the right side. After the second convulsion he had roused up sufficiently to answer questions. Kernig's sign was not satisfactorily obtained on account of voluntary resistance. He had no convulsions during that day, but remained in a slight stupor; toward evening a slight squint of the left eye was noted. On the morning of the third day slight opisthotonos was first noted; temperature 101, pulse 100; he had tossed restlessly in bed all night, but had no convulsions; some twitching of the right hand, arm and hand and great hyperesthesia were present; he did not answer questions, took nourishment well, and there was no vomiting. Kernig's sign was *present*. A positive diagnosis of meningitis was now made, but before operation could be performed, he was seized suddenly with a convulsion and died.

*Autopsy.*—This showed a depressed scar on the right frontal bone, corresponding to a depression on the inner table, quite healthy in appearance. The inner surface of bone was so smooth and so nearly normal in appearance that only by close inspection could the site of the trephining be discovered. By holding the bone between the eye and the light the outlines of the button could be nicely seen. From the lower margin of the button a very fine line extended downward for about three fourths of an inch, probably indicating the line of the old fracture. The dura was normal except for greatly distended blood-vessels. The pia over the right frontal and anterior half of the parietal lobe was covered by a layer of greenish-yellow lymph. In the superior frontal lobe was an abscess about as large as a navy bean and about an inch below the surface. The tissues between the abscess and the surface were softened and broken down. The central abscess cavity had the appearance of having a lining membrane. It would seem probable that at the time of the injury a small abscess had formed here, had become encysted, and had for three years produced no symptoms. Finally exposure and exertion had broken the limiting membrane, causing infection of the surrounding brain tissue and perforation to the surface where the fatal meningitis was excited.

### Scarlatina with Meningeal Symptoms.

Dr. W. D. Haines reported this case. A child, 2 years old, well developed and well nourished, had had an attack of pneumonia complicated with acute purulent otitis media, in March, 1900, and a slight purulent discharge from the right ear had continued up to the present time. The child was taken sick about 11 a. m. January 27, with vomiting. He saw her first about 2 p. m., and found her face flushed, breathing hurried

and of a peculiar intermitting type, pulse rapid, temperature 103, fauces injected, the tongue red and dry and a glandular enlargement of the neck. She was continually putting her fingers in her right ear. The fever remained in the vicinity of 103 or 104 for the next four days, but no rash appeared. She slept and ate fairly well. At about this time a few deeply injected macules about the size of a millet seed dotted the skin covering the anterior aspect of the knee-joint. The urine was loaded with albumin and phosphates and grave uremic symptoms began to make their appearance (third day). On the morning of the fifth day a faint rash appeared. The duration of the rash was one day and followed by extensive desquamation, considering the very slight manifestation of the rash. With the desquamation the temperature began to subside, then started to rise rapidly in the next twenty-four hours, reaching 106. This was undoubtedly due to an acute follicular tonsillitis. Respirations now increased to 40 a minute and the pulse to 160. On the seventh day ptosis of the right eye appeared, with contraction of the pupil; on the left side was noted a divergent squint. There was slight tendency to opisthotonos. Large rose-colored spots appeared on the skin covering the face, hands, neck and anterior surface of the body, especially marked and persistent on the skin of the neck. Slight pressure on the skin at any point caused a hyperemic blush which remained several minutes. The child was restless, crying much of the time, sleeping but little and taking but small quantities of nourishment; the urine, however, became more abundant and less albuminous. For a week the hyperemic patches continued to fade and to reappear. The discharge from the ear, which had ceased with the onset of the attack, reappeared, and *immediate improvement was manifested*: the paralysis began clearing, the temperature fell, respiration and pulse approached the normal, the urine cleared, and all that now remains are the stains of the maculopapular eruption.

### Mastoid Disease with Unusual Symptoms.

Dr. J. A. Thompson reported the case of a girl of 13 who had been in failing health for a number of days. For several weeks she had been under the care of her physician, during which time there had been slight fever, and the case was regarded as one of atypical typhoid. The only localizing symptom during that time was an earache increasing in intensity, with the pain much worse at night. The pain was in the mastoid process. A slight chronic eczema behind the ear made it difficult to say when redness and swelling due to mastoid inflammation first appeared. On November 21, 1900, he had been called and found marked swelling and tenderness over the mastoid and pain radiating over the whole temporal and parietal region. There was no evidence of any disease in the tympanic cavity. The drum was not even reddened. On November 26 there was pus in the attic and a paracentesis was made, evacuating a small amount. The paracentesis wound healed rapidly and the discharge from the middle ear ceased in a few days. There was at this time a decrease in the pain and fever. A few days later there was a spontaneous perforation of the drum in the posterior inferior quadrant, following but a few hours of pain; this was followed by a very profuse purulent discharge. The swelling and tenderness over the mastoid promptly subsided, and on December 11 she was able to come to the office for treatment. The perforation closed once but opened after about twenty-four hours. On December 20 her symptoms became rapidly worse, especially the pain, swelling and tenderness over the mastoid. On December 28 the mastoid was opened and found filled with pus, granulation tissue and polypi. This was entirely removed and the opening continued until the mastoid antrum was opened, thus securing good drainage from the middle ear. On removing the dressings (fourth day) the drum was found to have healed. The patient was discharged from the hospital at the end of two weeks, and healing was complete on the forty-eighth day. Hearing distance for the watch in diseased ear is 12/24. The uncommon features were grave disease in the mastoid cells weeks before the tympanic cavity was involved, improvement in the general and local symptoms while extensive destruction of the bone was in progress, and death of the bone wholly out of proportion to the general or local symptoms, with a rapid healing of the wound without any of the complications and delays that usually attend extensive operations on necrotic bone.

### Alopecia Areata and Nasal Epithelioma.

Dr. M. L. Heidingsfeld presented two dermatologic cases, one of alopecia areata in a young boy, the other a case of epithelioma of the nose in a man about 60 years of age, which had been apparently cured by local applications of arsenious acid in the form of a paste. The diagnosis of this case had been confirmed by microscopic examination.

### Strangulated Umbilical Hernia: Operation; Recovery.

Dr. A. W. Johnstone reported the case of a large fleshy woman, 64 years of age, with hernia apparently strangulated one day before operation was instituted. The omentum and intestines were found gangrenous. All the gangrenous portions were removed and the fresh ends approximated by means of the Murphy button. Recovery was uneventful. He reported the case on account of the long time elapsing before the passing of the button; it had been inserted on Dec. 27, 1900, and was passed March 11.

### Fibroid of the Uterus.

Dr. J. A. Johnston reported on Miss F., aged 42, who had pelvic trouble for two years. Examination revealed a tumor filling the pelvis, and the uterus could be outlined above the symphysis pubis on the anterior superior surface of the growth; the cervix uteri was posterior and against the symphysis pubis. On Feb. 13, 1901, the abdomen was opened and the uterus and growth found as above detailed. It was impossible to lift the growth out of the pelvis, or indeed move it until it had been completely cut away from its attachments—the cervix was left. The symptoms of this case, the essayist said, were not severe, and therefore it did not demand immediate operation on that account alone; but the form, position, and relation of the growth to the uterus, ureters, rectum, and bladder did not augur well for the future. The mass was 4 inches in the anteroposterior diameter, 4½ in the transverse, and 5½ long; the diameters of the pelvis at the superior inlet, conjugate, oblique and transverse, being respectively 4¼, 5 and 5½ inches, would not allow much more room for the fibroid to expand. There was the ever-present danger of pressure upon the ureters and attendant damage to the kidneys. Furthermore, a few months' additional growth might have wedged it so tightly in the pelvis as to greatly increase the risk of operation.

### Acute Osteomyelitis of the Hip.

Dr. A. H. Freiberg reported on a male, aged 22, of good family history and splendid physique, who was taken ill suddenly, about two months before first seen by the essayist. The onset of the disease was very sudden, with severe chill and great pain in the left groin and hip, high fever and great prostration. This was soon followed by marked swelling and pronounced sepsis. The nature of the disease being recognized, a long incision was made over the upper posterior third of the thigh, and a great quantity of pus was evacuated, followed in a short time by spontaneous dislocation of the hip. About one week after this the essayist was asked to see the patient. He was found extremely septic and debilitated, with fever and a pulse of 118. There was typical dislocation onto the dorsum ilii, the left foot being supported on the right. The whole limb was swollen and the knee somewhat painful to pressure. Attempt at reduction under chloroform anesthesia failed, the patient taking the anesthetic badly, so provision was hastily made for more free drainage. The limb had been shifted to a better position by the manipulation, the foot now looking directly forward. An extension was applied but had to be removed on account of an effusion into the right knee. This subsided gradually and the patient began slowly to improve. Denuded bone could, however, be felt on probing the sinus at the posterior aspect of the hip. About two months later the hip was opened by the Langenbeck incision and the head of the femur removed, the patient then making an uneventful recovery. Examination of the bone showed superficial destruction of the bone at the uppermost part of the neck. At the juncture of the head and neck the cartilage had been lifted off by the

suppurative process. The ligamentum teres had been destroyed. Small lamellar sequestra were found free in the joint.

**Typhoid Fever; Pregnancy; Miscarriage at Seven and a Half Months; Typhoid in the Infant; Death; Autopsy.**

Dr. Mark A. Brown reported this case in a woman of 19, well developed and well nourished, who first came under observation on Nov. 23, 1899. Her principal complaints were fever and headache. She stated that as near as she could remember her illness began on November 14, with headache, pains in various parts of the body, loss of appetite and general weakness. Previous to her illness she had nursed her sister, who had passed through a six weeks' course of typhoid. She had menstruated last on April 8, 1899. Examination of the heart and lungs was negative. The abdomen showed a pregnancy at about the seventh month, and the spleen was enlarged to percussion. Examination of the urine was entirely negative—diazo reaction not made. Temperature was 103.2, pulse 92, respirations 20. The Widal reaction was obtained in twenty minutes. On the next day she was delivered of a small female child. Her average temperature on that date was 103. November 27, the Widal reaction was obtained in ten minutes, on December 1 in ten, and on December 8 convalescence seemed to be established, but the Widal reaction was complete when the slide was placed under the microscope. The temperature now began to ascend and, on December 25, there was a note that she had passed through a typical relapse of typhoid, with spots and enlarged spleen. She was discharged on January 25, well.

*Infant.*—Its temperature was 101 when born, and rose steadily until above 103, remaining in this neighborhood about two weeks, then falling gradually to the normal in the same step-ladder manner that is so frequently seen in the adult. Two days after the normal temperature had been reached, the child, who had been getting weaker and weaker with each succeeding day, died, apparently of inanition. On December 2, the ninth day of its birth, the Widal reaction was made on the infant's blood, and partial reaction secured in thirty minutes, complete in forty-five. The serum reaction was made every two or three days on the baby's blood, and always with a positive result and in almost every case under the time limit. The note on December 9 states: "Widal made on blood obtained from the child gave complete clumping and agglutination in *ten minutes.*" The child did not seem to be especially discommoded by its illness, taking nourishment—not the breast, no attempt of course being made at that—very willingly. No spots developed; the spleen was palpable, the stools slightly yellowish and loose. There was no tympanites nor did the child appear to be in any particular pain at any time.

*Autopsy.*—The heart and lungs were normal. The spleen was considerably enlarged and very soft. Enlarged mesenteric glands were also found. Involving a large part of the ileum, particularly at the lower part, were found healed ulcers, presenting the "shaven-beard appearance" so common in adults. Indeed, the whole condition differed in no way from a typhoid of an adult in a similar stage of the disease, while the course of the disease seemed to bear out the statement that typhoid in the young runs a very mild course. I believe that if this had been a full-time child it would have survived; for a time it looked as if it were going to live in spite of the obstacles that were thrown in its way.

**Osteomyelitis of Vertebrae.**

Dr. Charles E. Caldwell reported a case of osteomyelitis of the vertebræ, with interesting pressure symptoms. He had made a laminectomy but without any marked improvement. On autopsy a small abscess cavity was found within half an inch of his incision. The specimen was presented.

**Tumor of the Sclera.**

Dr. John W. Murphy presented a young negro girl, with a small tumor distinctly under the conjunctivæ and apparently in connection with the sclera, situated midway between the sclerocorneal junction and the inner canthus of the left eye. Ophthalmoscopic examination was entirely negative. He was unable to state the exact nature of the growth.

## JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

*Meeting held April 1.*

Dr. Wm. H. Welch, President, in the chair.

**Hemorrhage in Operation for Chronic Jaundice.**

Dr. William Osler related several cases in which operation was performed for the removal of gall-stones producing jaundice in which severe and even fatal hemorrhage had followed. There is usually a retardation of coagulation time of blood, this requiring fourteen or fifteen minutes instead of about 3½, the normal time. The calcium chlorid lessens the coagulation time which may fall to normal. Subcutaneous injections of gelatin have the same effect. In two cases, however, the coagulation time was normal; there was severe hemorrhage.

**Typhoid Spine.**

Dr. Osler also exhibited a robust, healthy looking man, with a good color, who had been admitted November 6, on the twelfth day of an attack of typhoid fever, and had been discharged January 12, his illness having lasted fifty-seven days. He has recently returned, complaining of great stiffness in the back, extreme pain in attempting to sit up, tenderness in the sacrolumbar region, and a markedly nervous state. His general condition is good, there is no swelling, no signs of spondylitis, no change in reflexes, no paralysis. All the patients get well. The markedly hysterical features lead to the belief that in the great majority it is a pure neurosis. This man had had the Paquelin applied every two days, and wet packs.

**Intestinal Dystrypsia: Classification and Pathogenesis.**

Dr. J. C. Hemmeter proposes this name as a substitute for intestinal dyspepsia, trypsin being the most important enzyme in intestinal digestion. For these cases, which are due to disturbances in the function of the liver or biliary apparatus, he suggests the term "hepatic dystrypsia," and for pancreatic disturbances, "pancreatic dystrypsia." The functions of the intestine are secretion, absorption and peristalsis. Many dystrypsias affect two, sometimes three, of these. Dr. H. suggests the following classification of dystrypsias: 1, those due to pathologic-anatomic alterations; 2, absence or deficiency of the intestinal digestive secretions; 3, those due to qualitative or quantitative irregularities in the diet; 4, those due to abnormal bacterial aetivity; 5, those due to abnormal gastric chemistry; 6, those of nervous origin; 7, those caused by abnormal substances or irritants reaching the intestine from the blood; 8, those due to the action of intestinal parasites (exclusive of bacteria), worms; 9, those due to hyperperistalsis.

Gastric dyspepsia occurring in a dilated or prolapsed stomach is frequently mistaken for intestinal indigestion.

Is there any way in which we can study the alterations of the intestinal secretions? There are but two ways in which progress can be hoped for: 1, duodenal test-meal analysis; 2, examination of the stools. The first seems at present to be confronted with insurmountable difficulties, but it is a method to which we are surely coming, for it constitutes the only reliable means for obtaining information regarding the chemic processes of the duodenum. An apparatus was shown designed for the intubation of the duodenum. It consisted of a flexible rubber tube through which a spiral wire is passed in order to prevent kinking. The second method requires careful quantitative analysis of the stools, after weighed amounts of proteids, carbohydrates and fats have been ingested, not only for the purpose of determining the residual undigested amount of each of these substances, but also for determining the amount of proteolytic, amylolytic, and eventually also of adipolytic ferments present in the feces. To accomplish this Dr. H. exhibited his stool sieve, designed to be attached to the tap so as to allow water to flow through the contents, removing offensive material, but retaining in the sediment everything essential for examination. This obviates one of the greatest drawbacks to such analyses.

With reference to the agency of bacteria in digestion, Dr. H. says the evidence so far obtained suggests that the presence of micro-organisms is essential to the most perfect functioning of the digestive process in the gastro-intestinal canal. In the treatment, however, of that dystrypsia due to bacterial activity, he does not place too much dependence on

the so-called intestinal antiseptics. He gets along without them in the great majority of cases, and has seen very evil results follow the use of irritative antiseptics. He gives the utmost care to the diet, that it be easily digestible, thoroughly sterilized and moderate in quantity. Next to diet, the most effective means for combatting bacterial activity and autointoxication is lavage of the stomach and colon. Generally nothing is needed, but sterile water. If there is no HCl in the stomach, it is administered.

DR. WM. OSLER prefers the term "intestinal indigestion" to "dystrypsia," and with reference to the agency of bacteria in causing intestinal indigestion pointed out that this latter condition is not found in typhoid fever, although bacteria are abundant.

### Fetal Transmission of Typhoid.

DR. FRANK W. LYNCH reported two cases of typhoid fever in pregnancy, with interruption of pregnancy in both cases. In the first case, from the four-months' fetus, aborted during the second febrile week, he cultivated the typhoid organism, from the fetal blood and organs. The same organism was also grown from the uterine lochia, but not from the maternal blood. The placenta showed numerous microscopic hemorrhages. Sections from the placenta and fetal organs were negative for bacilli. The Widal with the mother's blood was positive (1 to 50); the child's blood was absolutely negative (1 to 10). In the second case, the child, premature at the thirty-sixth week, was born on the fortieth febrile day. It lived for seventy days, dying finally of inanition. Although it presented an unusual skin eruption at birth, rather strongly suggestive of rose spots, placental transmission could not be proven. Cultures from the blood, taken at autopsy, developed the colon bacillus. The Widal from the child was negative in 1 to 10 dilution on the first, thirty-sixth and seventieth days. The mother's blood gave a Widal positive in dilutions of 1 to 50. Cultures from the placenta were sterile for two days. The placenta was normal, both macroscopically and microscopically. In the 1079 cases of typhoid to January 1, in the Johns Hopkins Hospital, there have been 289 in the female, and but 5 cases of typhoid during pregnancy. This is a percentage of 1.7, which is somewhat smaller than that given by Goltdammer and Martinet. From the literature Dr. Lynch collected sixteen cases of placental transmission of typhoid, and about the same number of cases where such transmission could not be proven. The absence of the Widal reaction, in the case where placental transmission was proven, is a unique observation, as there are no observations as to this point.

## CHICAGO NEUROLOGICAL SOCIETY.

Dr. Hugh T. Patrick, president.

### Raynaud's Disease.

DR. H. N. MOYER presented a case of this affection, the third he had seen; they all presented marked differences. The patient was 13 years of age, of Norwegian descent, tall, with light complexion, mentally bright, very fond of reading, of an emotional nature and had had several hysterical attacks, and nearly all the ordinary children's diseases. The family history was not specially significant. Her mother was of nervous temperament. She has four brothers living and in good health. It is stated that her grandmother had a finger that used to turn white for a short time. When first seen by Dr. Moyer, Feb. 9, 1901, several fingers were white and painful, but one more so than the others. While under observation, the fingers became red, again turned white and then assumed a bluish tint, changing color constantly. The hands were cold but sensation was not impaired. The patient stated that she first felt numbness and tingling in the left little finger and it turned white, that occurring about five days before she was seen. The heart, lungs, and nervous system, with the exception of the local symptoms in the hands, were quite normal. The girl was seen in consultation with Dr. Zeltner, whose first impression was that the finger had been frozen, but the rapid alterations of color soon showed that this explanation was incorrect. When the finger first turned white, she had no pain, but at the time she came under observation there were distinct painful paroxysms of about one-half hour's duration, which came on three or four times a day. When first seen the fingers of each hand, three in number, were distinctly cyanotic, the little finger of the left hand more than the others.

At present, the middle finger of the left hand and the fourth of the right are most affected. The tips of the fingers are very tender to the touch. In the center of the pulp of the middle finger, the skin appears to be raised and white, with a reddish zone around it, much resembling a small blister. Apparently, gangrene has set in in this finger. There has been no change in the nails and they continue to grow. The patient has been treated with galvanism every day. The hands are immersed in water, connected with a positive pole and the negative is applied at the nape of the neck. Several times a day the patient is instructed to raise the hands for a few minutes. A thick cotton dressing is applied to the hands when she goes out of doors, and she has the additional protection of a muff. The paroxysms of pain were best relieved by a 10 per cent. solution of menthol in alcohol. Chloroform liniment was applied, but with no effect. The patient claims that she gets more relief from applications of very cold water; warm increases the pain. Internally she was given the suprarenal gland, with no effect; later, quinin and strychnin with marked improvement.

### Optic Atrophy in a Child.

DR. HUGH T. PATRICK presented a patient with this affection —a boy of 12 years, first seen Sept. 18, 1900, through the kindness of Dr. F. A. Phillips. The father had died insane, probably of general paresis. The first child was 15 years of age and perfectly well; the second pregnancy terminated with a miscarriage at about four months, and the patient was born at full term about two years later. The following child was born three years after the patient and presented some evidence of inherited lues, while the last child was afflicted with various skin diseases until several years old. Soon after the patient's birth he developed snuffles, which continued for several years. The mother stated that he had never been strong on his legs, and walked "as if his shoe hurt him." Otherwise his development was normal with the exception of occasional nocturnal enuresis which still continued, the urine sometimes slowly dribbling away. For the last three years he had been subject to attacks of vomiting which always occurred in the morning and were followed by sleep, after which he seemed perfectly well. During the last year these attacks had begun with a pain in the head, and had been more frequent, and after an attack the scalp would be tender for a day or two. They were apparently migrainous in character. Vision had begun to fail only a few months before, and at the time of examination, as determined by Dr. Phillips, was R 15/200, L 20/200, and there was simply atrophy of both optic nerves. The right pupil was slightly larger than the left; both were somewhat irregular and responded to accommodation, but not to light. Sensation and muscular power were normal, there was very slight incoordination of both upper and lower extremities and slight intention tremor of the hands. The deep reflexes were normal, and there was no ulnar analgesia, but pressure on the ulnar nerve seemed to be rather less painful than normal. The teeth, while not the typical Hutchinson type, were considered to indicate congenital syphilis. Since September, the boy had become totally blind, the other symptoms remaining about the same. On account of the brisk knee-jerks, the diagnosis of precocious tabes would be rather venturesome, but the case was considered to be of that type; that is, to be classed with the late degenerative diseases caused by syphilis, such as tabes and general paresis.

### Antrum Infection and Sigmoid Thrombosis.

DR. BAYARD HOLMES presented the clinical history and postmortem specimens of a case of antrum infection and sigmoid thrombosis without present middle-ear disease, presenting the symptoms of facial neuralgia and none of the ordinary symptoms of disease in the petrosa; retropharyngeal gravity abscess, general sinus thrombosis without much impairment of cerebration. The case was reported owing to the difficulty presented in the diagnosis. There were few psychic symptoms and the various neuralgias and peripheral nerve lesions gave no very definite pointings for cerebral localization. A rough synopsis of the case was given as follows: Rigor and high

temperature, beginning without apparent cause, neuralgia of the right fifth nerve for ten days, typhoid or septic condition resembling sinus thrombosis for six weeks, abscess appearing suddenly in the posterior right pharynx, six weeks later discharge from the right ear, paralysis of the right leg, death, autopsy, antrum and general mastoid disease, sigmoid and general sinus thrombosis, extending into the cortex of the left hemisphere.

The patient was a physician in active practice, the father of a large family of perfectly healthy children. He had himself suffered from no disease except malaria and gout. He came in one day after light exercise out doors complaining of a chilly sensation, had a terrible rigor which lasted over an hour, followed by a temperature of 104 and pain through the back and legs. Headache was not a symptom at the beginning, but appeared at the end of forty-eight hours. Four or five days afterward a distinct neuralgia manifested itself over the distribution of the right fifth nerve. A suppurative pharyngitis made its appearance, was opened and drained thoroughly with continued irrigation. The pain and tenderness over the whole right side of the head continued to be excruciating. A most careful search was made for a local source of infection in the antrum of Highmore and in the mastoid sinuses. A diagnosis seemed to rest between a neuralgia with malaria and an osteomyelitis of uncertain origin at the base of the skull, possibly from one of the sinuses of the nose. The case, while slowly improving, continued with various fluctuations. There was no adenitis over the mastoids or about the neck.

Each of the nostrils, orbits and ears was separately and carefully examined. Disease was looked for unsuccessfully in both frontal and maxillary sinuses. The mastoids were separately examined and the ear drums inspected, but no symptoms of disease discovered. After a time the patient complained of little chills at intervals, and vomited without apparent reason so far as the condition of the stomach and the vomited matter was concerned. Posterior rhinoscopy showed nothing abnormal. Transillumination of the face showed the two sides alike, not well lighted, this probably due to either thick cheeks or small antra. There was nothing abnormal by the anterior rhinoscopy. Both ears were examined perfunctionally with everything apparently normal and hearing good, and no pain nor tenderness in the region of the ear.

Without any warning and without any apparent local disease, there was discharged from the right ear in the course of a night at least two drams of dark pus which came through a perforated drum head and gave some relief to pain and nervousness. Afterward, commencing paralysis, and following the paralysis, a convulsion took place. A diagnosis was made of a localized lesion, probably abscess, in the neighborhood of the motor cortical area for the right leg and foot, secondary to suppuration in the pharynx. An exploratory operation was undertaken to relieve the local symptoms, but the trephine disclosed nothing definite. The patient did well after the operation and the wound healed completely. Shortly after, the patient died from exhaustion.

The postmortem findings were as follows: The skull-cap was moderately adherent over the longitudinal sinus. There were some flakes of pus on the convexity of the dura over the anterior portion of the sinus. The left hemisphere showed several punctate extravasations about the needle wounds of the trephine operation. The dura was only slightly adherent over the upper border of the left hemisphere with light fibrous exudate. The blood-vessels of the dura and pia were thrombosed over at least 6 cm. of the upper surface of the left hemisphere nearest the longitudinal sinus. The cut surfaces of the cortex itself had a dull greenish white appearance. The longitudinal sinuses were filled with a suppurating thrombus. There were a number of flakes of suppurating fibrin along the lateral walls of the sinus. Both lateral and both sigmoid sinuses were full of pus and blood, the right distinctly fluid. The dura over the right petrosa was adherent on the posterior surface. The jugular veins in the neck were not examined. No indications of infection were found in the lungs, the heart or in the abdominal organs. The right temporal bone was removed for more careful study, and with it portions of the surrounding bones. There was no sign of disease in the external auditory meatus, but the petrosa showed a honeycombing from erosion. If we attempt, in the light of the autopsy, to analyze the symptoms in the case and refer each to its pathologic source, we must first assume an early forgotten or overlooked middle-ear disease, perhaps as early as childhood or babyhood. There can be little doubt that the antrum was the primary focus of the infection. There is nothing in the pathological findings which would explain the facial neuralgia.

From a study of this case it seems reasonable to make the following conclusions: 1. Mastoid antrum disease is the appendicitis of the head. 2. In every case of infection within the head, where some other source of the infection can not be demonstrated, the mastoid antra should be explored. 3. The facial neuralgia is not explainable by the pathologic findings. 4. The excellent mental condition even up to the last seems hardly consistent with the obliteration of both jugulars and the suppuration in the great sinuses of the dura.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting of the Section on Medicine, held March 19.*

Dr. E. Franklin Smith, chairman.

### Points Connected with the General Etiology and Pathogenesis of Diabetes Mellitus.

Dr. Heinrich Stern, in a paper on this topic, gave the results of his study of the mortality statistics of New York City for the period from 1889 to 1899 inclusive. It was from two to 2½ times more frequent in the male than in the female. Hebrews were specially liable to diabetes, but the Irish also showed some predisposition. This racial influence he attributes largely to the breeding in and in still so common in both of these races. Diabetes is not a disease of the rich alone, as some seem to think, for, of the 102 males dying from diabetes in one year, 66 were working people living in tenements. The author distinguished clinically five varieties, viz.: 1. Alimentary glycosuria; 2, hematogenic glycosuria; 3, neurogenic glycosuria; 4, common or hepatogenic diabetes, and 5, diabetes deterioration. The speaker said that many writers distinguish only two forms, a mild and a severe, and look upon them as differing in degree only. Seegen was the first to recognize two distinct and independent clinical types, and Dr. Stern added a third—the diabetic deterioration. This last form he considers a manifestation of a specific plasmogenetic process.

### Diagnosis and Prognosis of Diabetes.

Dr. Henry S. Stark contributed a paper on this subject. He said that neither an acute nor a chronic glycosuria is sufficient for a diagnosis of diabetes mellitus; the glycosuria must be accompanied by polydipsia or polyuria with a deterioration of the general health. The cases most likely to be overlooked are those in which the quantity of glucose in the urine is small and the specific gravity low. Among the important symptoms of diabetes mellitus are extreme and persistent fatigue after only moderate physical exertion, acid saliva with a reddened tongue, premature grayness or sexual weakness, diminution of the patellar reflex, muscular cramps in the legs and muscular weariness. The fermentation test is the nearest approach to the ideal clinical test for glucose in the urine, and for the relative quantitative determination Fehling's test still holds its own. No one test should be considered sufficient; there should always be a control test. With proper diet and management many diabetics will live for ten or fifteen years. The prognosis depends on the age, the power of assimilating carbohydrates, early diagnosis, the condition of life, stage of the urine, and the existence of complications. Diabetes is always fatal in children. The quantity of urea excreted affords the best guide to the amount of tissue destruction. In the mild form are to be found those cases in which the glucose disappears when carbohydrates are excluded from the diet, while the severe type embraces cases in which the glucose does not disappear even under these conditions.

### Diabetes in Children.

Dr. Henry Dwight Chapin made some remarks on this subject. He said that diabetes is very rare in children, but Ger-

hardt collected 111 cases, the ages varying from 11 months to 16 years. Dr. Chapin has only seen two cases, both exhibiting rapid emaciation and running a rapidly fatal course.

### The Nervous System in Diabetes.

Dr. Pearce Bailey, in his paper on this subject, said that all experimental glycosuria is temporary, and the evidence in favor of the nervous system as the origin of diabetes seems to be weakened rather than strengthened by modern research. Permanent glycosuria following experiments on the pancreas has been observed only when the pancreas has had its connections with the nervous system completely severed. He has found diabetes most commonly as a complication in general paresis, multiple sclerosis, tabes, myelitis, neurasthenia, paralysis agitans and hysteria. Neuritis is so common in diabetes that the urine should be tested for sugar in every case of neuritis.

### Cutaneous Complications in Diabetes.

Dr. S. Sherwell, in his paper, said that the most common cutaneous manifestations observed in connection with diabetes mellitus are generalized scleroderma, eczemas of various kinds, erythematous lesions, such as erysipelas and gangrene, dermatitis herpetiformis and xanthoma diabeticorum. He is also disposed to include blastomycetic dermatitis. Furuncles of the neck and gluteal region are also frequently observed in diabetics. The eczematous lesions are best treated by promoting cleanliness and using some antiparasitic lotion, such as a 1 to 1000 solution of bichlorid of mercury.

### Ocular Manifestations in Diabetes.

Dr. Neil J. Hepburn mentioned the following in this connection: cataract, retinitis, oculomotor paralyses, iritis, paralysis of accommodation, keratitis, hemianopsia, glaucoma and detachment of the retina.

### Diabetes Mellitus in Surgery.

Dr. Robert T. Morris, in a paper on this phase of the subject, said that the modern surgeon does not fear to operate on a diabetic as did those of earlier days, though he recognizes the proneness to infection, the irritability of the kidneys and the possibility of the occurrence of gangrene. The speaker attributed the interference with the healing process to the abnormally dry state of the tissues resulting from the abstraction of moisture from them by the sugar-laden blood. The blood, under these circumstances, is also a good culture-medium for bacteria. Because of the state of the kidneys, the selection of the anesthetic is of importance; he personally prefers nitrous oxid in these cases as a preliminary to ether.

### Treatment of Diabetes Mellitus.

Dr. Abraham Mayer presented this communication. He said that it is a great mistake to entirely exclude the carbohydrates from the diet, except for the purposes of diagnosis or at the commencement of treatment. Milk forms an important part of the diet of his diabetic patients, because they can often assimilate a large quantity of lactose without detriment. The food should be adjusted to the sex and weight of the patient, and he takes into consideration the laboriousness of the occupation. In neurasthenic diabetics he has often found opium act like quite a specific. He commences with a half grain three times daily, gradually increasing the dose to three times this quantity, it being understood that diabetics exhibit a special tolerance for this drug. He also uses Fowler's solution of arsenic, and of the bromid of arsenic in doses of 1/30 to 1/10 gr. three times a day. The patient should be protected from worry and nervous shocks. Phthisis is a very common complication of diabetes.

### Glycosuria and Diabetes Mellitus in Relation to Life Insurance.

Dr. E. H. Bartley, in his paper on this topic, said it is generally admitted that an appreciable quantity of sugar is present in normal urine, and the question arises as to when glycosuria should be considered as synonymous with diabetes mellitus. His view is that when a trace of sugar sufficient to be detected by Trommer's, Fehling's or Nylander's test is present in the urine, a second specimen of urine should be examined before accepting or rejecting the applicant for life insurance. There is no known chemical test for differentiating between a temporary glycosuria, possibly resulting from an indiscretion in diet, and true diabetes, but some hint of the true condition can be had by estimating the total solids in the urine for twenty-four hours. This can be done approximately by multiplying the last two figures of the specific gravity by the number of ounces voided. The normal quantity is about 1000 grains. As it is ordinarily impossible, however, to secure the total quantity of urine for the twenty-four hours, another method is to have the applicant remain in the office for one hour. Ordinarily about two ounces of urine can be voided in this time, but in diabetics this quantity will often reach three to seven ounces. Some allowance should also be made for the time of day.

Dr. Andrew H. Smith called attention to the fact that diabetes mellitus is about five times more frequent among locomotive engineers than among average people. He attributes this to the intense mental concentration demanded by their occupation.

Dr. A. Rose spoke briefly of the treatment of diabetes by the use of baths of carbonic acid gas.

Dr. James K. Crook said that almost all observers conceded that the liver is hyperemic in diabetes, and that this is due to a loss of tone in the vasomotor system. It is moreover known that anything which will cause a dilatation of the superficial capillaries, and hence a diminution of the quantity of blood in the liver will cause a lessening of the quantity of sugar in the urine. These and other facts seemed to indicate a close connection between the nervous system and the development of glycosuria. On the other hand, it has been shown that most diseases of the nervous system are not ordinarily associated with diabetes.

Dr. Stark said that fully one-third of the cases of diabetes have both albumin and sugar in the urine, but this is of no special significance unless there are other indications of nephritis.

Dr. Mayer said that he had not found albuminuria so common among his diabetics, and he would not look upon it so lightly, as he thinks it indicates that there has been a destruction of the epithelium covering the Malpighian tuft.

Dr. Bartley took the same position regarding the prognostic import of albumin in the urine of diabetics.

## Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### Epilepsy.

A correspondent asks advice on the following case: The patient is a boy about 6 years of age, who commenced having spasms about eighteen months ago. At first these were very light and occurred about once a month, but have gradually become more and more frequent until now fifteen or twenty occur each day and they last from one to five minutes. At first these attacks came on at night; now they occur both night and day and commence with a choking sensation. When the patient is in bed he rises up to a sitting posture, holds his breath, foams at the mouth, but never cries during, before or after an attack. After the attacks he will go to sleep almost instantly, and says the attacks do not hurt him, but that it feels like there is something in his throat. Appetite is good, but not excessive, digestion and general health fairly good. He was circumcised some time ago. Increasing doses of bromid continued about a month, made symptoms worse. He was then put on santonin and calomel, as there was a suspicion that worms was the cause of the trouble. Our correspondent asks for diagnosis and treatment.

Ans.—The child probably has epilepsy. As regards treatment. The diet should be regulated. He should be allowed to

eat soft-boiled eggs, tender meats, bread, butter and potatoes. The elimination should be carefully looked into. The urine should be repeatedly examined for albumin or sugar, the amount of elimination by the kidneys should be calculated from a 24-hour product; and the amount of urea should be estimated. The child may have a nephritis as the cause of the disturbance, in which case the bromids would not be indicated. The teeth should be examined, the bowels properly regulated and hepatic stimulants administered if necessary. The entire trouble may be based on a toxemia, and if so by observing the above points, the attacks will be diminished.

For the bowels and liver, give small doses of hydrargyri chloridum mite at proper intervals. Mercury in this form and in small doses not only produces catharsis, but is a general glandular stimulant. Dilute nitro-muriatic acid in five-minim doses will stimulate the hepatic secretion. It should be given two or three times daily. If the kidneys are not eliminating properly the child may be given diuretics. The cause of the trouble should be ascertained, if possible, for it must be remembered that a great many remedies which are able to do good will, when not properly applied, have the same power to do harm.

AS TO THE TREATMENT OF THE ATTACKS.

The bromids are certainly the best agents, given in doses of as many grains as corresponds to the age of the child. This dose should be repeated three times a day and given immediately after eating. Toulouse and Ricket, of Paris, suggest withdrawing the chlorids from the diet in the endeavor to make the bromids more effective, thus making the system more subjective to their action. Boracic acid has been given in some cases with success when the bromids have failed to obtain the proper results.

Solanum Carolinense (horse nettle) is a powerful sedative, and has given splendid satisfaction in controlling the convulsions of epilepsy. It may be given in the form of fluid extract in doses of 8 to 10 minims three times a day. Acetanilid in small doses or monobromated camphor each have been of use in epilepsy. The following prescriptions are recommended, the dose to be varied according to the age of the child.

| | | | |
|---|---|---|---|
| R. | Potassii bromidi | gr. vii | 44 |
| | Tinct. belladonnæ | m. x | 66 |
| | Spts. ammon. arom | m. x | 66 |
| | Syrupi aurantii | ʒss | 2 |
| | Aquæ q. s. ad | ʒss | 16 |

M. Sig.: At one dose: to be repeated three times a day for a child 8 years of age.

Or,

| | | | |
|---|---|---|---|
| R. | Potassii bromidi | gr. v | 30 |
| | Sodii bicarb | gr. v | 30 |
| | Pulv. rhei | gr. ss | 03 |
| | Spts. chloroformi | m.v | 30 |
| | Aquæ q. s. ad | ʒss | 16 |

M. Sig.: At one dose, repeated three times a day for a child of 8 years.

### The Administration of Digitalis.

Hale White recommends the following formula:

| | | | |
|---|---|---|---|
| R. | Tinct. digitalis | ʒiss | 6 |
| | Tinct. nucis vomicæ | m.xlv | 3 |
| | Caffeinæ | gr. xxv | 1 66 |
| | Iodii salicylatis | gr. xii | 75 |
| | Syrupi aurantii | ʒss | 16 |
| | Aquæ q. s. ad | ʒv | 160 |

M. Sig.: Two tablespoonfuls three times a day in water.

His object in giving this prescription is evidently to obtain the combined tonic effect on the heart and the diuretic effect of the caffein.

### Treatment of Herpes Zoster (Shingles).

For herpes zoster, always begin the treatment by administering a saline purge. Keep the painful region dry by using the following dusting powder:

| | | | |
|---|---|---|---|
| R. | Pulv. amyli | ʒii | 64 |
| | Pulv. camphoræ | gr. xxx | 2 |
| | Pulv. opii | gr. xv | 1 |
| | Zinci oxidi | ʒiv | 16 |

M. Sig.: Apply locally as a powder, and

FOR THE NEURALGIA:

| | | | |
|---|---|---|---|
| R. | Ext. stramonii | | |
| | Ext. hyoscyami, āā | gr. 1 5 | 012 |
| | Ext. belladonnæ | gr. 1 10 | 006 |

M. Ft. pil. No. i. Sig.: One such four times daily.

Or.

| | | | |
|---|---|---|---|
| R. | Thiol | | |
| | Aq. destil. āā | ʒi | 32 |

M. Sig.: Apply locally.—*Encyc. Pract. Med.*

### Treatment of Neurasthenia.

Gray, in *Med. News*, states that the treatment of this disease consists in the removal of the cause, if possible. A certain amount of rest, both physical and mental, should be insisted upon; the administration of tonics and electricity should be carried out. The patient should lie in bed from ten to twelve hours out of the twenty-four, and avoid fatigue when he is up. Iron, quinin and strychnin are the agents most generally useful, where there is anemia, conjoined with large amount of meat and beef tea and an abundance of fresh air. In the non-anemic cases the best tonic is strychnia, from 1/50 to 1/30 grain three times a day.

### Fecal Impactions.

As treatment when the impaction is located in the lower rectum, it can always be softened and evacuated by frequent copious enemeta of warm soap suds containing oil and glycerin. Gant, in *N. Y. Med. Jour.*, recommends the following:

| | | | |
|---|---|---|---|
| R. | Soap suds | Oi | 512 |
| | Castor oil | ʒi | 32 |
| | Glycerin | ʒii | 64 |

M. Sig.: Inject into rectum every two hours and retain as long as possible.

### Treatment of Burns.

Armstrong, in *Med. Sentinel.* states, in treatment of burns of second degree, that water or solutions containing water are bad; vaselin does not act suitably; the application of rough gauze to the surface is not proper. He cuts away every portion of the bleb and takes care that no margin is left under which any trouble may arise. He applies oleum ricini 95 per cent., and balsamum Peruvianum 5 per cent.: then he covers with oil silk, which may be perforated. Some cases may improve more in the later stages by resorting to the use of dry boric acid dressings.

### An Ointment for Corns.

| | | | |
|---|---|---|---|
| R. | Acidi salicylici | ʒss | 2 |
| | Resini | ʒi | 4 |
| | Adipis | ʒii | 8 |
| | Olei amyg. dulcis | ʒi | 4 |

M. Sig.: Trim the corn and apply this ointment placed upon a piece of cloth.

### Tinea Circinata.

| | | | |
|---|---|---|---|
| R. | Sulphuris precip. | gr. xlv | 2 66 |
| | Hydrarg. ammon. | gr. xv | 1 |
| | Thymol | gr. iv | 25 |
| | Unguenti simplicis q. s. ad | ʒii | 64 |

M. Sig.: Apply locally night and morning. This is applicable in ringworm occurring in children.

### Treatment of Neuropathic Alopecia.

The following prescriptions are given by Brocq.

| | | | |
|---|---|---|---|
| R. | Acidi acetici glacial | m. xii | 75 |
| | Tinct. cantharidis | ʒi | 4 |
| | Spts. rosmarini | ʒi | 4 |
| | Tinct. tritici | ʒii | 8 |
| | Spts. camphoræ | ʒii | 8 |

M. Sig.: Apply locally.

Or,

| | | | |
|---|---|---|---|
| R. | Aq. ammoniæ | m. xxiv | 1 66 |
| | Tinct. pyrethri | | |
| | Tinct. jaborandi āā | ʒi | 4 |
| | Olei terebenthinæ | ʒi | 4 |
| | Alcoholis | ʒvi | 24 |

M. Sig.: Apply locally.

### For Perspiring Feet.

The following rules have been laid down to prevent excessive perspiration of the feet: Wear low shoes, wool stockings, and dust the feet over twice a day with iodol. The following may be used as a wash:

| | | | |
|---|---|---|---|
| R. | Liq. plumbi diacet | ʒii | 8 |
| | Acidi carbol | ʒii | 8 |
| | Aq. q. s. ad | ʒii | 64 |

M. Sig.: One tablespoonful to be mixed with a pint of warm water and wash the feet every morning and dry with a soft towel.

### Treatment of Gonorrhea.

| | | | |
|---|---|---|---|
| R. | Plumbi acetatis | gr. xv | 1 |
| | Zinci sulphatis | gr. xii | 75 |
| | Ext. krameriæ flu | ʒii | 8 |
| | Tinct. opii | ʒss | 16 |
| | Aq. q. s. ad | ʒvi | 192 |

M. Sig.: Use as an injection twice daily.

### To Remove Plaster-of-Paris Casts.

The *Med. Times* gives the following method of removing casts: Mark a line, with a lead pencil, on the cast. Along this line apply a little cotton or a thin layer of cotton-wool and soak the same with peroxid of hydrogen, the wool being about ½-inch wide. In a short time the plaster will be soft enough to be cut through with an ordinary knife or a pair of scissors. Vinegar or bichlorid solution may be used instead of the peroxid of hydrogen.

### Administration of Oleum Morrhuae to Children.

Sheffield suggests the following as a palatable form of administering oleum morrhuæ to children:

| | | | |
|---|---|---|---|
| R. | Olei morrhuæ | ʒii | 64 |
| | Ext. malt. | ʒss | 16 |
| | Syr. calcii hypophos | ʒss | 16 |
| | Glycerini | ʒii | 8 |
| | Pulv. acaciæ | ʒii | 8 |
| | Aq. cinnamomi q. s. ad | ʒiv | 128 |

M. Sig.: One to two teaspoonfuls after each meal.

### Astringents in Diarrhea of Children.

In cases where astringents are indicated, he recommends the following:

| | | | |
|---|---|---|---|
| R. | Bismuthi subnitratis | ʒi | 4 |
| | Misturæ cretæ comp. | ʒiii | 12 |
| | Glycerini | ʒiv | 8 |
| | Mist. acaciæ | ʒiss | 48 |
| | Aq. menth. pip. q. s. ad | ʒii | 64 |

M. Sig.: One teaspoonful every two hours until the diarrhea is checked.

### Night Terrors.

Huber, in *Pediatrics*, states that he would omit ghost stories, goblins, giants, thrilling literature, exciting games, and avoid dark, poorly ventilated rooms. Heavy indigestible meals at night and the use of tea, coffee or alcohol in any form favor the occurrence. The mode of life of the patient must be studied, the habits investigated and taxation of the nervous system avoided. Tonics and hematinics should be given to the pale anemic children, and sometimes the bromids or other nerve sedatives to neuropathic children.

## Medicolegal.

**Sworn Certificate of Physician Indispensable.**—The Supreme Judicial Court of Massachusetts holds, in the case of Audette vs. L'Union St. Joseph, that, in that state, when a by-law of a benefit association requires the production of a sworn certificate of a physician before any sick member shall receive benefits, the certificate is indispensable, and it is no excuse that the attending physician refuses to make one on account of conscientious scruples against taking an oath. Such a case, it says, comes within the rule that where one engages for the act of a stranger he must procure the act to be done, and the refusal of the stranger, without the interference of the other party, is no excuse.

**State May Probibit the Sale of Alum Baking Powders.**—The Supreme Court of Missouri, Division No. 2, holds constitutional, in the case of State vs. Layton, the act of May 11, 1899, making it a misdemeanor "for any person or corporation doing business in this state to manufacture, sell, or offer to sell, any article, compound or preparation for the purpose of being used, or which is intended to be used, in the preparation of food, in which article, compound or preparation there is any . . . alum." It points out that as early as the thirty-seventh year of the reign of George III., the British parliament absolutely prohibited the use of alum in the making of bread; that, irrespective of the statute, it was held indictable to use it in large quantities; and that such seems still to be the statute law of England. And, in view of the sharp conflict of testimony as to the noxious or innocuous character of alum baking powders, it says that it can not take judicial notice that these powders are a perfectly innocuous preparation. As to the test, when the constitutionality of an act of the legislature is assailed as invading the right of the citizen to use his faculties in the production of an article for sale for food or drink, it says that, if it be an article so universally conceded to be wholesome and innoxious that the court may take judicial notice of it, the legislature, under the constitution, has no right to absolutely prohibit it; but if there is a dispute as to the fact of its wholesomeness for food or drink, then the legislature can either regulate or prohibit it.

**No Liability for Refusal to Answer Emergency Call.**—In the case of Hurley, administrator vs. Eddingfield, an action brought by the former to recover $10,000 damages for the alleged wrongfully causing the death of his intestate, the Supreme Court of Indiana says that the material facts alleged by the plaintiff may be summarized somewhat as follows: At and for years before the death of the intestate the defendant was a practicing physician at a certain place in that state, duly licensed under the laws of the state. He held himself out to the public as a general practitioner of medicine. He had been the intestate's family physician. The intestate became dangerously ill and sent for him. The messenger informed him of the intestate's violent sickness, tendered him his fee for his services, and stated to him that no other physician was procurable in time and that the intestate relied on him for attention. No other physician was procurable in time to be of any use, and the intestate did rely on the defendant for medical assistance. Without any reason whatever, the defendant refused to render aid to the intestate. No other patients were requiring the defendant's immediate service, and he could have gone to the relief of the immediate service, and he could have gone to the relief of the intestate if he had been willing to do so. Death ensued, without the intestate's fault, and wholly from the defendant's wrongful act. The defendant demurred to this complaint. The circuit court sustained his demurrer, and the supreme court now affirms the judgment of the lower court, holding that there was no error in its ruling on the demurrer. The supreme court says that the alleged wrongful act was the defendant's refusal to enter into a contract of employment. Counsel did not contend that, before the enactment of the law regulating the practice of medicine, physicians were bound to render professional service to every one who applied. The act regulating the practice of medicine provides for a board of examiners, standards of qualification, examinations, licenses to those found qualified, and penalties for practicing without license. The act is a preventative, not a compulsory measure. In obtaining the state's license (permission) to practice medicine, the state does not require, and the licensee does not engage, that he will practice at all or on other terms than he may choose to accept. Counsel's analogies, drawn from the obligations to the public on the part of innkeepers, common carriers, and the like, the supreme court adds, are beside the mark.

**Verification of X-ray Pictures.**—The Supreme Judicial Court of Massachusetts holds, in the personal injury case of De Forge vs. the New York, New Haven and Hartford Railroad Company, that, while a picture produced by an *x*-ray can not be verified as a true representation of the subject in the same way

that a picture made by a camera can be, yet it should be admitted in evidence if properly taken. For example, in this case, after the plaintiff had put in evidence *x*-ray pictures of his two feet, the defendant company offered the glass plate from which his pictures were taken, and other pictures printed from the same plate. The photographer who took the plaintiff's pictures testified that he did not know much about the *x*-ray; while the person who took the pictures for the company was a physician of high standing, who had taken, as he testified in the neighborhood of a hundred *x*-ray pictures, and had seen the majority of them developed. Now, the evidence of verification the court considers was stronger in the case of the company's pictures than in the case of the plaintiff's, and, on this evidence, it says that it does not deem it possible that the judge could have excluded the plate or the company's pictures on the ground that they were not duly verified. As to the assertion that he might have excluded them in the exercise of the discretion vested in him, the court answers that it is in the matter of verification or authentication that the judge has discretion. It says that it can see no reason why the plate from which the pictures put in evidence by the plaintiff was printed should not have been admitted. It was produced by the photographer who made the pictures. It was not enough to render it inadmissible that it had on it the letters "R" and "L," which had been put on it after the pictures put in evidence by the plaintiff had been printed, these letters in no way obscuring the portion of the left foot in controversy and being certainly no more objectionable than the words "left" and "right" written in lead pencil under the toes of the plaintiff's pictures of his two feet, respectively. Moreover, if it were true, which it does not find to be the case, that there was some doubt as to the manner in which the plate was made, the court suggests that the exclusion should not have stopped with it, but that the plaintiff's pictures should not have been admitted. And it holds that it was clearly competent for the company to introduce evidence to show that the plaintiff's pictures showing an enlargement of one of the feet, and from which a witness for the plaintiff discovered a fracture, did not represent the left foot, as the evidence for the plaintiff indicated, but the right, and for this purpose to show the difference between an ordinary photograph and one taken by an *x*-ray. Wherefore, the court is of the opinion that the rights of the company were violated in the exclusion of the evidence it offered, and that the glass plate, the pictures taken by the company, and the evidence offered by it and excluded should have been admitted.

**Manslaughter—Dying Declarations—Physician's Duty.**—It was contended, in the case of the State of Washington vs. Power, a physician, that inasmuch as the statute makes it a substantive offense, punishable as such, for any person to administer drugs to or use instruments upon a pregnant woman for the purpose of procuring her miscarriage, such acts must be punished in the way the statute points out, under an indictment or information charging one or more of these specific acts alone, and can not, therefore, be the unlawful acts which were intended to be included within the statute defining the crime of involuntary manslaughter. The Supreme Court of Washington, however, does not think this contention sound. It says that it will be noticed that the statute prescribes a punishment for doing these specific acts, without regard to the effect such acts may have upon the person operated upon. The crime is completed when the prohibited acts are committed, and their effect is not made a material inquiry. And, as the legislature has made the acts punishable as acts, without reference to their consequences, it declares that it can not think it was intended to exempt a person causing the death of another by these means from being informed against and punished under the general statutes relating to unlawful homicides. Objection was also made in this case to the state being allowed to introduce statements made by the deceased some two days previous to her death as dying declarations. The answer of the supreme court on this point is that the rule requiring it to be shown that the declarations were made while the declarant was *in extremis* does not require that it be shown that they were made while the declarant was literally breathing her last. The rule is satisfied when it is shown that the declarant died in the course of the illness from which she was suffering at the time they were made, and that the illness from which she was suffering was the direct and proximate result of the original injury which the declarations tend to illustrate. Finally, it was urged that error had been committed in giving the jury the following instruction: "When a physician undertakes to attend an sick person, the law imposes upon him the duty of directing the sanitary conditions surrounding the patient, of prescribing the proper medicines and the times and manner of taking, and whatever other appliances and operations necessary to the restoration of health. As to the question whether or not the deceased was improperly treated in these respects, you are to find from all the evidence in the case; and, if you have a reasonable doubt from the evidence as to whether or not the deceased was improperly treated in these respects, then you must find the defendant not guilty." But it will be noticed, the supreme court says, that no attempt was made, in this instruction, to define the degree of care and skill required of a physician. This was done in the preceding instruction, which is not quoted in the opinion, and, while it is true that the word "gross" was not used, yet the jury were told that they could not find the defendant guilty unless they found that his neglect was willful and felonious. The charge as a whole, the court holds, was a clear and concise statement of the law applicable to the case, and could not have misled the jury.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

### Medical News (N. Y.), April 6.

1 *Advertising in the Profession. G. Frank Lydston.
2 *Resection of the Cervical Sympathetic. Howard J. Williams.
3 *The Question of Drainage in Appendicitis. A. M. Pond.
4 *New Methods in Charity, with Better Results at Less Cost. Wm. P. Spratling.

### Boston Medical and Surgical Journal, April 4.

5 *Diseases of the Myocardium. Henry Jackson.
6 *The Condition of the Myocardium as Affecting Cardiac Murmurs. H. D. Arnold.
7 A Further Note on the Treatment of Epidermoid Cancer. Francis H. Williams.
8 Report of Cases from the Second Surgical Service of the Children's Hospital, Boston. (Congenital Paraplegia, Etc.) H. L. Burrell, R. W. Lovett, and J. E. Goldthwait.

### Philadelphia Medical Journal, April 6.

9 *The Prophylaxis of Venereal Diseases. Prince A. Morrow.
10 *On Certain Disorders of Sleep. Charles A. Dana.
11 *General Metabolism in Diabetes Mellitus. David L. Edsall.
12 *A Preliminary Communication of a Study of the Brains of Two Distinguished Physicians, Father and Son. Edward Anthony Spitzka.
13 Santiago as a Yellow Fever Center. L. C. Carr.
14 *A Correlation of Some Facts in the Propagation of Yellow Fever, with the Theory of its Conveyance by the Culex Fasciatus. H. R. Carter.
15 Suprarenal Capsule—Its Use in Rhinological Operations. Charles C. Royce.
16 A Clavicle Crutch. Carter S. Cole.
17 A New Tenaculum. R. C. Coffey.

### New York Medical Journal, April 6.

18 *The Active Principles of Digitalis Leaves. Joseph W. England.
19 *Comparative Pathology of the Jews. (Concluded.) Maurice Fishberg.
20 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.
21 *Rectal Feeding in Throat Diseases. A. C. Bardes.
22 Medical Aspect of Christian Science. W. M. Polk.

### Medical Record (N. Y.), April 6.

23 *Relation of the Public to the Medical Profession. D. B. St. John Roosa.
24 *The Importance of Aseptic Vaccination, with Remarks on Vaccination in General. Wilhelm Karl Kubin.
25 *The Field for Ethyl Chlorid Narcosis. Martin W. Ware.
26 *On the Diagnosis and Prognosis of Diabetes Mellitus. Henry S. Stark.

### Cincinnati Lancet-Clinic, April 6.

27 *Deformities or Defects in Development from Adenoids. John A. Thompson.
28 Gumma of the Sternum. Mark A. Brown.

St. Louis Medical Review, April 6.

29 Substitute Infant Feeding by Laboratory Milk. John Zahorsky.
30 *Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis. John Young Brown.
31 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. C. H. Dalton.

American Medicine (Philadelphia), April 6.

32 Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. (To be continued.) William Osler.
33 Mortality of Operation for Obstructive Jaundice. (To be continued.) John B. Deaver.
34 *Phelps' Operation for Clubfoot with a Report of 1650 Operations. (To be coutinued.) A. M. Phelps.
35 An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. (To be continued.) H. A. Hare.
36 *Carcinoma of Pylorus. Frank Billings.
37 *Puerperal Sepsis: Its Prevention and Methods of Treatment. E. E. Montgomery.
38 On the Anatomy of the Renal Vessels and Pelvis of the Kidney in Relation to Digital Exploration of that Organ in the Operation of Nephrotomy. William Keiller.
39 A Rare Form of Extrauterine Pregnancy. Brice W. Goldsborough and Thomas S. Cullen.
40 *The Early Diagnosis of Insanity. Carlos F. MacDonald.
41 Dust as a Factor in Diseases of the Upper Respiratory Passages. (To be continued.) W. Scheppegrell.

Bulletin of the Johns Hopkins Hospital (Baltimore), February.

42 *Preliminary Note of a Case of Infection with Balantidium Coli (Stein). Richard P. Strong and W. E. Musgrave.
43 Hyperextension as an Essential in the Correction of the Deformity of Pott's Disease, with the Presentation of Original Methods. R. Tunstall Taylor.
44 *Two Examples of Bence Jones' Albumosuria Associated with Multiple Myeloma. Louis P. Hamburger.
45 Report of a Case of Fulminating Hemorrhagic Infection Due to an Organism of the Bacillus Mucosus Capsulatus Group. George Blumer and Arthur T. Laird.

Louisville Monthly Journal of Medicine and Surgery, April.

46 Practical Consideration of Acute Suppurative Inflammation of the Middle Ear and Mastoid. J. Morrison Ray.
47 Diseases of the Sigmoid Colon. William V. Laws.
48 Traumatic Injuries of the Skull. R. C. McChord.
49 Infantile Malaria. William Britt Burns.
50 Malignant Tumor of the Omentum. C. E. Speidel.

Journal of Experimental Medicine (N. Y.), March 25.

51 *Malarial Parasitology. James Ewing.
52 *The Nerves of the Capillaries, with Remarks on Nerve endings in Muscle. Chr. Sihler.
53 *The Influence of Bile on Metabolism. Elliott P. Joslin.
54 *The Relation of Diabetes Mellitus to Lesions of the Pancreas. Hyaline Degeneration of the Islands of Langerhans. Eugene L. Opie.

Pennsylvania Medical Journal (Pittsburg), March.

55 *Report of Three Cases Bearing on the Subject of Ovarian Hydrocele. Reed Burns.
56 A Plea for the Earlier Recognition of Squint in Children by the Family Physician and the Earlier Application of the Methods of Treatment. C. A. Veasey.
57 Nausea and Vomiting in Pregnancy. John M. Batten.
58 Surgical Intervention in Purulent Discharges from the Ear. Joseph E. Willetts.

St. Louis Medical and Surgical Journal, April.

59 Deformations on American (Incan) Pottery Not Evidence of Pre-Columbian Leprosy. Albert S. Ashmead.
60 About Carbon Dioxid. Enno Sander.

Archives of Ophthalmology (New Rochelle, N. Y.), March.

61 The Equivalent Refractive Index of the Lens in Accommodation. W. N. Suter.
62 Exenteration of the Orbit for Malignant Disease with Immediate Application of Thiersch Skin flaps Throughout the Entire Orbital Wound. Harry Friedenwald.
63 *Different Methods in Which Glioma of the Retina Invades and Affects the Optic Nerve. E. F. Snydacker.
64 *On Ulcus Rodens Corneæ. Prof. Schmidt-Rimpler.
65 *Experimental Investigations on the Effect of Posterior Sclerotomy. Theodor Tobler.
66 *Clinical Contribution to the Subject of Unilateral Nystagmus. Otto Neustätter.
67 Contribution to Ophthalmoplegia Interna, with Special Reference to Reflex Iridoplegia. George Levinsohn.

Clinical Review (Chicago), April.

68 Surgical Clinic. (Osteomyelitis, Lymphoma, Etc.) N. Senn.
69 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

American Journal of Obstetrics, March.

70 *Preferable Technique of Closing the Incision in Abdominal Section and Herniotomy. J. Wesley Bovée.
71 *The Use of the Spray in the Local Treatment of Gynecologic Diseases. James C. Wood.
72 Interstitial Pregnancy. Louis J. Ladinski.
73 Glue Casts for Teaching Primary Repair of Perineal Injuries. Robert L. Dickinson.
74 A Few Observations on Cystitis with Presentation of a Cystoscope. J. M. Baldy.
75 A Report of Two Cases of Cesarean Section Under Positive Indications, with Terminations in Recovery. Daniel H. Williams.
76 Dry Labor: Report of a Case with a Peculiar History. L. W. Atlee.
77 Dermoid and Other Cysts of the Ovary. (To be continued.) Samuel W. Bandler.

Mississippi Medical Record (Vicksburg), April.

78 Cerebral and Meningeal Manifestations of Malaria. W. A. Carnea.
79 The midwife. B. L. Culley.

Annals of Surgery (Philadelphia), April.

80 *Conservative Operations for Renal Retention. Christian Fenger.
81 *The Appendix in Relation to the Psoas Muscle in Three Hundred Male and One Hundred and Eighteen Female Adult Autopsies. Trauma of the Psoas Muscle Produces Appendicitis. Byron Robinson
82 *The Value of the Roentgen Method of Diagnosis in Detecting and Excluding Renal and Ureteral Calculi. Charles Lester Leonard.
83 *Ileus Due to Vascular Obstruction. L. L. McArthur.
84 Ileus Due to Mechanical Obstruction of the Fecal Current. D. A. K. Steele.
85 Ileus Caused by Neoplasms. A. J. Ochsner.
86 Fissure of the Head of the Radius. Carl Beck.
87 Excision of the Cervical Sympathetic Ganglia for Exophthalmic Goiter. J. Shelton Horsley.

Medical Dial (Minneapolis, Minn.), April.

88 Radical Cure of Femoral Hernia. Knut Hoegh.
89 Chloretone in General Practice. Harry F. Thompson.
90 Quinin as an Antipyretic. J. Hobart Egbert.

Love's Medical Mirror (St. Louis), March.

91 *Fatty Degeneration of the Heart. Thomas G. Satterthwaite.
92 A Report of Two Cases of Knee-Joint Trouble Occurring in Infants. F. B. Hall.
93 "Acute-Purpura Hemorrhagica with Autopsy." F. W. Gavin.
94 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. H. C. Dalton.
95 Persistent Suprapubic Vesical Fistula Treated by Means of Bottini's Operation. Willy Meyer.

New Orleans Medical and Surgical Journal, April.

96 Relation of a Case of Cardiac Embolus Following Forceps Delivery; Death Fifteen Days Later. L. G. Lebeuf.
97 Case of Supra-vaginal Amputation of the Uterus for Fibroids Complicating Pregnancy. C. Jeff Miller.
98 Ankylosis of the Temporo-Maxillary Articulations with Osteoclasis and Formation of New Joints. Paul A. McIlhenny.
99 Three Cases of Ocular Disease. M. Feingold.
100 Suprarenal Liquid with Chloretone in Rhinology. Chas. F. Sauter

Medical Council (Philadelphia), April.

101 Disorders of the Sexual Function in Man. (To be continued.) A. H. P. Leuf.
102 Hemorrhoids: Etiology, Pathology and Treatment. Charles F. Hope.
103 An Unusual Case of Eclampsia. Wm. B. Kenworthey.
104 A Case of Erythema Scarlatinaforma. Ralph Browning.
105 Curing Common Colds. Quick Cure of La Grippe. B. F. Underwood.
106 Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.
107 Vesico-vaginal Fistula, Spontaneously Closed After Vaginitis. W. O. Bunnell.
108 On Suggestive Therapeutics, Magnetic Healing, and Osteopathy. T. H. Linc.
109 Poisoning by Hyoscin Hydrobromate. A. G. Servoss.
110 *Pneuma-Massage. Chas. B. Morrell.

Southern Practitioner (Nashville, Tenn.), April.

111 Charge to the Graduating Class of the Medical Department of the University of Tennessee. Perry Bromberg.
112 Use of Bromids in Hysteria, Delirium, Etc. J. S. Murphy.
113 Laparotomy for Pus in the Pelvis Under Analgesia from Intraspinous Injection of Cocain—A Clinical Lecture. Wm. D. Haggard, Jr.

Medical Examiner and Practitioner (N. Y.), March.

114 *Under Average Risks. E. Pools.
115 *Mitral Stenosis. J. Mora Moss.
116 *The Significance of Arteriosclerosis in Life Insurance Examinations. S. Mahillon.
117 *Deaths by Lightning. S. W. Abbott.
118 *Cremation as a Life Insurance Problem. Frederick L. Hoffman.

119 Wheeling for Health and Not for Records. F. S. Grant.
120 Acute Parenchymatous Nephritis Engrafted on an Old Granular Kidney—Uremia from Suppression of Urine—Coincident Venesection and Normal Saline Transfusion. Talbot Jones.
121 Treatment of Lobar Pneumonia in Children. C. Eugene Lack.
122 Some of the Advantages of the Local Examiner Making and Sending Direct Examinations. B. Roscoe Gary.
123 Should the Medical Examiner Return His Report of an Applicant for Life Insurance to the Agent. John H. Duncan.

Southern California Practitioner (Los Angeles), March.

124 Physical Effect of Alcohol. W. V. Whitmore.
125 A Case of Contracted Pelvis. F. O. Yost.
126 Mutual Obligation of the Medical Profession and the Public. Geo. L. Cole.
127 Treatment of Incised Wounds. Albert Solland.
128 Percentage Artificial Feeding. Kate Wilde.
129 Care of Chronic Cases in Sanatoria. W. Jarvis Barlow.

Southern Medical Journal (La Grange, N. C.), March.

130 Some Practical Points in the Study of Typhoid Fever. Geo. W. Lecato.
131 Clinical Aspect of Pneumonia. J. W. P. Smithwick.
132 Visiting the Sick. D. S. Merrill.
133 Skin Grafting: A Report of Two Cases. J. W. P. Smithwick.

Carolina Medical Journal (Charlotte, N. C.), March.

134 *Moot Questions in Abdominal Surgery. H. A. Royster.
135 Pneumonia. I. W. Faison.
136 *Notes on Heroin and Heroin Hydrochlor. T. W. Keown.
137 Importance of Dilating the Pupil in Treating Inflammatory Diseases of the Eye. W. H. Wakefield.

Charlotte Medical Journal, March.

138 *Moot Questions in Abdominal Surgery. H. A. Royster.
139 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
140 A Case of Severe Mastoid Neuralgia. John Dunn.
141 *Have We a New Treatment for General Septic Infection? Van Telburg-Hofman.
142 One Day's Experience in General Practice. I. A. McSwain.
143 Has Cod Liver Oil a Place in Pediatric Therapeutics? Henry Y. Ostrander.
144 Lithemia. Addison E. Jones.
145 The New Century. T. B. Greenley.
146 Toleration and Intolerance. T. Beath.

New England Medical Monthly (Danbury, Conn.), April.

147 Report of State Hygiene. Granville P. Conn.
148 Case of Extreme Anematosis. T. J. Biggs.
149 On the External and Internal Employment of Argentamine. Dr. Bergel.
150 Prevalence and Treatment of Gout. Charles W. McIntyre.
151 Abuse of the Curette. Augustin H. Goelet.

## AMERICAN.

1. **Medical Advertising.**—In this article Lydston holds that advertising is a necessity in the medical profession as in others, and notices the way in which the Code of Ethics is circumvented if not often openly violated by professional men. He notices the multiplication of medical colleges which are coming to make it a distinction not to be a professor, and remarks that while teachers often pose as philanthropists selfish advertising is the most probable cause of their action. He maintains that the unwritten law of the medical profession, that its members must keep themselves in the background, has been one of the greatest stumbling blocks to professional advancement and the influence of physicians would be greatly increased if it were ignored. Medical men should take a hand in public affairs and make themselves prominent in politics and other matters, and should not object to legitimate notice. This, however, does not include self puffs or courting newspaper notoriety in medical matters, inviting reporters to clinics, etc., or publishing alleged new discoveries from undigested and insufficient research. He says careful, conscientious work and good results are the best advertisements, but in order to get these we must have patients.

2. **Resection of the Cervical Sympathetic.**—After reporting a case of resection of the cervical sympathetic for glaucoma, Williams reviews the history of the operation and mentions its indications. He says sympathectomy is indicated in glaucoma simplex, inflammatory glaucoma where iridectomy has failed, hemorrhagic glaucoma early in the disease; and it should be tried in absolute glaucoma with pain in preference to enucleation. In unilateral trouble the ganglion of the corresponding side should be excised. While sympathectomy may not be curative in every case of glaucoma, the results thus far have been sufficiently satisfactory to make it a desirable procedure in this much-dreaded disease. The operation in other conditions such as Graves's disease, etc., is noted, but the author thinks that its use in epilepsy is practically a failure, judging from reported experience. The bad effects reported in animals from cervical resection do not appear to occur in human subjects.

3. **Drainage in Appendicitis.**—The question of drainage in appendicitis is noticed and Pond thinks that the peritoneum is capable of disposing of large quantities of pus if equally distributed over the peritoneal area. What is needed is some agent which will put pus and pus-forming elements into solution. The requisites of such are sterility, the power of holding the pus, blood, etc., in a homogeneous solution, and that it should be a stimulant to absorption. Hot normal saline solution meets all these requirements, and he mentions also as adjuvants, increased hepatic activity and posture. Elevation of the foot of the bed sometimes a few inches tends to gravitate the fluids toward the diaphragm and leads to absorption. Six cases are reported illustrating these ideas, and while he says that these may not be of much statistical value they prove we can do without drainage in appendicitis. The general trend of surgery at the present time is to do without drainage, which is only essential in surgery of certain glands, ducts and cysts to remove irritating fluids, as in cases involving the stomach, spleen, pancreas, liver, gall-bladder and urinary bladder. The old maxim, "when in doubt, drain," is about, he thinks, to be revised to read, "when in doubt do not drain."

4. **Charity Methods.**—Spratling's summary of his article is given in the following propositions: 1. Prevent insanity, epilepsy, imbecility, idiocy and feeble-mindedness, as far as possible, by making it impossible for persons so afflicted to marry. 2. Build less expensive structures in which defective and dependent state charges shall live. 3. Maintain at less cost the cases that are chronic and incurable, and maintain at greater cost, to stimulate recovery, those that probably can be cured. 4. Give those that ought to have it an education that they can use, either in the institution that cares for them, that the cost of their maintenance can be lessened, or in the outer world, when they leave the institution, after the state has done its work well and turned them back into the great business current, as nearly normal men and women as science and art can recreate them.

5. **Myocardial Diseases.**—Cases and the associated conditions of the clinical picture of heart disease are noticed by Jackson; those for instance due to obstruction of circulation, embolism or thrombosis of the coronary arteries, inflammatory processes, atrophy, tumors, hypertrophy and dilatation which may be caused by valvular disease, diseases of the heart wall including chronic myocarditis and new growths, and from causes outside of the heart by pericardial adhesions, kidney and lung disorders, systemic poisonings, and overwork, as also from some causes as yet unknown or obscure. In arteriosclerosis we find as a rule much greater enlargement of the heart than in valvular disease.

6. **Cardiac Murmurs.**—The origin of cardiac murmurs from valvular disease has been over-estimated. Arnold discusses the subject at length. He thinks that mitral regurgitation may occur without any valvular disease whatever, and is inclined to believe that all the anemic murmurs of the left side of the heart are really due to mitral regurgitation. When any murmur exists it is of importance to investigate the myocardium. We may find it due to an entirely remediable condition of the cardiac muscle instead of an incurable valvular disease, hence the importance of investigating for other signs than murmurs alone.

9. **Venereal Diseases.**—The medical aspects of the social evil in New York are discussed by Morrow who notices the extent of its consequences and gives the noteworthy points. He has investigated the origin of syphilis in the syphilitic women in his hospital service during the past year. Fully 90 per cent. were married and, excluding all cases where there was suspected irregularity, there were 70 per cent. who appeared to

be cases of conjugal infection. The innocent victims of venereal diseases are not confined to marital relations; there are many other possibilities which he enumerates. He does not believe the regulation of the social evil according to the European methods is ever going to be practicable in this country. The methods he suggests are the hospital care of every case possible and a campaign of education.

10. **Sleep Disorders.**—Sleep is a period during which the brain rests from its consequent activities, empties itself of the products accumulated by this activity, and builds itself up for future work. Excessive sleep, Dana thinks, is like a flux in which too much is carried away, while insomnia is a constipation in which morbid products are retained. Insomnia is in itself often an overrated symptom. The majority of people can get along with perhaps one-half to one-third their usual amount of sleep if they rest quietly in bed, and, therefore, a certain loss of sleep is not necessarily damaging. He gives illustrations of the varieties of insomnia, morning insomnia from 3 o'clock on, connected with degenerative changes in the brain, worry or something of that sort, insomnia from motor shocks, epileptoid disturbances which the author does not consider is connected with genuine epilepsy. This, he thinks, is simply due to circulatory changes taking place in a rather over-tired, excitable cortex. The other symptoms of psychic shocks, apprehension, sensory shocks, etc., in neurasthenic cases, waking vertigo, migrainous seizures in sleep, paresthesia, painful dreams, epileptoid conditions, sleep-walking, etc., are also mentioned. Most of these symptoms occur in connection with such underlying conditions as neurasthenia, lithemia, arteriosclerosis, cardiac weakness, and a few can be ascribed to digestive disorders and a few perhaps to abortive forms of epilepsy. The treatment consists in attention to the underlying conditions, heart and general tonics, antilithemic remedies, attention to the general health; moderate exercise and fresh air are perhaps the best hypnotics. The safest medicinal agent, if any is to be used, is single small doses of bromid persistently kept up.

11. **Diabetes.**—The theory of diabetes and the general metabolic changes taking place in this disorder are discussed at length by Edsall, who is inclined to think that the cause of the disease is either through a loss of the normal power of destroying sugar or from a lack of normal power of producing glycogen and thereby controlling the amount of sugar supplied to the blood. Either of these theories will satisfactorily explain the condition. Apparently the imperfect glycogen production theory is the one most favored by the author. He quotes the experiments of Sachs, who found that extirpation of the liver in frogs did not alter the power of these animals to assimilate glucose but produced a strong tendency to alimentary levulosuria.

12. **The Brains of the Seguins.**—Spitzka's article gives a comparison of the brains of two distinguished physicians, the Seguins, father and son, and points out special features of each and those that are common to both, correlating these with their traits as exhibited during life. In each the left insula was markedly developed over the right, the left occipital index was smaller than the right and the left frontal larger. These and a number of other facts give strong evidence, he thinks, of direct hereditary transmission, but there was a curious fact of the reproduction of unilateral asymmetrical peculiarities of one side in the father's brain and on the other in the son's. The great development of the insula is striking and, according to Spitzka's view, seems to be connected with the special speech development and general power of expression exhibited by both possessors of the brains.

14.—This article is noticed editorially in THE JOURNAL of April 13.

18. **Digitalis.**—England questions the assertion made by Solomon, that digitoxin is the chief active principle of digitalis, on the ground of its slowness of action. While the fat free tincture made by him produces physiologic effects in from fifteen to sixty minutes, it takes from six to thirty-six hours to produce them with digitoxin.

19. **Comparative Pathology of Jews.**—In his concluding article Fishberg sums up the facts by stating that the death rates of the Jews are relatively and absolutely lower than those of other races. Their marriage and birth rates are smaller, but their low death rate causes a more rapid increase. They are especially free from many of the infectious diseases such as epidemic cholera, smallpox, and tuberculosis, and from syphilis and alcoholism with their consequences. On the other hand, they are especially liable to diabetes, functional neuroses and psychoses, though not to organic nervous diseases. The great majority of cases of amaurotic idiocy occur in Jewish children, and insanity is from two to five times more common than among the Christian population. Color-blindness, trachoma, glaucoma, hemorrhoids, hernias, varicose veins, etc., are very frequent among the Jews. Not all these peculiarities are due to ethnic, or racial characteristics of anatomy or physiology, but to the history and habits of life, and they are readily lost when the Jew adopts the customs and habits of those around him.

21. **Rectal Feeding.**—Bardes recommends rectal feeding in throat affections, reporting cases to show its success. Its advantages are, he thinks, non-irritation of the throat, avoidance of struggling in children, shortening of the progress of the disease, absence of the danger of food entering the larynx, the possibility of giving just such food and stimulation as desired, and the food is not bolted, as it is when swallowing is painful.

23. **The Relation of the Public to the Profession.**—Roosa's paper is a review of the advances that have been made in medical education and medical science generally in the past century.

24. **Aseptic Vaccination.**—The value of vaccination and the possible untoward complications are noticed by Kubin, who gives an extended series of cases obtained from the literature, by correspondence and by personal observation. He describes his method of aseptic vaccination, i. e., thoroughly scrubbing with soap, washing with alcohol and ether and again with sterilized water; then after scarifying and rubbing in the virus, he covers the wound with an aseptic gauze compress, fastening it with strips of adhesive plaster. His aseptic shield, which can be applied over the site of the vaccination, is also described. In conclusion he suggests laws for compulsory vaccination and revaccination, and special teachings as to the methods in medical schools and instruction in public schools on the importance of vaccination.

25. See abstract in THE JOURNAL of February 2, p. 343.

26. **Diabetes.**—The symptoms of diabetes and its method of diagnosis are first noticed. Stark considers the use of the yeast fermentation test and especially the differential density test of Roberts as the best for office work. The reduction tests by copper and bismuth have a certain negative value, that is, they prove that the urine which does not react is free from sugar, though they do not absolutely prove its presence. In quantitative estimation he specially mentions Rudisch's saccharometer. As regards prognosis a number of conditions must be taken into account: the age, power of assimilation of carbohydrates, early recognition of the disease, complications, the condition in life, state of the urine and power to assimilate fats and nitrogenous foods. All cases arrange themselves into one of three types from the prognostic standpoint: 1, the mild type where glucose disappears with gradual decrease of carbohydrates; 2, the intermediate type where it only disappears after complete exclusion of carbohydrates; 3, the severe type where this exclusion is unavailing.

27. **Deformities Due to Adenoids.**—These conditions are illustrated and described by Thompson, who accounts for them in a general way, assuming the defect to be caused by the lack of development due to important functions. He shows how the nose, mouth, thorax, ear, etc., may be thus impaired or deformed.

30.—See abstract in THE JOURNAL of April 6, p. 986.

31. **Diphtheria Antitoxin in Scarlatina.**—Some two years ago Dalton accidentally discovered that diphtheria antitoxin

was an excellent remedy in scarlet fever, and later investigations, he claims, have proven that it is equally efficient as a preventative. He has tried it in so many cases that he classes it as a sovereign remedy. He has used it in twenty-five or thirty cases since his first one, has immunized the other children in the family and has had no mortality whatever. He has been impressed by the mild form assumed after the use of antitoxin in a number of cases after running a severe course. See also title 94.

34. **Clubfoot.**—Phelps argues against trusting orthopedic measures in the treatment of clubfoot, excepting when employed early in life, and then favors simply the use of the hands. The method that he proposes is given as follows: 1. Exclude all cases which, by manipulation or force, can immediately or in a reasonable length of time, says a few weeks, be cured; then the following rule should be followed: 2. Cut the contracted parts as they first offer resistance, cutting in the order of those parts which first contracted when the deformity was produced, beginning with the tendo Achillis open. 3. The shortened inner side of the foot and short skin indicates the operation. The operator will then proceed, after strong manipulation or force is applied with a clubfoot machine or with the hands, to divide subcutaneously, first the tendo Achillis. If the skin is not short, subcutaneous tenotomy in the sole of the foot will usually suffice. If the skin is short an open incision about one-fourth the distance across the foot should be made, beginning directly in front of the inner malleolus, and carrying down to the inner side of the astragalus. Through this incision the following tissues can be cut, if they offer strong resistance, in the order given: Tenotomy of tibialis posticus; division of abductor pollicis; division of plantar fascia through the wound; division of flexor brevis muscle; division of long flexors; division of deltoid ligament, all its branches; peroneus longus—posterior ligament. 4. Linear osteotomy through the neck of the astragalus. 5. Resection of a wedgeshaped piece of bone from the body of the os calcis, the point meeting the linear osteotomy through the neck of the astragalus. The foot will now swing to a straight position. (This paper is to be continued.)

36. **Pyloric Carcinoma.**—The case reported by Billings, which was successfully operated on, was in a young man, aged 28, and interesting otherwise by the presence of much HCl. in the stomach, in excess of what is usually the amount in this disease and the fact that perforation occurred with an opening the size of a lead pencil without producing serious disturbance or discomfort. The operation was hastily made at night, but recovery was good, though subsequent involvement of other abdominal organs has apparently occurred.

37. **Puerperal Sepsis.**—The prevention of puerperal sepsis by proper aseptic precautions on the part of the physician and the nurse before, during, and after labor is insisted on by Montgomery and the treatment recommended by him summarized as follows: 1. Prevention by the exercise of the most careful asepsis and antisepsis. 2. The accurate study of each puerperal case to recognize the cause of high temperature and eliminate other factors than sepsis. 3. The maintenance of the vital forces and the promotion of elimination by the administration of diet and remedies to meet indications. 4. The employment of serum injections when streptococcic infection can be recognized or justifiably inferred. 5. Resort to operative procedures must be governed by the local manifestations. Curettement is rarely justifiable in pure sepsis. Peritonitis or localized cellular inflammation in the pelvis should indicate vaginal incision and drainage. Hysterectomy is indicated whenever the uterus can be recognized as the seat of localized collections. When the ovary or tube only is involved, it should be removed. The recognition of a pus collection should indicate its evacuation or the extirpation of the organ in which it is situated. 6. The continuance of symptoms of sepsis when local manifestations are not recognized will justify incision to determine the presence of secondary sources of infection.

40. **Insanity.**—Insanity is a relative condition and MacDonald, therefore, dwells on the importance of comparing the patient with his normal self, when making the diagnosis. The various symptoms are mentioned, both physical and mental, and he remarks that the range of normal mental action is so wide that a person ought not to be called insane unless there is a prolonged departure from his normal mental self. The diagnosis from severe physical illness should be carefully made, as meningitis, delirium tremens, etc., have sometimes led to mistakes. The two most frequent prodromes are insomnia and constipation. The importance of relieving these, especially the insomnia when associated with any mental symptoms whatever, is insisted upon.

42. **Balantidium Coli (Stein).**—Strong and Musgrave report a case which came under their observation suffering from diarrhea, constantly becoming aggravated and finally uncontrollable, and extreme emaciation, relative increase in eosinophiles in the blood and the presence of flagellate infusoria in the stools. At the necropsy there was considerable evidence of inflammation in the jejunum and ileum, shallow ulcerations, presence of Balantidium coli in the intestinal coats and lymph follicles, etc. Although certain authors have expressed the belief that the parasite is only an accidental and unimportant complication, the writers agree with Henschen as to its pathologic importance and consider it the exciting cause of the conditions found.

44. **Bence Jones's Albumosuria.**—In the first case reported the urinary reaction was acid; the urine was pale and of low specific gravity, gave a wide range of Heller's test and heavy precipitates when heated, clearing up on boiling and on the addition of acetic acid. A precipitate appeared with nitric acid, which dissolved again on boiling and reappeared with cooling; proteid contents of .27 per cent. and biuret reaction in cases where found. The examination of the urine sufficed to make the probable diagnosis of myeloma. The patient suffered from tenderness of the bones, nausea, loss of weight, etc. In the second case the urine was in a general way similar to the first, the proteid contents still greater, and there were some hyaline casts present. Hamburger gives the history of Bence Jones's albumosuria and describes the myelomata which have been found in the cases. He reports in full also the history of Kahler's case as illustrating the disease. He knows of but one other condition which can be diagnosed from urinary examination, and that is the widespread destruction of liver substance characterized by the presence of leucin and tyrosin in the urine.

51. **Malarial Parasitology.**—Ewing's article reviews the technique of examination of the general morphology of the parasites of malaria, and discusses the question of plurality of species in the estivo-autumnal group, studying specially their structure. He describes a form of conjugation of the tertian organism, and concludes by saying that whatever theory will finally be established regarding the variety of human malarial parasites, the evidence would seem to justify the opinion of Kruse, Canalis, Babes, Celli, Danilewsky, and others who regard the existence of several species as not yet proven, and find not only in malarial parasitology, but especially from comparative biology, that the phenomena of the disease are more easily reconciled with the existence of a single polymorphous species. He thinks that in many ways the knowledge of this would be furthered by adherence to a unicist theory as a practical working basis.

52. **Nerves of the Capillaries.**—The conclusions of Sihler's article in substance are as follows: 1. The endings of the motor nerves in striped muscle remain on the outside of the sarcolemma. Aside from the surfaces of contact of muscle and nerve fiber, the end fibers are covered down to their tips with the sheath of Schwann and provided with nuclei. The precise condition of things at the places of contact of nerve and muscles is as yet an unsolved problem. 2. The ivy-like or festooned arrangement of motor nerves in the frog's muscle has been misinterpreted. Properly interpreted it demonstrates that the nerve fibers which influence the muscle fibers are not naked and that they need not be end fibers. Mere contact between muscle fiber and nerve fiber is all that is needed. 3. The sheath of Henle in the frog and in the smaller muscle fibers of the snake is open, permitting escape of the cerebrospinal fluid. 4. In

other animals Henle's sheath extends over the end fibers of the motor nerves and cells lining it envelop the end fibers. The so-called *Sohlensubstanz* of Kühne is derived from the cells of Henle's sheath. 5. The terminal fibers in smooth muscle form a network entwining the bundles. The author considers it improbable that each plain muscle fiber has a special nerve fibril. 6. In muscular tissue fine non-medullated nerves, probably belonging to the centrifugal, vasomotor system, proceed from fasciculi of motor nerves, and can be traced directly to a network surrounding the capillaries. From this network fine, nucleated, nerve fibers pass to the walls of the capillaries to which they are closely united. 7. The nerves supplying the capillaries connect also with sensory nerves, these nerves surrounding the larger arteries and veins. 8. The branches of the chorda tympani in the submaxillary gland terminate on the capillaries, not in the gland cells. 9. In muscular and glandular tissues—and perhaps throughout the body—there is a vast peripheral nervous plexus. These nerves of the capillaries, which may perhaps be regarded as nutritive nerves, regulate the production and transudation of lymph and are concerned in glandular secretion. These can be called into activity by peripheral and central nervous influences and from the sympathetic ganglia and influence, through their connection with these vasomotor nerves on the vessels, the blood supply of a part.

53. **Bile and Metabolism.**—The conclusions of Joslin's article are that bile increases the digestion of fat when given in pill form. The percentage of fat lost in the stools of the patient (who had a biliary fistula allowing collection of bile) was 63 per cent. in the first and 57 per cent. in the third periods of the experiment when bile was not given. This corresponds closely with Muller's results in human beings and dogs with complete obstruction of the common duct. Under bile medication the stools contain 23 per cent. less than found in the first period, and 17 per cent. less than in the third, representing the actual diminution in the amount lost in the stools. In other words the average digestion of fat in the periods without bile was 40 per cent. and with bile 60 per cent. 2. The digestion of nitrogenous food is improved by the use of bile pills when the fat is excessive in the stools. Instead of the average 15 per cent. being lost, 7 per cent. escaped digestion during the four days the patient took bile. This is perhaps accounted for by the better digestion of fat at this time allowing the proteid elements to be more thoroughly exposed to digestive juices. 3. Ox bile is a cholagogue. The amount of bile-solids secreted in the bile period was 47 per cent. greater than in the period before and after. This confirms the work of other investigators. 4. The effect of bile on the bowels was not remarkable, yet they moved more satisfactorily. In dogs diarrhea was usually produced. Pfaff finds it variable in patients; in some it is laxative, in others it has the opposite effect. 5. It is observed that the urea and nitrogen was excreted in greater amount in the bile period than in either of the others. No definite conclusions, however, can be drawn, because more nitrogen was ingested during the four days and the salol given may have been a factor. 6. The urine was increased more than 50 per cent. during the bile period, and the amount was about the same as when the bile was taking its natural course. Von Noorden has recorded a similar increase following removal of the obstruction in acute catarrhal jaundice. The salol coating on the bile pills, which amounted to 1.25 grams, was not sufficient to account for this fact.

54. **The Islands of Langerhans.**—In a previous number of this journal Opie described the alterations in these structures in the various forms of chronic interstitial pancreatitis and discussed the relations of these lesions to diabetes. He has recently had the opportunity of studying the specimens from a case of diabetes in which the causal relation between these bodies and the disease was more clearly demonstrable. These were the seat of a degeneration which had left unaltered the secreting parenchyma of the gland. The history of the case, with microscopic findings and the staining reactions, is discussed in detail, and it forms a very striking illustration of the connection of these bodies with the disease found in them, and supports the inference from preceding cases since here only the islands of Langerhans were involved. The conclusion is justified that these structures influence carbohydrate metabolism and what has been learned concerning the relation of the pancreas to diabetes is the relation of the islands of Langerhans to the disease.

55.—**Ovarian Hydrocele.**—Three cases bearing on the question of ovarian hydrocele are reported by Burns. The anatomical conditions are described. He thinks that they support the view of J. Bland Sutton that the so-called tubo-ovarian cysts are cases in which the ovary and distal end of the tube have been shut in by adhesions into an unusually deep ovarian fossa and the space so formed and its connecting tube have become distended with fluid. They are not strictly ovarian hydroceles, but this term is used, nor are they tubo-ovarian cysts. In operating, if we find the condition the better course is, he thinks, to throw a ligature around the tissues containing the ovarian artery on the pelvic side and another around the artery and tubes close to the uterus, then split the tissues over the ovary and remove it and the tube. Mass ligatures around the ligament containing the ovary are hazardous, being liable to include the ureter.

63. **Retinal Glioma.**—The methods of invasion of glioma of the retina, as described by Snydacker, are stated as follows: 1. The commonest method of invasion is for the tumor cells to force their way through the interspaces of the lamina cribrosa, into the nerve-fiber bundles, to follow these backward, invading them and substituting glioma cells in their place. 2. The perivascular spaces of the central vessels also afford a means of ingress for the tumor cells. The tumor pushes its way in alongside the vessels, and then the cells radiate outward in the stroma of the nerve exactly as the anatomy of the parts would lead us to expect, for the septa are connected with the vessel sheaths, radiating outward and forming the sustentacular framework of the nerve. 3. The cells, after infiltrating the nerve-fibers through the lamina cribrosa, invade the pial sheath, fill the intervaginal sheath, run backward and reinvade the nerve, mainly along the septa. 4. The cells invade the choroid, then follow the course of the posterior ciliary vessels and nerves. In this manner they may invade the dural sheath in one of two ways: they may force their way between the fiber bundles of the sclera and thence into the dural sheath and intervaginal space, or they may make their way into the retrobulbar space and from here invade the dural sheath. 5. The glioma cells follow the course of the venæ vorticosæ and from here follow the lymph channels into the supravaginal space and infiltrate the nerve sheaths. 6. Tumor perforates the ball and invades the nerve from the orbit.

64. **Ulcus Rodens Corneae.**—This rather rare condition is described by Schmidt-Rimpler who reports a case. The disease commences as a narrow extended ulcer along the corneal margin. It differs entirely from ulcus serpens which usually begins at the center and progresses toward the periphery. It might be more readily confounded with shallow marginal ulcers seen in old people, but the periphery does not heal with new formation of vessels and thickening of the tissues while the ulcer extends centrally. Moreover, these ulcers have not the undermined gray margin and they are more transparent. There is a particular form of marginal ulcer, which he has called in his text-book chronic peripheric furrow keratitis, which might be confounded in the beginning with ulcus rodens and is the probable cause of some cases reported cured of the latter, but it never extends centrally as does ulcus rodens. The etiology of rodent ulcer is uncertain. He rejects the view of Ahlstrom and others that it may be due to anesthesia of the corneal nerves. The most rational treatment, he thinks, is cauterization and scraping, and possibly covering the ulcer with conjunctiva, though one can not always expect good results.

65. **Posterior Sclerotomy.**—Tobler's conclusions are summed up as follows: 1. The meridional sclerotomy gapes more and bleeds less than the equatorial and hence is preferable to the latter. 2. In the living eye a posterior sclerotomy does not give rise to a current from the subconjunctival space into the interior of the eye, but this occurs in the dead eye. 3.

After a posterior sclerotomy a centrifugal current arises, passing from the interior of the eye through the section into the subconjunctival space. 4. The liquid which escapes through the wound is watery and contents salt. 5. The wound may be expected to close by the eighth day, under normal circumstances.

66. **Unilateral Nystagmus.**—The cases reported by Neustaetter show that unilateral nystagmus may appear in all varieties assumed by the bilateral nystagmus, and he is of the opinion that it is not to be distinguished as regards its nature from this. The transference of nystagmus from one eye to the other indicates in his mind that we should consider it indicating nothing more than a modified bilateral nystagmus.

70. **Closure of Incision in Abdominal Section.**—Bovee describes his technique in closing incisions in abdominal sections and herniotomy, which is essentially the use of abdominal sutures in tiers somewhat on the plan of Marcy's method elaborated. He found kangaroo tendon and catgut to be the best. Thorough asepsis is practiced and five or six tiers at least are employed. The dressing is composed of several thicknesses of gauze soaked in flexible collodion in all but the upper and lower layers. A well-fitting bandage over all completes the dressing, which is undisturbed for twelve to fifteen days. The advantages which he claims for it are that it leaves no injured tissue to slough, produces firm and rapid union, dressing is cheap and comfortable, and needs no changing, the exposure to infection is almost *nil*, the bandages afford proper support to the abdominal wall, and the resulting scar is excellent. He has used his method forty-five times without a single bad result, and in five years he has seen but one hernia result from the use of this method with a somewhat less perfect technique during most of the time.

71. **The Spray in the Local Treatment of Gonorrheal Diseases.**—Wood has been dissatisfied with the swab and tampon processes, and has experimented with the spray in local treatment. He calls attention to its advantages

80.—This article was abstracted in The Journal of March 16, p. 773.

81. **Relation of the Appendix to the Psoas Muscle.**—Robinson describes the relation of the appendix to the psoas muscle in 118 autopsies on females and 300 on males, giving an elaborate summary of the conditions.

82. **Skiagraph Detection of Calculi.**—From an examination of 136 cases of calculi, the detection of 19 cases of ureteral and 17 cases of renal calculi, Leonard concludes that both negative and positive diagnoses by the Roentgen method are accurate and valuable; that the ureteral calculus is more common than has been supposed, amounting to about 50 per cent. of all, and that the non-operative treatment without negative diagnosis by this method is irrational. It is precise, but accurate reading of the results are necessary. In case of small calculi low down in the ureter non-operative treatment can be permitted. Negative diagnosis does not preclude exploratory nephrectomy, but it makes unnecessary the actual incision into the kidney in search for calculi. Dilatation of ureter with bougies, as has been practiced in the female, may be employed in the male, by utilizing a suprapubic cystotomy wound to guide the instrument.

83. **Ileus from Vascular Obstruction.**—McArthur describes a case of ileus due to cutting off of the circulation of the coats of the bowels. He gives the four most constant symptoms of ileus caused by mesenteric embolism or thrombosis: 1. Blood seen either in the washings from the bowel, in bowel movements and in the vomitus, unaccompanied by the tumor of intussusception. 2. Colicky-like pains, associated with pains in the back and lumbar region. 3. Early collapse if the embolism has been sudden or extensive. 4. Cardiac disturbance, arythmia, great frequency, albuminuria.

91. **Fatty Degeneration of the Heart.**—Fatty degeneration of the heart, according to Satterthwaite, is a common affection, though it is not to be classed as a disease *sui generis*. It is rather a process attending lack of compensation in valvular disease, and also occurring in other conditions. It is caused by fevers, toxemia, dyscrasias, mechanical injuries, disorders of nutrition and may be a physiologic process of senility or after parturition. He divides it into three stages, early, intermediate, fatal, each being distinguished by certain clinical signs. In the early stage the prognosis is best for complete recovery. In the intermediate it is not good for complete arrest, but the patient may be so far improved as to enjoy a higher degree of health for an indefinite period. In the third or final stage the prognosis is always unfavorable.

94.—See also ¶31.

110. **Pneuma-Massage.**—The method of pneuma-massage is described. The apparatus consists of a small motor, massage pump and a set of cups. The pump has three valvular actions: 1. Pressure, which forces a column of air against the part, like the tapping of a hammer; it has an almost human touch of great delicacy. 2. An alternating current that gives a vibratory effect, shaking the skin up and down from 250 to 10,000 times per minute, depending on the speed of the motor. 3. That of suction or dry cupping. The extent and duration of the vacuum is under the control of the operator, who can constantly relieve the pressure by raising his finger even when the motor is at its maximum speed.

114. **Under Average Risks.**—Poels remarks on the ignorance of the experience of American physicians by European practitioners, and asks for co-operation in changing this. He thinks that insurance companies may possibly do injustice by too rigid rules and thinks we have striking examples among those now issued as impaired or under-average lives, of the feasibility of the plan of using a more liberal policy in regard to admission to insurance. He asks whether certain cardiac diseases are now to be regarded as proof of sudden or premature death? Shall the non-fatality of heredity be forever denied? Are we not now in possession of data showing the comparative harmlessness of certain hereditary tendencies or personal defects? He believes that many risks are unjustly declined by insurance companies, causing financial loss to them, and resentment on the part of the examined.

115. **Mitral Stenosis.**—After describing the etiologic factors, diagnosis, etc., Moss notices three points in the investigation of the heart which should be attended to in every examination: "1. Remembering that the thrill and murmur are often perceptible in a very limited area only, auscultation should be practiced not alone over the area for the four valves, but over the whole precordia as well. 2. Palpation should be made not only at the apex, but to the right of it also. 3. Percussion should always look for extension of the area of cardiac dulness upward and to the right. In employing these three procedures as a matter of routine, cases will be discovered that might otherwise escape detection." He also calls special attention to a sure and rapid method of determining any abnormality in the vertical extent of cardiac dulness which, so far as he knows, is original with Dr. J. Wilson Shiels, of San Francisco. "It consists in placing the third, second and first fingers of the left hand upon the third, fourth and fifth interspaces respectively. The divergence of the fingers will usually be found to correspond so well with the divergence of the ribs that the fingers will lie evenly in the spaces. Now striking the fingers from above downward, we normally obtain three notes of distinctly different quality, due respectively to lung tissue alone, to heart and lung, and to heart alone. Any variation from the normal will at once attract attention, and its cause may be sought by the usual methods."

116. **Arteriosclerosis.**—The significance of arteriosclerosis to life risks is discussed by Mahillon, who thinks that in the majority of cases its existence with antecedent heredity or history is a matter of serious importance and, with a history of gouty or rheumatic diathesis added, makes the gravest risks. The habits of the patient should always be taken into consideration, especially those who drink, the occupation, such as the liquor and tobacco business especially. All gouty and rheumatic applicants for insurance, who have passed their 40th year and have rigid arteries or disorders of the heart function, history of angina pectoris or who use tobacco to excess should

be rejected. Where indications of arteriosclerosis are only slight and heredity is good, the heart and kidneys free from lesions and the habits in all respects exceptionally good, the cases may be accepted.

117. **Deaths by Lightning.**—Abbott finds that in Massachusetts, during the last fifty-seven years, there have been 185 deaths from lightning. A lightning stroke is not always fatal and many persons have been injured only. The majority of the victims were men, i. e., 129. The greatest number occurred in the summer months. In about one-half, death occurred in persons from 15 to 40 years of age and only 4 were in children under 5 years of age. This is due to males and young adults taking the greatest risks. He finds also, by examining the census reports, that death by lightning is more frequent in states which lie along the base of the Rockies, and in heavily timbered regions of the Northwest, than in the North Atlantic Coast region.

118. **Cremation.**—Hoffman pleads for precautions before giving permits for cremation, and especial care on the part of physicians in giving a certificate of the cause of death where cremation is to be performed.

134.—This article has appeared elsewhere. See THE JOURNAL of April 6, title 41, p. 991.

136. **Heroin.**—After giving his experience with the drug Keown says that the properties of heroin and heroin hydrochlorid are sedative and analgesic, hypnotic and antispasmodic, and it is much to be preferred to morphia, because it leaves no depression, is not followed by nausea, whether taken before or after meals, while heroin hydrochlorid agrees very well with all stomachs.

138.—This article has appeared elsewhere. See THE JOURNAL of April 6, title 41, p. 991.

139.—Ibid., ¶38 p. 994.

141.—Ibid., ¶39, p. 994.

## FOREIGN.

### British Medical Journal, March 30.

**Some Clinical Aspects of Chronic Bright's Disease.** ALFRED G. BARRS.—The pathologic distinctions of the different forms of Bright's disease are not specially valued for clinical purposes by Barrs. The real question is, in his opinion, whether the condition is chronic or acute. Statements as to the prevalence and duration of life in the different forms of renal diseases are likewise considered of no weight in determining the dangers and management of any given case. The indications for treatment and prognosis depend entirely on the effects the disease has had and is having on the general health and vital functions, and are determined by conditions existing at the moment. As regards the etiology, he doubts the causative relation of acute Bright's disease to the chronic forms. Acute cases usually end in recovery or death. The average chronic case arises without any history of what could be regarded as an acute attack. As to how they arise is one of the most difficult questions to answer—the natural suggestion would be infection. He does not even credit alcohol as being a common cause and, as regards gout, he considers the relation quite as often the reverse, gout being the result of renal disease. The recognition of chronic renal disease is not always easy and only one point is of value, viz., albuminuria. He has never seen a case of albuminuric retinitis, the only distinguishing sign which could be presented, without the coexisting presence of albumin in the urine. The statement that chronic Bright's disease can exist without albuminuria he believes arose entirely in the postmortem room; it can not be diagnosed during life. While the presence of albumin is of the greatest importance, its quantitative estimation is of no value whatever and the estimation of urea is likewise unimportant. Urines of low specific gravity without albumin are said to indicate chronic Bright's disease, but this is not a reliable indication, and as regards tube-casts, he thinks no urine that does not contain albumin need be searched for them. The cardiovascular changes are not so uniformly inevitable or so common as ordinarily supposed, and recognizable high blood tension is not the rule. The danger is in the falling, not in the increasing, blood pressure in chronic renal disease. Arteriosclerosis altogether independent of renal affections is a more common cause of cardiac hypertrophy than Bright's disease, and vascular disease of this nature is probably a cause as well as result of renal disorders. It is also the real cause of cerebral hemorrhage that is so often attributed to kidney trouble. The really fatal symptom of Bright's disease is toxemia. As regards the diet, he objects to the purely milk diet. He thinks it has no marked advantages, and his rule is that if the bowels and kidneys are moving freely the patient may live on such ordinary mixtures of diet, including meat, as he has appetite for and as are digested. The distinctions we draw between the different kinds of meat, in treating cases of gout, are in his opinion ridiculous. Alcohol may be avoided if cardiac failure does not require it. As to the drugs, he has no great faith in anything except the systematic use of purgatives for the general treatment, and beyond that no drugs are necessary except for the special symptoms as they arise. Barrs does not place much reliance on the so-called vicarious action of organs. Diuretics, such as digitalis, may be of use, but almost as frequently fail. Diaphoretic drugs like pilocarpin are sometimes unpleasant not to say dangerous in their effects. Hot baths, and hot-air baths which are directly under our control will do all that can reasonably be done. Nervous and respiratory disturbances of the more severe degree of renal toxemia will tax our therapeutic resources to the utmost. They generally also indicate portending death. The old practical rule that opium and morphin should not be given is still one to be considered in most cases, but there are respiratory and mental disturbances in which morphin alone relieves and for which it may be given with safety. He thinks in a certain kind of wakeful, painful, non-soporific form of uremia morphin is of the greatest value, and if care is exercised can be used without harm. The contraindication is that which common sense would suggest, viz., the presence of any tendency to coma.

**On Generalized Infection in Gonorrhea.** ARTHUR H. WARD.—The proposition offered in this paper is that the gonococcus produces an irritating toxin which is the direct cause of all the symptoms of the disease. In all cases it is absorbed into the system and causes systemic degeneration of varying severity. Gonorrhea, is therefore, a general toxic affection, while the microbes which form the toxins are generally localized on or around a mucous tract. The microbic invasion may extend to organs connecting with the infected tract, or may penetrate into the tissues either by direct invasion as by infection or penetration through the uterus, through the Fallopian tubes or by processes of growth through the affected mucosa. The absorbed toxins paralyze the leucocytes and prevent their action on the microbes. Having reached the circulation, the gonococcus may invade the heart or be carried into the peripheral capillaries. Invasion is favored by too energetic measures directed to local infection, since they depress the local powers of resistance and, by abrading or lacerating the mucous surface, may practically open a door to invasion. The general treatment must vary according to the general conditions, and will differ as these are referred to toxemia alone or to toxemia complicated by metastases. Local treatment is always required and should be without violence of any kind. These ideas are amplified to some extent. The existence of the toxin has been demonstrated by De Christmas and others. The larger the areas of microbic growth, the greater the quantity of toxins that may be developed and absorbed, and Ward holds that local inflammation is the direct evidence of toxic absorption. In prolonged gonorrhea severe general toxemia may occur in persons debilitated by drink and other causes. In the female the interior of the body may be invaded by direct extension through the uterus and Fallopian tubes. Ward thinks that diffuse peritonitis may be due to this cause, though it is either rare or unrecognized. The lymphatics, glands and the general circulation may be invaded and severe symptoms are produced when the heart is involved. As regards the treatment of metastases of gonococcus by drugs, the author says the less said about it perhaps the better. Internal treatment by a drug of the germicide class is probably indicated. Quinin holds out

the best hope of relief, though if it fails it is well to try mercury, arsenic or salicylates. When, on the other hand, toxic degeneration is threatening, a careful treatment directed to oxidation and elimination, such as potassium iodid internally, large quantities of water, baths, exercises, change of air, etc., will be of most service. He also calls special attention to the dangers of too energetic measures addressed to local infection, and gives an illustrative case in which there was a general infection due, he thinks, to a too active treatment in the acute stage. It pointed out to him the danger of favoring the generalization of gonococci by too energetic measures, causing abrasions or injury of the mucous surface. Since that he has not allowed any instrument to be passed in the acute stage, nor has he employed high pressure injections or abortive antiseptics.

**On the Treatment of Glycosuria and Diabetes Mellitus with Sodium Salicylate.** R. T. Williamson.—Sodium salicylate has been strongly recommended for diabetes, by Ebstein of Göttingen, though it has apparently not been much prescribed in England. Williamson has been testing it recently on a patient, covering a period of twenty-two weeks, during which time he estimated the sugar excretion, with results that seemed to him proof that sodium salicylate had in this case a definite influence in greatly diminishing the sugar excreted. He has also tried it in nineteen other cases, but as only one of these was in the hospital, the results are less reliable. In most cases the diet was restricted at the same time the sodium salicylate was given. A brief statement of some of the cases is recorded. He says he does not think it advisable to give sodium salicylate if serious complications are present or if the patient appears to be losing ground rapidly, because the drug has a bad reputation with some and a fatal termination during the treatment might be attributed to it. He says it is not a specific and it does not usually have a marked effect on the severe forms, but in certain mild cases it is indicated. It is not suitable in all cases, and when administered needs to be carefully watched and fairly large doses are usually necessary to produce decided results. The natural sodium salicylate is more satisfactory than the common artificial preparation. It is best to commence with 10 gr. doses three to four times a day, and increase it up to 15 gr. four or five times a day, watching carefully for any toxic symptoms. In the severe forms, though sodium salicylate does not usually cause much change in the sugar excretion, the patient sometimes gains in weight and improves in general condition.

Journal of Tropical Medicine, March 15.

**Some Notes on Blackwater Fever, More Especially in Regard to Its Causation and Treatment.** R. U. Moffat.—The author rejects the quinin theory from his own experience, and also the idea that blackwater fever is a specific disease or condition of independent of malaria. His opinion is: "Blackwater fever is a complication of malaria only produced when the blood glands have lost their normal regenerating power, either through the influence of malaria or any other constitutional cause. It is then caused by a chill acting on the surface of the body when the malarial parasites are in active development some hours before their sporulation. The effect of the chill is to cause a determination of the parasites to the deeper organs at a time when they should be in the peripheral circulation, and as a result sporulation takes place prematurely and there is a sudden death of all parasitic-bearing corpuscles." The latter part of his theory, dealing with the manner in which the chill acts, is pure speculation, he admits, though there are facts to support it. In regard to the main point, the influence of a chill at a certain stage, his opinion is based on such practical experience so often repeated that it is impossible to regard it as coincidence. In one case he had examined the blood immediately before the attack and found it swarming with parasites. The next morning after the attack he could not find a trace of them. For some reason the parasites disappear directly hemoglobinuria ensues whether quinin be given or not. He thinks the brood, the sporulation of which produces blackwater fever, aborts at once and the condition tends to spontaneous cure. He has been careful to avoid leaving his bed until the temperature is normal in case of malaria, and therefore has generally escaped blackwater fever. In one case where medical duties made him violate this rule his fears were realized; the chilling of the body surface brought on the disease. For the treatment, he believes quinin, 5 gr. three times a day, is a good prophylactic. If malaria develops in spite of this the greatest care should be taken to avoid chills. The patient should go to bed at once if possible. The question whether we shall or shall not give quinin arises. He has himself given it with so much success that he dare not take the risk of experimenting without it. Owing to the gastric irritability the quinin, and in fact all medicaments, must be administered hypodermically or per rectum. He prefers the former because we require the rectum for the purpose of alimentation in these cases, and to favor elimination of free hemoglobinuria as quickly as possible, and prevent blocking of the kidney tubules, he encourages the patient to drink freely of bland liquids to flush the kidneys. It is true that vomiting is produced, but still a certain amount of fluid is absorbed and the vomiting would occur anyway, and it is good to have something to vomit. He offers his theory of the disorder as a provisional working one which in his opinion best meets the requirements.

Annales de Dermatologie (Paris), February.

**Study of True Pemphigus.** C. Audry.—A typical case of pure, chronic pemphigus was made the subject of special research in respect to the alterations in skin, blood and urine. The leucocytosis, the adenopathy and marked disturbance in the urinary interchanges, demonstrate that nothing in the organism escapes altogether the action of the still-unknown poison which causes the disease. The blister may develop between the horny layer and the granular layers, or between the rete mucosum and the basal cylinder layer. It may likewise cause the total denudation of the papillæ by lifting up the epithelium or by secondary destruction of the epithelial elements which cover the papillæ. Small collections may also originate in the rete Malpighii. All these various forms were observed in this case, but the relative integrity of the subepithelial connective tissue was remarkable and also the absolute and paradoxical integrity of the prickle cells. These facts suggest that the epithelial and cutaneous lesions are secondary, and derived from some more general cause. The blister can develop only in case of pre-existing alterations in the epidermis, and it has no more significance in pemphigus than râles in pneumonia.

**Antagonism Between the Skin and Buccal Mucosa in Syphilis.** A. Renault.—In a large number of cases, fully 75 per cent., the cutaneous manifestations of secondary syphilis are not accompanied by lesions in the bucco-pharyngeal mucous membrane. A dozen cases are described as illustration of this antagonism, and Renault observes that we are justified in promising patients with a confluent, papulous syphilide, that the lips, tongue and throat will not be affected. The facts also demonstrate that inveterate smokers need not at once stop smoking, but may break off gradually—smoking is always deleterious in secondary syphilis, immediate total suppression is not necessary under these circumstances.

**"A Woman Who Has Borne a Child to a Syphilitic Husband Is Necessarily Syphilized."**—Besnier advanced this proposition at a meeting of the French Society of Dermatology, acknowledging that it was an exaggerated statement, but insisting that it is true in many more cases than is generally recognized, especially in those in which the husband's infection dates from only two or three years. The necessity of collecting data on the subject was emphasized, in order to discover the laws governing the phenomena in question.

**Radiodermatitis or Actinocutitis from the X-Rays.** Barthelemy.—A case of injury from X-rays is described, a sclerodermization of great extent, the skin smooth, white, elastic, thick, with occasional purpuric patches and absence of the usual glands or cells. It is peculiar from the fact that the first signs of injury did not appear until five months after the last exposure to the rays. Barthélemy is now engaged on a monograph containing the reports of ten unpublished cases of cutaneous lesions produced by the application of the X-rays

as a revulsive measure in cases of salpingitis or perimetritis. New tubes and particularly vulnerable portions of the integument should be avoided, he observes, and it is still premature to introduce radiotherapy into current practice. Accidents are liable to occur when least anticipated in spite of all precautions. The physician, however, should not be held responsible any more than for a death during chloroform narcosis, when all the rules of science have been complied with.

Archives Generales de Medecine (Paris), March.

**Plants in the Transmission of Malaria.** VICENTE.—The mosquito is not the only insect which transmits and inoculates malaria, according to Vicente. He has observed cases in which the transmitting agent seemed to be the plant lice that infest oleanders, palms and certain other house plants. He is convinced that the pollen of plants floating in the air may also transmit the germs, and that the parasite of malaria loses its virulence in time, but reacquires it when restored to a marsh or to conditions approximating a marsh, such as are afforded by the dirt, moisture and heat of house plants. Insects and pollen may be the intermediate conveyance to and from the marsh. He has previously reported a strange house epidemic of malarial infection, in the midst of Paris, traced directly to a large oleander, and which broke out afresh whenever the plant was brought into the house.

Bulletin de l'Academie de Medecine (Paris), March 12.

**Helminths as a Cause of Appendicitis.** E. METCHNIKOFF.—Physicians make a great mistake, Metchnikoff asserts, in not examining the feces as a routine measure, as they examine the blood and urine. He relates four instances in detail in which recurrent appendicitis apparently necessitated operation, but investigation of the feces at the last moment disclosed the presence of eggs of intestinal worms. Vermifuge treatment promptly cured the patient and there has been no recurrence during the years since. Helminths explain the occurrence of "familial appendicitis," and also the cases of supposed appendicitis in which the appendix is found normal. He concludes that no physician should neglect to examine the feces in cases of suspected appendicitis, and to administer santonin if ascarides are found and thymol in case of the trichocephalus. Persons inclined to appendicitis should refrain from eating raw vegetables or fruits or drinking impure water. The feces of children should be examined from time to time and vermifuges given as needed. These measures would cure many cases of appendicitis, attenuate the gravity of others and diminish the frequency of the affection. The trichocephalus burrows its head in the mucosa and may mechanically induce irritation. One male worm of this kind might induce appendicitis and yet no eggs be found in the feces.

March 19.

**The Conditions and the Diagnosis of the Soil on Which Pulmonary Tuberculosis Develops.** A. ROBIN and M. BINET.—In 1300 tests of the chemistry of respiration in 392 persons, it was found that in all but 8 per cent. of the 162 tuberculous patients included, the exchanges of gases in respiration were far more active than in healthy persons. Even in this small proportion, the exception to the rule was but transient in the majority. The results of the researches are tabulated and the averages show that in chronic tuberculosis the carbon dioxid exhaled per minute and per kilogram of body weight, is in women 86 per cent. more than in normal conditions, and in men 64 per cent. The total oxygen consumed increases in women by 100.5 per cent., and in men by 70 per cent. The oxygen not utilized in producing carbon dioxid and which is absorbed by the tissues, increases in women by 162.8 per cent. and in men by 94.8 per cent. The lung ventilation increases by 110 per cent. in women, and by 80.5 per cent. in men. This remarkable increase in the exchanges of gases exists also in the acute forms of tuberculosis and its importance in the diagnosis can not be overestimated. As the disease progresses and the lung capacity and the proportion of gases exchanged diminish, the ventilation increases in proportion and thus the excessive activity of the exchanges is maintained to the very last. As the disease yields to treatment and the patient is recovering, this peculiar chemistry of the respiration becomes less and less pronounced. Extrapulmonary manifestations of tuberculosis are accompanied by an exaggeration of the respiratory exchange of gases, but the lung capacity and the proportions of gases remain approximately normal. In tubercular meningitis and peritonitis, on the contrary, all these elements remain normal, and in lupus they are slightly subnormal. In order to determine the value of this exaggeration of the chemistry of the respiration as a diagnostic and differentiating measure, Robin and Binet have studied the exchanges in the respiration in forty other affections. Their research has extended over seven years, and the results show that although there is a certain resemblance between the chemistry of the respiration of a few other affections and that of tuberculosis, yet they all differ in some point sufficiently to distinguish them. In a persisting pleurisy, for instance, in which tubercular infection seems almost certain from the symptoms and the course, if the exchanges of gases and the amount of oxygen absorbed by the tissues are not exaggerated, the idea of tuberculosis can be definitely excluded, and the complete recovery in time confirms the diagnosis. The affections in which the chemistry of respiration approximates most closely that of tuberculosis, are la grippe, simple pleurisy, exophthalmic goiter and diabetes. It seems from these investigations that the descendants of consumptives must be classified in two groups: Those in whom the respiratory exchanges are normal and those in whom they are exaggerated. The former escape tubercular infection, but the latter are predisposed to the disease. In arthritism and scrofula, on the contrary, the respiratory exchanges of gases are usually below normal, which suggests an explanation for the familiar antagonism between these affections and tuberculosis. If, by studying the chemistry of the respiration, we are able to recognize tuberculosis in its incipient stages and even the predisposition to it, then the predisposed soil can be artificially modified. The greed of the tissues for oxygen can be artificially supplied, and the oxygen provided with some combustible other than the tissues. These measures, supplemented by the "mineralization of the tissues," which Robin has been advocating as an important measure in the struggle against tuberculosis, advance the campaign against tuberculosis, he believes, into a new and most promising phase in which by modifying the functional and nutritional aberrations which are necessary for the development of the tubercle bacillus, we can transform the predisposed into a refractory soil. These peculiar modifications in the chemistry of the respiration in tuberculosis contradict all the current medical or popular ideas in regard to it. The typical characteristics are, as we have seen, in the modified respiratory capacity, the percentages of the gases exchanged in the exhaled air, the ventilation, the volume of carbon dioxid exhaled and the oxygen consumed or fastened by the tissues in a given time in proportion to the weight of the subject.

Gazette Medicale Belge (Liege), March 21.

**The Sclerogenic Method of Treating Hemorrhoids.** JULIE.—Instead of removing hemorrhoidal nodules with the thermocautery or bistoury, Julie, a French army surgeon, injects zinc chlorid. Three cases thus treated are described in detail. By the tenth to the fifteenth day there was not a trace of the large and distressing nodules left. He injects a half syringeful, more or less, in each nodule the size of a walnut. His formula is 50 cg. of zinc chlorid to 20 cg. of cocain hydrochlorate and 20 gm. of water. The circulation is so sluggish in hemorrhoidal tumors that he thinks there is no danger of embolism from the injections.

Journal de Medecine de Paris, March 3.

**Influence of Medication on the Milk.**—Houselot has recently presented a thesis on the subject of the drugs which pass from the nurse to the nursling. Atropin, digitalis, ergot and sodium salicylate pass into the milk, but in such minute quantities, he states, that they can be prescribed to the nurse without inconvenience. Mercury and potassium iodid are very uncertain in this respect, and in case of hereditary syphilis it is much better to administer them to the infant directly. Arsenic passes so readily into the milk that arsenical medication should never be given a nursing woman. Quinin also is found in the milk if ingested fasting. Consequently it should be administered at meals and the milk accumulated about three hours afterward should be artificially withdrawn and not given

to the infant. With these precautions quinin can be given with impunity to nursing women. Opium should be substituted by antipyrin, which does not pass into the milk like the former. A prescription much used in Paris to promote the secretion of milk is as follows: Aqueous extract of galega, 10 gm.; calcium hydrochlorophosphate, 10 gm.; tincture of fennel, 10 gm.; essence of cumin, 15 gtt.; syrup, 400 gm.; dose, four tablespoonfuls a day.

Presse Medicale (Paris), March 13.

**The Diet in Hyperchlorhydria.** G. Linossier.—In mild cases of hyperchlorhydria or in the intervals of intermittent hyperchlorhydria, the diet should contain little nitrogenized substances, as the latter, and especially meat, stimulate the production of the gastric secretions to the maximum. But when the hyperchlorhydria is accompanied by distress and pain, then a nitrogenous diet is indicated, as albuminoid elements are readily digested, and although the gastric secretion may be stimulated, the hydrochloric acid combines with the elements of the food and very little remains uncombined. Eggs stimulate the secretions less than meat, and milk least of all. Milk also binds the hydrochloric acid most effectively. Fats have an inhibiting effect on the gastric secretions, and the prolonged use of considerable butter and cream, for instance, has a permanent effect in diminishing the hyperchlorhydria. In a case described by Strauss, a patient ingested 350 gm. of fats a day, and only 25 gm., or 7 per cent., could be discovered in the feces, and more than half of this was in the form of fatty acids or saponified.

**Serums in Therapeutics.** Vidal.—With the exception of antidiphtheria serum, none of the serums have yet answered the expectations aroused by the premature application to man of laboratory experiences. None of them seems to act directly on the microbe nor on its toxins; their action is apparently limited to the cells of the organism which they assist in the struggle against the microbian enemy. It is a general tonic, rather than a specific action. Gillet recommends injecting antidiphtheria serum at once and in sufficient dose without waiting for the result of bacteriologic examination, except in very mild cases. Hallion states that injection of artificial serum can not be considered a rinsing-out of the blood and tissues as there is no parallelism between the quantity of the urine afterward and the specific gravity of the substances eliminated in it. The toxins of diphtheria at least, are not eliminated in the urine after injection of artificial serum. Lesions of the kidneys, heart, lungs, or arteries may contraindicate its use. Baraduc injects a saline solution from a syringe that holds three grams, with a weak faradic current passing through the fluid. By this combination a smaller amount of fluid answers the desired purpose. As several cases of tetanus have occurred in Reynier's service he had a preventive injection of antitetanus serum made on a young man before an operation for hernia. In spite of this, the tetanus developed the same as in the rest, although mild at present. Vlaeff's anticancer serum continues to produce good results in his hands, but others are skeptical.

March 23.

**Immunity to Smallpox.** J. Courmont.—In an epidemic of 729 cases of smallpox at Lyons last year, the vaccin pustule and the variola developed simultaneously in 16 cases. In 24 the patients bore signs of numerous successful vaccinations, as much as six in fifty years in one patient. Three of these patients had had smallpox—ten, twenty or thirty-five years previously—and had each been successfully vaccinated two or three times. Courmont concludes that in some persons the immunity conferred is transient. Hence the greater the readiness of the response to vaccination, the more frequently one should be revaccinated. He advocates compulsory revaccination at 20 years of age. He noted that abortion or childbirth rendered the prognosis of smallpox much more serious. Only 8 survived out of 16 pregnant patients who were delivered. Five others left the hospital in good health before the termination of the pregnancy. None of the children were born with external evidences of infection, but 3 died in a few hours. Two survived without showing any signs of smallpox or vaccination. In the others, smallpox developed from the sixth to the seventh day and proved fatal.

Revue Mensuelle des Maladies de l'Enfance (Paris), March.

**Alterations in Liver and Kidneys in Gastro-Enteritis.** E. Lesné.—In acute cases of gastro-enteritis the liver and kidneys are attacked simultaneously by the toxins generated, and the liver yields after a period of hyperfunction. In subacute and chronic cases, the liver cells become gradually and progressively affected. As the liver fails to transform the poisons that reach it, they pass on with the products of the disintegration of the liver cells and are eliminated by the kidneys. This gradually entails degeneration of the renal parenchyma and allows but little urine to filter through. The urinary poisons are thus retained in the blood and affect in turn the liver and other tissues. The liver and kidneys have thus a reciprocal, injurious action on each other, which, with the superposed autointoxication, is the key to the syndrome characteristic of protracted gastro-enteritis in nurslings, and explains the slowness of recovery. Lesné succeeded in producing experimentally, by infection or intoxication with the colon bacillus, lesions in the kidneys and liver which closely resembled those observed in infants who had died from gastro-enteritis. If guinea-pigs, however, are fed with the intestinal contents from such cases, the animals become affected with a disease which closely resembles clinical gastro-enteritis, and presents the typical kidney and liver lesions. The pathogenesis of the disease is therefore probably complex, and the action of the colon bacillus is evidently re-enforced by other factors.

Semaine Medicale (Paris), March 13.

**Pathogenesis and Treatment of Obesity.** Debove.—If the surplus of food ingested, over what is actually required to sustain the body, were not consumed by oxidation and other processes to a certain extent, the body would keep on increasing in size indefinitely. The fact that this does not occur in normal conditions suggests that there must be some regulating apparatus which presides over the destruction of substances ingested in excess, and moderates combustion during periods of fasting, to maintain the nutritional balance. This regulating apparatus must belong to the nervous system and consequently its abnormal functioning, which permits the development of obesity, is a disturbance in the nervous system. The treatment of obesity should be based on this conception. The will should be cultivated to substitute the missing automatic regulating nervous apparatus. The amount of food taken should be less than the actual needs of the organism. The food should be restricted to articles which satisfy hunger without supplying many calories, such as raw or cooked vegetables, fruits, milk, etc. The patient should not eat at the table with the family, and sanitarium treatment is very desirable at first. Debove does not restrict the amount of fluids ingested, neither does he advise physical exercise. He finds that much exercise is liable to have an unfavorable effect by inducing an extra appetite. Thyroid treatment benefits obesity only in cases of latent myxedema, and he has known instances of fatal aggravation of existing heart troubles from its use. He has been remarkably successful in the treatment of obesity by the method outlined above—an unconsciously insufficient diet and training of the will-power. One of his cases was described in The Journal, April 7, 1900, p. 870, and another typical case is reported in detail in this communication, in which the weight decreased from 235 to 178 pounds in less than five months, with restoration of health and virility. It is useless, he adds, to treat patients who do not really want to be cured.

March 20.

**Echinococcus Cysts of the Liver in Children.** Broca.—Since 1892 Broca has operated on thirteen children to remove echinococcus cysts in the liver. From his experience he urgently warns against puncturing, either as a diagnostic or therapeutic measure. He remarks that every spherical tumor in the hypochondrium in children can be assumed to be a hydatid cyst. The hydatid fremitus is an inconstant sign. He noted it in one case which proved to have no daughter cysts and in which the sac was distended with fluid alone, and again in others packed with daughter cysts. An echinococcus cyst is probable when the liver is unusually large, uniform and slightly

uneven at one or two points, the subcutaneous veins over it gorged, and especially, in case of emaciation. Spontaneous suppuration of the cyst is rare in children. Extreme precautions must be taken in operating, to prevent the escape of a single drop of the fluid into the tissues. Cases are numerous in which the cyst has been grafted elsewhere from neglect of this precaution. Until last year he treated these patients by fastening the pocket to the abdominal wall, i. e., by marsupialization, and his little patients all recovered except two cases in which the cysts were disseminated so extensively that there was no hope of a successful termination. This method has many advantages but it requires three to six months for complete recovery, and consequently he has recently adopted capitonnage, and is much pleased with the results. His last patient was a girl of 13. The cyst was the size of a fetal head. The lining membrane shelled out in one piece after the cyst had been emptied and wiped dry with compresses. The cavity was closed with three catgut stitches in the fibrous membrane, and the cyst wall with a Lembert suture. The temperature ranged between 38 and 39 C. for some time afterward, although the recovery was otherwise undisturbed except for an occasional tenderness on pressure of the region and slight pain in the right shoulder. As these symptoms, although attenuated, had not entirely ceased by the end of four months, Broca re-opened the abdomen. Not a trace of the cyst was to be found. The aspect of the liver was normal and nothing pathologic could be discovered except a few very insignificant filaments of adhesions between the liver and the abdominal wall. These were detached and the child regained complete health in a few days, with no further disturbances. Bouglé has recently published a case in which two cysts were treated simultaneously by capitonnage with excellent results. Whatever the method of treatment followed, it is possible that another cyst may develop later, and require a second operation as occurred in one of Broca's earliest cases.

March 27.

**Acquired Lesions of the Aorta in Children.** Marfan.—Lesions of the aortic orifice and of the aorta are extremely rare in children. Marfan has recently had three cases at one time in his service, and study of their characteristics and analysis of others on record, show that there are two kinds of chronic, acquired lesions of this nature, the rheumatic and the atheromatous type. There are four varieties of the first group: 1. Pure aortic insufficiency, which seems to create less disturbance in children than in adults. 2. Aortic insufficiency associated with aortitis. The latter may be limited to the valve or may involve the inner coat of the artery or even be accompanied by cylindrical dilatation, indicated by a double souffle at the base. Sternal pains may be experienced but without distress or irradiation. The most frequent symptom is suffocation or paroxysms resembling those of asthma. There may be sudden dyspnea, with pallor and vomiting, but the paroxysm passes away in a few seconds. There is no true angina pectoris before puberty. Hemiplegia and aphasia may also occur as symptoms of embolism in the brain. 3. The lesions of the aorta are accompanied by a lesion of the mitral orifice. This is comparatively frequent and almost always grave. It usually causes extreme dyspnea and asystolia. 4. The aortic lesions are accompanied by pericardial adhesion with recurring asystolia. The atheromatous type is rare. Marfan reviews the seven cases on record. They include a case of aneurysm of the abdominal aorta in a fetus and one of ossification of the temporal artery in a child of fifteen months. In Sannés' case, atheroma of the aorta and valves was found at the autopsy of a boy of 13½, with an incipient aneurysm and insufficiency of the semilunar valves. The only symptom observed in one case of pure, isolated atheromatous aortitis was a neuralgia of the phrenic nerve, but as puberty approaches, this tolerance will probably cease. The lesion may lead to an actual aneurysm or become complicated by fatal asystolia. The treatment in the rheumatic group should be a vigorous salicylic medication. In the well-compensated cases all kinds of physical or mental fatigue should be avoided, also too frequent or too abundant meals and ingestion of much fluid. The seashore and water cures and an altitude above 1200 feet should be forbidden. The cardiac erethism should be soothed with opium and the alkaline bromids, and no digitalis should be administered. In the cases with asystolia and pericardial adhesion on the other hand, digitalis and its substitutes should be administered during the phases of asthenia. In case of aortitis this treatment should be supplemented by the iodids and repeated revulsion of the preaortic region.

Berliner Klinische Wochenschrift, March 11.

**Treatment of Epithelioma with Arsenious Acid.** O. Lassar.—The three patients whom Lassar reported in 1893 as cured of epithelioma of the face, by means of Asiatic pills, be now states have had no recurrence since. One is 74 years of age. He took 1000 pills in all, a total of one gram of arsenious acid. Recent photographs accompany the communication.

**Prognosis of Carcinoma of the Pylorus After Gastro-Enterostomy.** H. Strauss.—The average life of patients with carcinoma of the pylorus is six to nine months after palliative operation. In the case described the patient survived 3½ years and succumbed to pneumonia. He was a man of 35, and at the operation a carcinoma was found the size of a small apple, with numerous metastatic nodules. After antecolic gastro-enterostomy he was relieved from all disturbance for nearly two years. Vomiting then occurred occasionally, but not enough to interfere with his duties as hotel-keeper. Symptoms of stenosis of the pylorus had been noticed before the operation for 1½ years, and hydrochloric acid was found uncombined in the stomach contents, suggesting that the carcinoma had been derived from an ulcer. In carcinomata of this character Strauss has been impressed with the number of the metastatic nodules in young patients, the free occurrence of uncombined hydrochloric acid or the large amount in combination, and also by the excellent digestion in spite of the lack of free acid. Erythrodextrin is always present and there is no lactic acid fermentation, notwithstanding the extreme stagnation. His experience also confirms Hampeln's assertion that an effusion in the left pleura is an aid to the diagnosis of carcinoma of the stomach. Three of his patients were under 25; the records of the Pathologic Institute show that in 9.5 per cent. of the 245 cases of carcinoma of the stomach the patients were less than 36 years of age, and in 21.2 per cent. less than 41 years old. In 411 cases of carcinoma elsewhere than in the stomach, 5.8 per cent. were under 36 and 12.4 per cent. under 41. Other statistics that have been published confirm this relative frequency of gastric carcinoma in persons under 36.

Dermatologisches Centralblatt (Berlin), February.

**Pruritus and Tuberculosis.** S. Behrmann.—When general pruritus can not be referred to any other cause, it is reasonable to suspect that it may be a manifestation of tuberculosis, due to the elimination of the toxic metabolic products of the tubercle bacillus through the skin. Proceeding on this assumption Behrmann has administered creosote internally and externally in cases of general pruritus, even in the absence of other visible tubercular manifestations, and reports encouraging success from it. He also calls attention to the residence as a possible factor in pruritus either by infection from germ-laden walls or floors. He knows of a house in his practice in which the tenants of the first floor invariably became affected with pneumonia and many of them with tuberculosis. He is inclined to attribute epidemic icterus to similar house or barracks contagion, and suggests that the dwelling should be investigated in all cases of otherwise inexplicable and rebellious pruritus.

Mitteilungen a. d. Grenzgeb. d. Med. und Chir. (Jena), vii, 4 and 5.

**Experiences with Empyema.** G. Perthes.—For several years a Bunsen water-faucet pump has been used at the Leipsic clinic in the aspiration of the fluid of an empyema, in connection with a manometer and receiving jar. Twenty-five out of 32 patients have been treated in this way and the lesion healed in an average of forty-eight days. Twelve were recent cases and no fistula developed, but the healing was not complete for seventy-eight days on an average. Pneumococci were found

in the pus in 6 and streptococci in 4 cases. The lung unfolded within a few days after the aspirating apparatus was applied, before the secretion had dried up. In diagnosing old cases, Perthes determines the size of a cavity by radiography or by measuring the amount of fluid it will hold. The only danger is in case of a fistulous opening into the bronchi. This can be surmised if the patient has expectorated a large amount of pus on separate occasions, or coughs when lying in a certain position. Blood in the sputa after thoracotomy also indicates a fistula. If coughing is induced when the cavity is filled with an aseptic fluid a fistula is probable and it is certain if a colored fluid is used and the stain is noticed in the sputa. Even in case of a fistula, if the inflow of fluid is arrested at the first coughing-spell, Perthes does not consider the measure harmful. If the level of the fluid in the aspirating jar keeps falling, a fistula is also probable. It can be located by having the patient inhale cigarette smoke, and can be radiographed by passing a tube filled with mercury through it. Five of the old, chronic cases were completely cured, two much improved and another cured after a second operation for a recurrence. In one case the empyema dated from an abortion three months previously. The infection was due to the staphylococcus and the patient was cured in a month. In 4 of the 32 cases the lesion was evidently the result of embolism of the pulmonary artery. Pleuropulmonary fistulæ are not so rare, he thinks, as is generally accepted. A certain proportion are transient, as the fistula heals or becomes occluded by the pressure of the lung against the wall of the thorax. In one case an acute empyema persisted for seven months. The aspiration was continued for 243 days with two interruptions. The cavity was reduced in capacity from 2000 to 50 c.c. The general health remained good all the time, but whenever the aspiration was suspended, the lung retracted again.

Wiener Klinische Rundschau, March 10.

**Carcinoma in Suprarenal Capsules without Symptoms.** A. Schittenhelm.—There seems to be only one other case on record similar to the one described. An artisan, 55 years of age, had always been in good health until three months before his death. At the autopsy a medullary carcinoma was found in both suprarenal capsules, with metastases in numerous organs. There was no abnormal pigmentation of the skin, and no disturbances in the alimentary canal. The pulse was normal, and until five days before death, the cachexia and vague pains in the back, which had been noted for three months, were the only symptoms.

March 17.

**Intoxication from Tin Chlorid in Stockings.** A. Jolles.—A young woman noticed disturbances in motility and sensibility in the lower extremities, simultaneously with yellow stains on her feet after wearing a pair of fine, yellow, silk stockings. A few weeks later more intense disturbances were noted, approximating ataxia, corresponding to the wearing of the stockings, which were found to be heavily impregnated with tin chlorid. The urine showed albumoses, serum albumin and globulin in considerable amounts, and gave the tin reaction for two months after the stockings had been worn. The intoxication with tin had evidently increased the destruction of the red and white corpuscles. Jolles warns that silk, especially in light shades, should not be worn next the skin, as it is frequently impregnated with 25 per cent. of its weight with the tin chlorid to increase the "body" of the silk. The patient in question has recovered her health except for certain hysteric symptoms which still persist.

Therapeutische Monatshefte (Berlin), March.

**External Application of Salicylic Acid in Grippal Affections.** L. Bourget.—La grippe seems to have a predilection for the mucous membranes, similar to that of rheumatism for the serous membranes. Bourget has been very successful in treating rheumatism by the application of salicylic acid rubbed into the skin, and he now reports that the same method is equally applicable to the treatment of grippal affections. The liniment is rubbed into the chest and back, and then the patient is covered closely to the chin. The heat of the bed favors absorption and evaporation, and the patient is instructed to inhale the fumes occasionally. The salicylic acid appears in the urine in twenty to thirty minutes. The formula is: salicylic acid, 4 parts; methyl salicylate, 10; oil of eucalyptus and oil of nutmeg, each 5; oil of sage, 3; camphorated oil, 30; spirit of juniper, 120. He has been so successful with this treatment that he now applies it as a routine measure in all affections of the respiratory organs a few hours after the patient enters the hospital.

**Importance of Carbon Dioxid in the Treatment of Tuberculosis.** H. Weber.—Fifty-two cases of advanced tuberculosis have been treated by Weber on a new principle, and the results have been so encouraging that he now describes it for the benefit of others. It is based on the principle that a tubercular process can not progress in the presence of much carbon dioxid, as there seems to be an antagonism between tuberculosis and the dioxid. Consequently if the formation of carbon dioxid in the organism can be multiplied, the tubercular process will be checked in its development. After numerous tests Weber found that levulose is a substance which materially enhances the production of carbon dioxid. He orders it in the daily dose of 50 to 100 gm. a day, which can be ingested for months without injury, in the form of an inexpensive syrup. In certain cases he supplements the levulose with a specially prepared fluid paraffin, which he calls "antiphthisicum," and injects 10 gr. once or twice a day. He affirms that in this principle of inducing an extra formation of carbon dioxid in the organism, we have a means of conquering tuberculosis as certain in its effects as salicylic acid is in rheumatism. Out of his 52 patients, 32 were cured, 14 much improved and 6 died.

Gazetta Degli Ospedali (Milan), March 24.

**Round Ulcer of the Stomach and Hysteria.** G. Bigi.—Round ulcer of the stomach is pre-eminently a dystrophic affection. Hysteria is a general pathologic process which is capable of producing trophic disturbances, multiple or localized in the skin or in an internal organ. Bigi describes a case in which he witnessed the development of a round ulcer in a person predisposed to hysteria. The hemorrhages that occur under the vasomotor influence of hysteria are liable to appear in the gastric mucosa as well as elsewhere. Such lesions on the skin have a tendency to necrobiosis and probably the same tendency exists in a gastric lesion. The gastric juice then interferes to maintain the lesion as a permanent ulcer. Consequently, when a hysteric subject exhibits evidences of gastric disturbance, pain, vomiting and hematesis, treatment is indicated that will prevent the transformation of the lesion into an ulcer.

Semana Medica (Buenos Ayres), February 21.

**Tuberculosis in the Argentine Republic.** E. R. Coni.—The deaths from tuberculosis have diminished from 12.2 per cent. between 1868 and 1878 to 10 per cent. during the last decade. Coni, who is chief of the National Board of Health, attributes this favorable showing in regard to tuberculosis to the mild, equable climate in the more populated portions, which resembles that of the shores of the Mediterranean; to the small number of inhabitants in proportion to the extent of the country, to the absence of tuberculosis among the native cattle and to the fact that as meat is so cheap it is the main article of diet among the poorer classes. The crossing of races in the republic, he adds, has originated a new race, exceptionally vigorous, whose development is favored by the conditions of climate, life and hygienic dwellings. Alcoholism is not so prevalent as in other countries in Europe and America.

## New Patents.

Patents of interest to physicians, etc., March 19 and 26:

670,394. Vaginal syringe. Elizabeth C. Ashmead, Philadelphia, Pa.

669,976. Uterine drainage tube. James J. Bowker, Laotto, Ind.

670,199. Massage apparatus. Johannes Eckardt, Sr., Stuttgart, Germany.

670,372. Producing casein products. John A. Justs, Syracuse, N. Y.

670,237. Means for humidifying the air of rooms. Paul Kestner, Lille, France.

670,006. Electric exercising machine. Nelson H. Raymond, Buffalo, N. Y.
670,084. Inhaler. John B. Sloane, Detroit, Mich.
34,238. Design, inhaler. Elmore J. Worst, Ashland, Ohio.
670,530. Hernial truss support. Wm. F. Brownell, New London, Wis.
670,663. Combined hydrometer and syringe. Theodore D. Bunce, New York City.
670,706. Exercising machine. Emil R. Ernst, New York City.
670,494. Atomizer. Charles H. Gnibor, Topeka, Kan.
670,878. Water bag. Daniel Hogan, New York City and C. W. Meinecke, Jersey City, N. J.
670,428. Suspensory bandage. James R. Jarrell, Smyrna, Del.
670,713. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
670,792. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
670,793. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
670,684. Artificial hand. Albert C. Mueller, Wausau, Wis.
670,814. Abdominal bandage. Emma A. Richmond, Medford, Mass.
670,688. Massage apparatus. Joseph A. Riviere, Paris, France.
670,545. Portable steam or vapor bath apparatus. Moses Rostovsky, San Francisco, Cal.
670,689. Waterproof casein and prodncing same. Albrecht Schmidt, Berlin, Germany.
34,275. Design, knee member for artificial legs. Geo. W. Farrier, Milwaukee, Wis.
34,274. Design, water-bag. Christian W. Meinecke, Jersey City, N. J.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 28 to April 3, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., recently appointed, from duty at the Army and Navy General Hospital, Hot Springs, Ark., to San Francisco, Cal., en route to Manila, P. I., for service in the Division of the Philippines.

Aaron H. Appel, major and surgeon, U. S. A., from Jackson Barracks, La., to San Francisco, Cal., en route to the Division of the Philippines.

Guy G. Bailey, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

Charles N. Barney, acting asst.-surgeon, member of a board at Fort Monroe, Va., to examine enlisted men for commissions.

William Bowen, major and surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Frederick A. W. Conn, captain and asst.-surgeon, Vols., recently appointed, from Philadelphia, Pa., to the Division of the Philippines, via San Francisco, Cal.

George W. Daywalt, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to duty in the Division of the Philippines.

Henry C. Fisher, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Jackson Barracks, La.

Henry L. Gilchrist, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting by telegraph, on his arrival, to the Adjutant-General of the Army for further orders.

Charles R. Gill, captain and asst.-surgeon, Vols., recently appointed, from Fort Wood to Fort Totten, N. Y., to accompany a battalion of engineers to Manila, P. I., via San Francisco, Cal., and for assignment in the Division of the Philippines.

Frederick Hadra, major and surgeon, Vols., recently appointed, and now in San Francisco, to proceed to Manila, P. I., for assignment.

Frederick M. Hartsock, lieutenant and asst.-surgeon, U. S. A., from Fort Warren, Mass., to San Francisco, Cal., en route to the Division of the Philippines.

Edward P. Horr, captain and asst.-surgeon, Vols., recently appointed, from Manzanillo, Cuba, as soon as his services can be spared from the Department of Cuba, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis J. Ives, major and surgeon, U. S. A., relieved from further duty with the United States forces in China to proceed to Fort Sheridan, Ill., for post duty.

Frederick C. Jackson, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Thomas W. Jackson, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

N. M. James, acting asst.-surgeon, leave of absence from the Department of Cuba extended.

William F. James, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

Henry Lippincott, lieut.-col., deputy surgeon-general, U. S. A., from Denver, Colo., to Governor's Island, N. Y., for duty as chief surgeon, Department of the East.

Paul H. Luddington, acting asst.-surgeon, from duty on the transport, *Kilpatrick*, to Omaha, Neb., for annulment of contract.

George W. Mathews, major and surgeon, Vols., (lieutenant and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Fort Warren, Mass.

Edward B. Moseley, major and surgeon, U. S. A., former orders assigning him to duty at Fort Sheridan, Ill., revoked; on expiration of his present leave of absence he will proceed to Denver, Colo., for duty as chief surgeon, Department of the Colorado.

Edward L. Munson, captain and asst.-surgeon, U. S. A., from duty at Washington Barracks, D. C., to Buffalo, N. Y., to assume charge of the exhibit of the Medical Department of the Army at the Pan-American Exposition to be held there.

Robert M. O'Reilly, lieut.-col., deputy surgeon-general, U. S. A., member of a board at Fort Monroe, Va., to examine enlisted men candidates for commission as second lieutenants in the army.

Francis J. Pursell, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to the Division of the Philippines for assignment.

Julius M. Wheate, captain and asst.-surgeon, Vols., recently appointed, to proceed, on expiration of his present leave of absence, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis A. Winter, major and surgeon, 37th U. S. Vol. Infantry (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to San Francisco, Cal., where he will report to the Adjutant-General of the Army for instructions.

W. Hoepfner Winterberg, captain and asst.-surgeon, Vols., recently appointed from Fort Mason to San Francisco, Cal., en route for assignment in the Division of the Philippines.

## Navy Changes.

Changes in the Medical Corps of the Navy for the week ended April 6, 1901:

Dr. A. E. Peck, appointed asst.-surgeon from March 24, 1901.

Medical Director W. K. Scofield, placed on retired list, April 28, 1901.

Surgeon G. Pickrell, granted sick leave for three months, from April 2.

Asst.-Surgeon E. M. Blackwell, detached from *Abarenda*, upon reporting of relief, and home to wait orders.

Asst.-Surgeon R. C. Marcour, detached from Havana Naval Station and ordered to *Abarenda* after temporary duty on *Philadelphia*, May 4.

Asst.-Surgeon E. Davis, granted sick leave for three months.

Medical Director G. F. Winslow, detached from Boston Navy Yard, April 18, and ordered home to wait orders.

Medical Director E. Bogert, retired, ordered to the Boston Navy Yard, April 18th.

P. A. Surgeon E. R. Stitt, commissioned Surgeon from June 7, 1900.

Pharmacist J. Cowan, detached from *Glacier* and ordered to the *Manila* and to additional duty at the Naval Hospital, Cavite.

Surgeon G. F. Stokes, detached from the *New Orleans* and ordered to the *Solace* upon her arrival on the Asiatic Station.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 6, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: Los Angeles, March 16-23, 3 cases; San Francisco, March 16-23, 10 cases.
Delaware: Seaford, March 20, 53 cases.
District of Columbia: Washington, March 23-30, 8 cases.
Florida: Jacksonville, March 23-30, 7 cases.
Illinois: Chicago, March 23-30, 13 cases.
Indiana: Muncie, March 1-31, 23 cases.
Iowa: Clinton, March 23-30, 1 case.
Kansas: Wichita, March 23-30, 14 cases.
Kentucky: Lexington, March 23-30, 3 cases.
New Jersey: Jersey City, March 23-31, 5 cases.
New York: New York, March 23-30, 41 cases, 10 deaths.
Ohio: Ashtabula, March 23-30, 1 case; Cincinnati, March 22-29, 4 cases; Cleveland, March 23-30, 42 cases, 1 death.
Pennsylvania: March 23-30, McKeesport, 4 cases; Pittsburg, 2 cases, 1 death; Steelton, 3 cases.
Tennessee: March 23-30, Memphis, 24 cases; Nashville, 11 cases.
Utah: Salt Lake City, March 23-30, 33 cases, 2 deaths.
Louisiana: New Orleans, March 23-30, 13 cases, 2 deaths.
Maine: Portland, March 23-30, 1 case.
Massachusetts: Boston, March 23-30, 1 case; Springfield, March 16-23, 1 case.
Michigan: March 23-30, Bay City, 3 cases; Detroit, 4 cases; Grand Rapids, 1 case.
Minnesota: March 23-30, Minneapolis, 11 cases; Winona, 4 cases.
Nebraska: Omaha, March 23-30, 9 cases.
New Hampshire: Manchester, March 23-30, 3 cases.
West Virginia: Wheeling, March 23-30, 3 cases.
Wisconsin: Milwaukee, March 23-30, 2 cases.
Porto Rico: Ponce, March 18, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 2-9, 7 cases.
Belgium: Ghent, March 8-16, 1 death.
Brazil: Rio de Janeiro, Feb. 1-15, 6 deaths.
China: Hongkong, Feb. 9-16, 1 case, 1 death.
France: Paris, March 8-16, 11 deaths; Rheims, March 3-10, 1 death.
Great Britain: England—London, March 14-21, 1 case; Southampton, March 8-16, 1 case. Scotland—Glasgow, March 16-22 24 deaths.
Greece: Athens, March 3-10, 4 cases, 1 death.
India: Bombay, Feb. 26-March 5, 7 deaths; Calcutta, Feb. 23-March 2, 113 deaths; Karachi, Feb. 24-March 3, 26 cases, 5 deaths; Madras, Feb. 23-March 1, 6 deaths.
Italy, Naples, March 15, general.
Mexico: Progreso, March 1-15, 20 cases.
Russia: Moscow, March 2-9, 11 cases, 3 deaths; St. Petersburg, March 9-16, 10 cases, 2 deaths; Warsaw, March 1-8, 3 deaths.
Spain: Malaga, March 1-15, 2 deaths: Valencia, March 1-14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 1-15, 22 deaths.

CHOLERA.

India: Bombay, Feb. 26-March 5, 13 deaths; Calcutta, Feb. 23-March 2, 24 deaths; Madras, Feb. 23-March 1, 4 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Feb. 1-15, 5 cases 3 deaths.
China: Hongkong, Feb. 2-16, 5 cases, 5 deaths.
India: Bombay, Feb. 26-March 5, 1253 deaths; Calcutta, Feb. 23-March 2, 465 deaths; Karachi, Feb. 11-March 3, 113 cases, 82 deaths; Madras, Feb. 23-March 1, 1 death.

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## Original Articles.

### NOTES ON ADRENALIN AND ADRENALIN CHLORID.*


E. FLETCHER INGALS, M.D.

CHICAGO.


During the first week of January, a well-known manufacturing house sent me some of the active principle extracted from suprarenal glands, in powder known as adrenalin, and in several solutions varying from 1 to 1000 to 1 to 10,000 of the chlorid of adrenalin in distilled water or in normal salt solution. I experimented with this on numerous cases, and kept careful records until I became satisfied of its activity. In Cases 1, 2, 3, 4, 6, 9, 11, 12 and 17, I applied a very small quantity of a spray of one part of chlorid of adrenalin to 10,000 parts of water to the nasal cavities, with the effect of blanching the mucous membrane quickly, and in most cases of causing contraction of the swollen tissues in the same way that they are contracted by applications of cocain. The first solution that I used was made with distilled water, and in Cases 2, 3, 4 and 9, it caused smarting, which in one case was intense. I wrote to the firm about this, and they suggested that I employ, instead, the solution of adrenalin in normal salt solution. After using this there was no more smarting excepting in two or three instances where I was led to believe that a little formalin remained on the end of the atomizer, which had been washed in a strong solution of formalin after being used in another case; indeed, the smarting in some of the previous cases may have been due to this cause, for it is my custom always, after using an atomizer, to wash it thoroughly, then dip it in a strong solution of formalin and put it away without wiping.

Dr. S. A. Friedberg, one of my assistants, used the same solution in several cases, and reported that he thought its effects were considerably less than those obtained from a solution made by macerating and filtering 30 grains of the desiccated adrenals to the ounce of water. This preparation I have used with much satisfaction for a couple of years. It is fairly stable, lasting from two to four months without material change. The formula is as follows: Adrenals, ℥i; boric acid, grs. xvi; aqua cinnamomi, ℥iv; aqua camphoræ (hot), ℥i; glycerin. ℥i; aqua dist. (hot), q. s. ad ℥ii.

In Cases 5, 7, 8, 10, 13, 15, 26 and 27, I used a powder containing 1.5 per cent. each of biborate of soda and bicarbonate of soda and 3 per cent. of the light carbonate of magnesia with one part of adrenalin to 5000 of sugar-of-milk. I found that when the nasal cavities were stopped by swelling of the turbinated bodies, this powder, cleared them out quickly, and in most instances they remained open for a considerable length of time, but in Cases 7, 26 and 27 the nose stopped up again within a few minutes, whereas, when sprayed with the solution made with 30 grains of the desiccated adrenal glands to the ounce of water, it would remain open for several hours. In Case 15, it was found that the powder, which was used daily for about three weeks, would usually open the nose quickly, and this would remain for several hours, but it seemed to cause some insomnia. I have used a similar powder mixed in various proportions with mildly astringent or antiseptic powders, in several nasal cases, with the effect of opening the nares when obstructed by swelling, and diminishing the secretions decidedly.

In Case 28 the patient had suffered from epistaxis almost daily for several weeks. I gave her a solution of adrenalin, 1 to 10,000 parts of water, to be used as a spray three or four times daily. As the result, she has had no nose bleed for over three weeks.

In Cases 29 and 30 I used the solution of adrenalin with 8 grains of boric acid to 5000 parts of water, as a spray in the nasal cavities, with the effect of opening the cavities immediately, when they were closed by swelling, and keeping them free for several hours. I have used the same spray in several other similar cases with good results, but did not keep accurate memoranda.

In Case 14—a patient who was under my care for nasal trouble—the conjunctiva became very much congested from over-use of the eyes. I gave him a solution of one part of the adrenalin to 10,000 parts of normal salt solution. This was dropped into the eye with the effect of blanching it completely within three or four minutes. At the end of five hours the congestion was about three-quarters as bad as it had been before; more of the solution was dropped in with the same effect as previously. The pupil was not at all affected. The disagreeable feeling of the eyes immediately disappeared. One hour later congestion was about one-half as bad as it had been when the solution was first dropped in. Another application was made with the effect of blanching it promptly. In this case the remedy was used several times afterward, and the conjunctivitis speedily disappeared, the patient in the meantime being able to use his eyes with little discomfort. There was no smarting from this application.

In Case 19 there was congestion and swelling of the conjunctiva and lids, such as the same patient had experienced several times in the beginning of attacks of hay-fever. In this case one or two drops of the 1 to 5000 solution of adrenalin in normal salt solution were employed, with the effect of removing the congestion in two or three minutes. About three hours later the congestion had reappeared and another application was made, blanching it at once. The swelling of the lower lid was also considerably reduced by these two

* Read before the Chicago Laryngological and Climatological Society, Feb. 28, 1901.

applications. The uncomfortable smarting sensation, which was associated with the congestion and swelling, was relieved within a very few minutes after the application. About four hours after the second application the congestion began to reappear and another application was made in the evening. The next morning there was still a little redness and swelling of the lower lid, but no congestion nor swelling of the conjunctiva. A couple of applications were made this day and by night the conditions were normal.

In Case 20 a small amount of formalin was accidentally sprayed into the eye with the atomizer, which contained one part of adrenalin to 10,000 parts of normal salt solution; very great smarting and intense congestion speedily followed, but was relieved in three or four minutes by dropping into the eye 2 or 3 minims of a 1 to 10,000 normal salt solution. About six hours later the eye again felt badly and I applied to it a minim of 1 part in 5000 normal salt solution; blanching occurred in a minute. The next morning the eye was still somewhat congested, though much improved, and the inflammation was practically aborted, though the solution was applied two or three times during that day, and the eye was then perfectly well.

Case 16 showed congestion of the upper part of the larynx—above the cords—of about 25 per cent. I applied a solution of 1 to 10,000; this reduced the congestion about one-tenth within three minutes.

In Case 22 I applied a similar solution once to a congested larynx and reduced the congestion about three-quarters.

In Case 23—chronic laryngitis with a congestion of about 20 per cent.—I applied a 1 to 10,000 in normal salt solution two or three times. In the course of five minutes the congestion had been considerably reduced, but the throat had closed so that it could not be applied very thoroughly to every part, and only the parts actually touched by the spray were found to be blanched, while those it had not touched were of the same degree of congestion as before. From the parts that had been touched, about one-half of the congestion had been removed. In several other cases it was noted that the blanching process did not extend at all beyond the part actually touched.

Case 18, acute laryngitis with edema of the glottis, occurred in a patient of Dr. O. T. Freer, whom he referred to me at the Presbyterian Hospital. There was great swelling and redness of the epiglottis, with difficult respiration which seemed likely to necessitate a speedy tracheotomy. I directed the interne, Dr. Smith, to apply to the larynx, every three or four hours, a spray of one part of adrenalin to 10,000 normal salt solution. This was done with the effect of giving the patient speedy relief. He said that he felt as though the parts had been contracted. In addition to this treatment the patient was given ¼ gr. of nitrate of pilocarpin, which caused free salivation and profuse sweating. This was repeated twice a day for two days, therefore we can not tell just what the influence of the adrenal was; however, its immediate effects were good, as demonstrated several times. The patient made a speedy recovery.

In Case 25 the fauces were congested about 20 per cent., and I applied a spray of 1 to 10,000, but at the end of five minutes the blanching was hardly perceptible.

In Case 24, one of acute coryza, the nose was sprayed four or five times with a 1 to 10,000 normal salt solution, resulting in a speedy cure.

In Case 26, chronic laryngotracheitis with acute exacerbation, the cords were congested about 25 per cent. In this case I applied a 1 to 1000 in normal salt solution, which speedily reduced the congestion about three-fifths. The patient said he felt a drawing or astringent sensation in the throat; there was no smarting, and he seemed decidedly improved. The throat felt very much better for the next eighteen hours. A few hours later, when I saw him, the congestion appeared about as great as on the previous day. I made the same application again, with an air-pressure of about 40 pounds, but after waiting several minutes I found that there was no apparent blanching of the mucous membrane, and the patient did not feel the astringent or drawing sensations which he had noticed the day previously. Concluding that the failure arose from using too great force, I made two applications of the same solution, with 15 pounds of pressure about five minutes apart, and five minutes afterward found that at least four-fifths of the congestion had been removed. The patient said that the larynx felt very much better.

In Case 31, of subacute laryngitis with marked congestion, I applied a solution of 1 to 5000 in normal salt solution containing also 8 grains of boric acid to the ounce. It gave the patient very great relief, and for several hours he found his voice much better. The next day the larynx was much improved and a similar application was made. The following day he was practically well.

I have used this solution several times in preparing for operations in the nose, and have found that 1 to 5000 acts with about the same rapidity and intensity as the solution made with 30 grains of the desiccated adrenal glands to an ounce of water. In solutions of 1 to 5000 in normal salt solution, which were opened frequently, I found that a fungus formed at the bottom within a few days, but this has not yet appeared at the end of several weeks, in solutions made with 1 part of adrenalin to 5000 of liquid containing 8 grains of boric acid, 2 drams of cinnamon water, 2 drams of camphor water and 4 drams of distilled water. From the experiments thus far made, I am satisfied that this remedy will be of great value in the treatment of acute inflammatory affections of the nasal cavities either in sprays of about 1 to 5000, or in powders of from 1 to 5000 to 1 to 2500 of sugar-of-milk. These may be used several times daily, and we may confidently expect that in the majority of cases they will promptly remove the congestion and swelling, and that they will keep down the swelling for two or three hours or more. In acute coryza and in hay-fever, I have reason to believe we will get great relief from a solution of gr. 1/10 of adrenalin chlorid in camphor water or in equal parts of camphor water and distilled water with about 8 gr. of boric acid to the ounce. In epistaxis from various causes, a similar solution used several times a day will undoubtedly be productive of very great benefit, and in many cases it will speedily effect a cure. In acute inflammation of the fauces, it is probable that solutions of 1 to 1000 would have good effects, but the weaker solutions, such as were used in the nares, are of little value. In acute and subacute rhinopharyngitis, from the experience already obtained, I have reason to believe that great benefit will be found from using a spray of 1 to 5000 four or five times a day. In several cases in which I have already used this remedy in chronic rhinitis, the secretions have been markedly checked, though I can not tell what the result will be. In acute or subacute laryngitis, I believe that a solution of 1 to 1000, applied with moderate force, will give very great relief, and it

appears to me probable that, when applied to acutely congested cords, in vocalists, it will reduce the swelling and congestion so thoroughly that the voice may be used for two or three hours with comparative ease, and possibly with normal efficiency.

## HYPOSPADIAS.

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Hypospadias of some degree is one of the most common malformations of man. According to Rennes, Kaufman and others this deformity occurs in one of every 350 males.

There are several theories as to the cause of this condition. Some claim that from atresia of the urethra there is fetal retention of urine and finally a giving way of the urethra, or that the same result is caused by a delay in the development of the glandular urethra. The most probable is that of Reichel, who states that hypospadias is merely an arrest of development and the degree of deformity is an indication of the period of intrauterine life at which it occurred. Perineal openings develop in the sixth or seventh and glandular from the twelfth to the sixteenth week.

The more common variety is the glandular or balanic, in which the urethral opening is situated back of a broad, flattened and curved glans, the frenum being absent. The penile type of hypospadias opens at some point between the scrotum and glandis corona. The scrotal variety is presented by those cases with the urethral opening at the junction of the penis and scrotum, called peno-scrotal or in the extreme cases perineo-scrotal in which the scrotum is divided.

There is no malformation which may be the cause of more mental suffering and physical discomfort than the one under consideration, the trouble being none the less from its secret nature. A limited number have some degree of incontinence and many are compelled to pass the urine in a sitting posture from the difficulty of directing the stream. In many cases the urethral opening is so small that there is difficulty in evacuating the bladder. The penis, from imperfect development of the corpus spongiosum, may be deformed, curving downward and at times adherent to the scrotum, perfect erections or coitus being impossible; and the majority of even the balanic type of cases are sexually impotent. It is a matter of interest in this connection that several aboriginal tribes of Africa and Australia make a fistula or slit in the urethra to prevent impregnation.

*Operations.*—There are several methods of operation for the relief of hypospadias, which Van Hook classifies according to the principles involved: 1. The method of simple canalization. 2. That by denudation and suture. 3. That by the use of penile flaps. 4. That by taking flaps from the abdomen or scrotum. 5. That by the combination of these fundamental methods. To these must be added a sixth: That by mobilization and dislocation of the urethra.

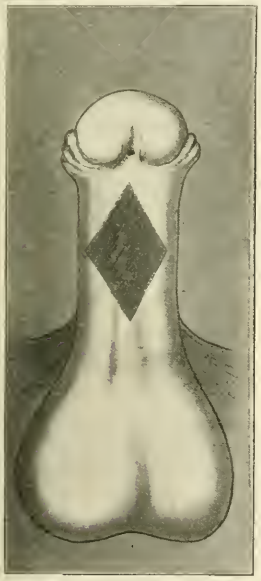

Fig. 1.—Duplay and Bouisson.

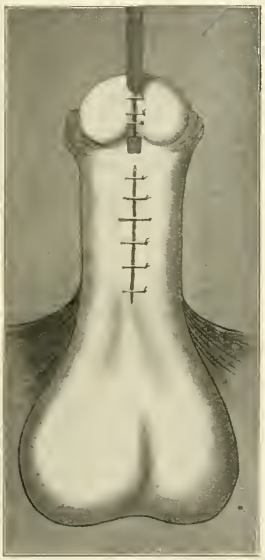

Fig. 2.—Duplay and Bouisson.

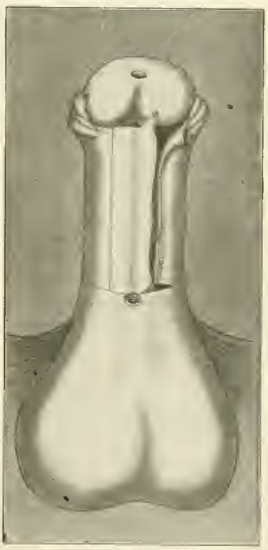

Fig. 3.—Duplay.

The operation of Dieffenbach, first made in 1838, consisted in piercing the glans penis from its summit to the normal urethra, and allowing a canula to remain in position until the canal became lined with epithelium, the previous opening of the urethra being closed. This operation was abandoned from the difficulty of maintaining the lumen of the canal when formed. Dieffenbach was also a pioneer in the operation by denudation and suture. The flap operation of Duplay has until recently been the one most commonly employed. The first step was Bouisson's principle (Fig. 1), to straighten the penis by transverse incision at the point of greatest curvature and, after straightening the organ, to close the lozenge-shaped defects by skin grafts or sliding flaps. (Fig. 2.) The age of choice for this operation is 4 years.

The second step is the formation of the new urethra

over a catheter to a point in front of the hypospadic opening. This is done by an incision on each side of the urethral groove, leaving a strip about one-half an inch wide which is dissected one-fourth its breadth toward the median line from each side and folded over the catheter. (Fig. 3.) Transverse incisions are made

Fig. 4.—Duplay and Thiersch.

at the ends of the urethral incisions and the outer flaps dissected freely and closed over the catheter and new urethra by quill suture and accurate coaptation of the skin margins. (Fig. 4.) The lateral flaps were

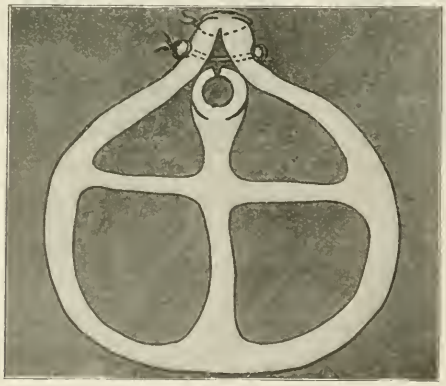

Fig. 5.—Duplay and Thiersch.

devised by Thiersch, Duplay making use of a flap of prepuce to cover the defect and new urethra. The glandular urethra is often constructed at the first operation. The age of choice being 5 or 6 years. (Fig. 5.)

The third step is the union of the two urethras, done by freshening the openings and accurate suturing; this operation is best made at the age of puberty, to secure the aid of the patient in after care. Thiersch devised the method of double penile skin flaps, the base of one being near the urethral groove, the other on the opposite of the penis. (Fig. 6.) Flaps are dissected up and one turned skin side in, to form the urethra, the other drawn over the urethra and sutured to the opposite side of the penis. (Fig. 7.) Thiersch also deserves credit for temporarily deflecting the urine by a button-

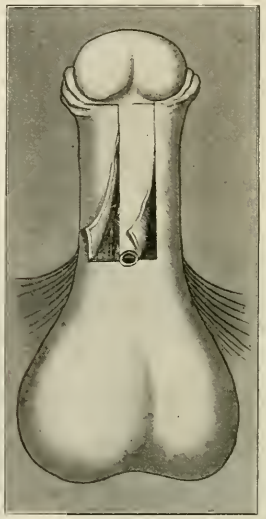

Fig. 6.—Thiersch.

hole in the perineal urethra, which he used in epispadias.

In the Wood method (Fig. 8), a large button-hole is made in the center of the prepuce near its attachment,

Fig. 7.—Thiersch.

and the glans drawn through the opening, leaving the prepuce underneath the glans. A skin flap with its base close to the urethral opening is turned up from the scrotum. (Fig. 9.) Two narrow strips are denuded from either side of the urethral groove and the scrotal flap sutured to these. The scrotal defect is closed by

sutures and the flap is covered by the prepuce which is unfolded for this purpose.

Beck, in his peno-scrotal cases, utilizes the Duplay method (Figs. 10 and 11) and covers the new urethra with a scrotal flap like the Wood operation by twisting the pedicle to turn the skin surface out. (Fig. 12.)

hypospadias by Landerer and Bidder, who denuded strips on the under side of the penis (Fig. 13) and sutured to incisions in the scrotum (Fig. 14), then, when healing was firm, dissection of the penis with its new canal from the scrotum and skin grafting or turning the skin margins over the defects in surface cover-

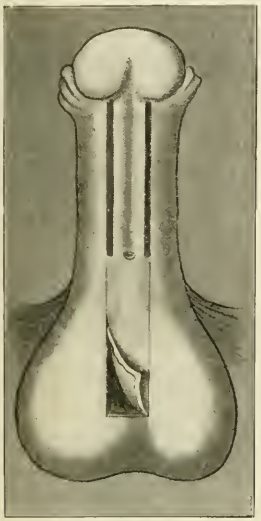

Fig. 8.—Wood

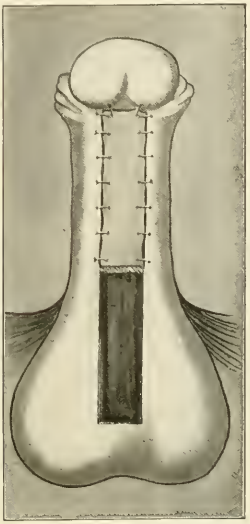

Fig 9.—Wood.

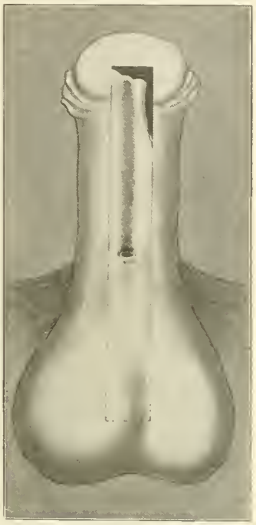

Fig 10.—Duplay, Wood and Beck.

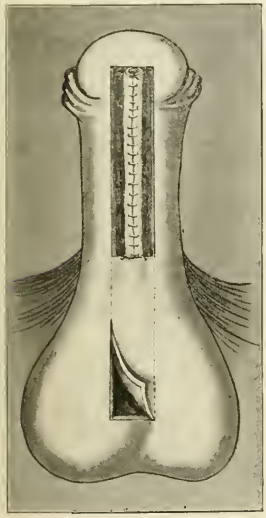

Fig. 11.—Duplay and Beck.

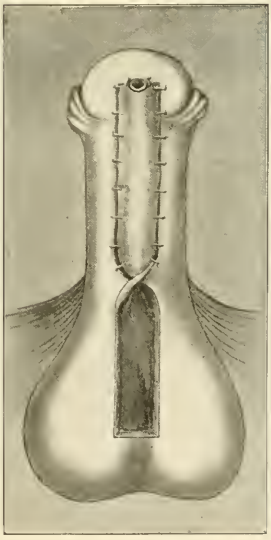

Fig. 12.—Beck.

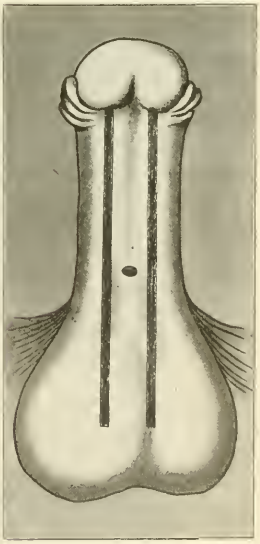

Fig. 13.—Rosenberger, Landerer and Bidder.

Rosenberger's operation for epispadias is made by incisions and denuding strips each side of the urethra, which are continuous with and sutured to similar denuded surfaces upon the abdomen, and later the organ with attached skin is separated from the abdomen and the denuded skin grafted. This method was so commonly successful that the principle was utilized in ing. This operation leaves considerable deformity, but has fewer failures than many of the earlier ones.

*Causes of Failures.*—There are several causes of the frequent failures experienced by all operators in this class of surgery. The field of operation is difficult to render sterile. Flaps are made too small and closed under tension; dressings become soaked with urine.

The bladder is drained by a catheter fixed in the canal and, after the third day, there is the straining of an irritable bladder which frequently expels the catheter, or forces out urine along side of the instrument. Frequent erections are also a cause of much discomfort. In a considerable number of hypospadiac cases operated on in Czerny's clinic, about 35 per cent. of them were uncured from the patients' lack of persisteuce in having repeated operations, and 29 per cent. of the operations

Fig. 14.—Rosenberger, Landerer and Bidder.

were failures from failures of previous operations, not counting cases healed with minute fistulæ requiring cautery or caustic for their closure. Dr. Carl Beck of

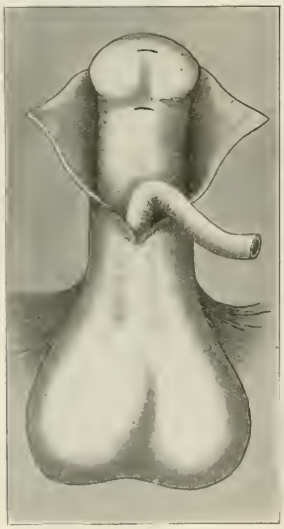

Fig. 15.—Beck.

New York, in 1897, and shortly afterward Professor Von Hacker in Europe, devised a new operation for the relief of the balanic type of hypospadias and for the penile cases with an opening near the glans. The distensibility and extensibility of the organ with all its structures furnished a basis for the operation. It is well known that the penis in a state of erection is nearly double its length when flaccid, the corpus spongiosum and urethral walls containing much elastic tissue. The Beck operation consists in completely mobilizing sufficient urethra to extend to the position in which it is

Fig. 16.—Beck.

wished to place the meatus. (Fig. 15.) The urethral site on the glans is freshened and made of sufficient

Fig. 17.—Beck.

depth to close the glans over the tube of urethra. (Fig. 16.) The urethra is exposed by an incision well back along the penis and is freed from its bed and its opening sutured to the glans. The incision is closed by sutures which also serve to build a frenum by attaching the freshened prepuce to the base of the glans penis. (Fig. 17.) When there is a shallow groove

and little deformity, the glans may be tunneled with a narrow bistoury or trocar and the tube of urethra drawn through and sutured to the opening on the surface of the glans. (Fig. 18.) The advantages of the method are many. The total length of urethra is normal in its mucous membrane. There is no catheter needed, patients pass urine freely during the healing process, and the wound pursues a normal course of repair free from urinary contamination.

The operation may be performed in cases of mild degree at a very early age. Dr. Beck has operated successfully on one infant of 5 months. While this operation is probably the best one possible for a certain class of these malformations, it must be combined with some other method to make it useful in relieving most of the penile, peno-scrotal and perineo-scrotal cases.

The 1899 report of the Heidelberg clinic presents

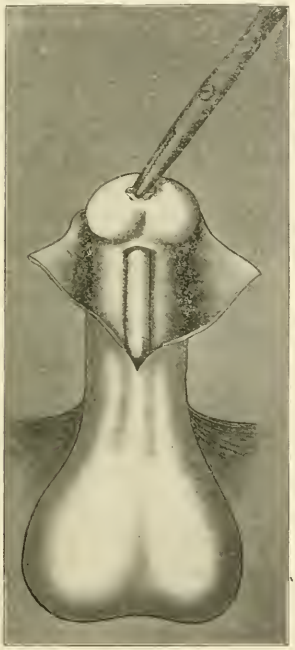

Fig. 18.—Beck.

three cases of hypospadias treated by the Beck method, in all of which the retraction of the dislocated urethra curved the glans downward and the meatus delivered its stream below as previous to operation, thus giving theoretical but not practical relief. According to a later report from this clinic, with a total of seven cases, better results had been achieved. Dr. A. J. Ochsner, to a great extent, relieves this downward contraction resulting from the Beck operation, by tunneling the glans at a higher point and bringing the urethra through it, locating the meatus above the apex of the organ. Bardenhauer has been credited with the tunneling by trocar instead of knife, but this was done by Dieffenbach in 1838. Any surgeon who has had experience in this class of surgery feels the necessity of having at his command several methods of procedure, and is well pleased if he can restore the functions of the organ as a whole, regardless of cosmetics, by means of one or a part of several operations. The prepuce in cases of hypospadias is usually redundant and situated on the dorsal surface, overhanging the glans like a hood. The skin of the penis is noted for its thinness, having no adipose tissue, also for its looseness of attachment and elasticity. Where it is folded upon itself at its cervical attachment its character very nearly resembles mucous membrane. For the past four years we have utilized this membrane to build the tube of urethra in such cases as could not be relieved by the operation of Beck used alone. The principle of a urethra of prepuce was devised by Van Hook.

The prepuce is extended as for circumcision and two incisions are made, about 1 inch apart, extending from its free border to its attachment at the penile cervix; the prepuce is unfolded, forming a loop of thin skin about 2½ inches in length. Should this not be considered sufficient to reach from its attachment to the hypospadiac opening, the two incisions are extended back along the dorsum of the penis until sufficient tissue is obtained, when the two incisions are connected by a transverse one, and the flap of skin lifted but left attached to the cervix by the inner surface. Several

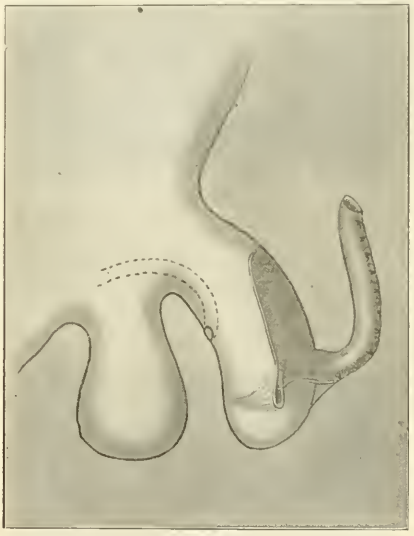

Fig. 19.

sutures now close the lateral integument of the penis over the denuded area. (Fig. 19.)

The pediculated flap of prepuce is constructed into a tube with its skin or outer surface inside, by means of a number of catgut sutures. The penis is tuneled by means of a narrow bistoury or medium trocar and canula, through the glans, above its groove, along the penis to a point beneath the hypospadiac opening, when it is made to emerge at one side of, but close to, the urethra; the tube of prepuce is drawn through the tunnel and sutured where it enters the glans and also where it emerges. (Fig. 20.) At the end of ten days the flap of pedicle is cut through close to the new meatus. The second operation, made at a later period, consists of a perineal opening into the urethra and insertion of a Jacobs' self-retaining female catheter; this is the least irritating and can be left as long as needed, usually from five to eight days. An incision

at the termination of the two urethras now admits of accurate coaptation by sutures, or the normal urethra may be mobilized (Beck method) to a sufficient extent to admit of its insertion into the caliber of the new urethra, where it is held by sutures and the external

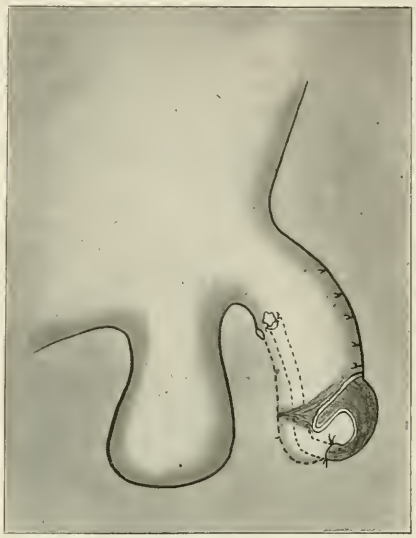

Fig. 20.

parts closed over this. (Fig. 21.) Occasionally a little urine escapes into the urethra and the entire canal is best drained by passing several silkworm strands of horsehair through the urethra and out alongside the catheter in the perineal opening. When union of the canals is complete the drains are removed and the perineal drainage will usually close itself in a few

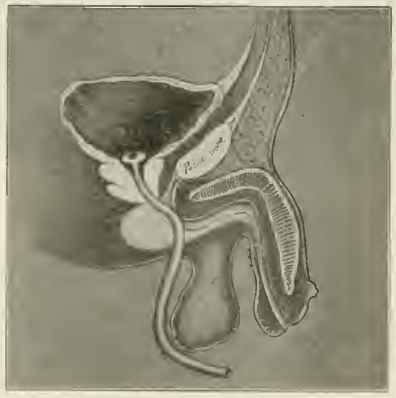

Fig. 21.

days. Horsehair and fine catgut have proved the best suture material for this form of plastic work.

The advantages of this combined operation are: 1, a urethral tube of thin elastic skin nearly approaching mucous membrane, yet having no hair surface to occasion later complications; 2, a perineal drain for the bladder, with a self-retaining Jacobs' female catheter; 3, a silkworm drain for the urethra; and 4, in being a method capable of application to the worst types of hypospadiac cases.

I report four cases of hypospadias cured by various methods:

CASE 1.—(St. Mary's Hospital Reports for 1897.) A boy of 4 years, penile type, was given two operations, the first a Duplay, with partial success; the second a Thiersch, with a good urethra.

CASE 2.—(St. Mary's Hospital Reports for 1898.) An adult, with the balanic type, was given two Thiersch operations, with a nearly perfect result.

CASE 3.—(St. Mary's Hospital Reports for 1900.) A boy 6 years of age, of the perineo-scrotal type with divided scrotum, at the first operation had two inches of urethra constructed from the prepuce and skin of the dorsum of the penis; at the second, bladder drainage, a Nélaton catheter in the perineum, but union at the juncture of the urethras failed. Urine passed by the catheter; bladder tenesmus. The third operation gave bladder drainage by means of Jacobs' self-retaining female catheter through the perineum, for eight days; silkworm strands in the urethra for drainage. Cure.

CASE 4.—(St. Mary's Hospital Reports for 1900.) A boy 8 years of age, the peno-scrotal type, was given two operations. The first was construction of $1\frac{3}{4}$ inches of urethra of prepuce and skin from the dorsum of the penis; the second, bladder drainage, self-retaining Jacobs' female catheter through the perineum and union of the two urethras. Urethral drainage was by silkworm gut strands. Cure.

## THE POLLUTION OF STREAMS AND THE PURIFICATION OF PUBLIC WATER SUPPLIES.*

### COMPARATIVE EFFICIENCY OF SLOW SAND AND MECHANICAL FILTERS.

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### COMPOSITION OF RIVER WATER.

River water is a mixture of spring, ground, rain and surface water, but as the water-courses are the natural drainage channels of the country, it is not surprising that the wastes of human life and occupation should also find their way into the streams. It is for this reason that rivers, after passing through cultivated valleys with cities, towns, and villages or settlements on their banks, often contain a dangerous amount of mineral and organic matter. Rivers are always purer near their source; the amount of impurities increase as we descend the stream. Thus, for example, the Mississippi River at Minneapolis contains only 18.6 total solids per 100,000, while the same river at St. Louis contains 244.3 per 100,000.

### RIVER POLLUTION.

The sanitarian recognizes two principal forms of pollution, viz.: The amount of mineral matter, and, second, the character and amount of organic matter contained in the water. The amount of mineral matter depends largely upon the geological formation of the country and the erosive powers of the streams, but water containing 50 parts per 100,000 or 30 grains of solid matter per gallon is unfit for drinking purposes on account of its irritating effects upon the gastro-intestinal tract. Beyond this, however, it is of no special significance, unless the water also contains metallic poisons or objectionable chemicals.

In regard to the Potomac River, which may serve as

* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

a type of American rivers for our discussion, we know, for instance, that certain pulp mills, tanneries and manufacturing establishments discharge chemicals and various refuse; one paper mill alone discharges over 100,000 gallons of liquid into the river each day heavily laden with sulphuric and tannic acids.

These gross forms of pollution, although at times so great as to prove destructive to game fish, are of less interest to sanitarians than pollution with organic matter, especially sewage contamination derived from the towns and settlements within the Potomac drainage basin, which covers 11,043 square miles, with an estimated population of 491,813 people, or about 44.5 per square mile.[1] Among the larger towns may be mentioned Cumberland, Frederick, Hagerstown, Harpers Ferry, Staunton, but as none of them are sewered, whatever contamination they produce is derived from surface drainage.

### CHEMICAL ANALYSES.

Notwithstanding these numerous sources of pollution, the Potomac River, according to the chemical analyses, compares very favorably as regards purity with other American rivers.

The following are the results tabulated for comparison by Colonel Miller and based upon 72 analyses of the Potomac water as delivered from the faucet in the laboratory of the health office, from July, 1897, to Jan. 31, 1900, and daily analyses made by Mr. R. S. Weston, between July 1, 1899, and Jan. 20, 1900:

| | Total Solids. | Free ammonia. | Alb. ammonia. | Nitrites. | Nitrates. | Chlorine. | Required oxygen. |
|---|---|---|---|---|---|---|---|
| Health office | 126.7 | 0 0008 | 0.111 | Trace. | 0.639 | 3 78 | 2.56 |
| Robert S. Weston | 139 0 | 013 | .105 | 0 002 | .73 | 2.60 | 4 50 |
| Mason's safe limit | 150–300 | .01–.12 | .10–.28 | .0135–.003 | .42 | 3 10 | 5–7. |

### BACTERIOLOGICAL ANALYSES

Now, let us inquire into the results of the bacteriological examinations of this water which have been made by various competent authorities at the Army Medical Museum, and by Kinyoun and Sprague, of the Marine-Hospital laboratory, during the past ten years. The latter also examined samples at or near all the important towns from the head waters of the Potomac and Shenandoah rivers, and may be said to accurately represent the bacteriological condition of the entire river. Intestinal organisms were found in over 90 per cent. of the samples. The number of bacteria varied from 150 to 20,000 per cubic centimeter, with an average of something over 1000. The more recent examinations, conducted under the supervision of Colonel Miller from July, 1899, to March, 1900, show a minimum per cubic centimeter of 48 in July and a maximum of 51,000 for January, 1900, with an average of 3761 per cubic centimeter. Of the specimens taken on about two hundred different days, 50 per cent., or one-half, revealed the presence of the bacillus coli communis.

### TURBIDITY AND BACTERIA.

This exhaustive study also confirmed the conclusions of Theobald Smith and others, that turbidity of the Potomac water is always accompanied by a larger amount of organic matter and germs, and that fecal bacteria and turbidity are coincident, simply because the same showers that bring along large sections of pulverized river banks also wash through the towns, barnyards, cesspools, and outhouses before finding their way into the creeks and river.

1. See Colonel Miller's report, Senate Doc. 259, p. 9.

### SIGIFICANCE OF INTESTINAL BACTERIA.

The presence of intestinal bacteria is satisfactory evidence of pollution by fecal matter of man or animals and strongly point to the possibility of infection with typhoid bacilli.

Mr. Davis, of the Geological Survey, estimates that the sewage from the vicinity of Cumberland, a distance of about 134 miles, requires from two to four days to reach Washington aqueduct. We also know that typhoid bacilli retain their vitality for a number of days in ordinary water, and could therefore infect consumers of water in Washington.

### TYPHOID FEVER AND WATER-BORNE DISEASES.

My suspicions that typhoid fever germs may thus travel all the way from Cumberland were confirmed as early as the winter of 1889-90, by studying the effects of the typhoid fever epidemic at Cumberland upon the prevalence of the disease in Washington.

The records of the health office show that during this epidemic, from December, 1889, to April, 1890, the deaths from typhoid fever amounted to 74, as compared with 42 for the corresponding months of the previous year. Indeed, we had almost double the number of typhoid deaths during these months than for any similar period either before or since this epidemic.

Cumberland had about 45 deaths and 485 cases. Wahsington had 74 deaths and about 740 cases, and yet the starting-point of all was the excreta of one patient washed into a little run which empties into the Potomac about 300 feet above the pumping station of the water-supply for Cumberland. In the face of this fact and the almost constant presence of intestinal bacteria, I have no hesitation in declaring that the excessive typhoid fever rate of the national capital is largely due to contaminated Potomac water. We know the germs must be there, whether the bacteriologists find them or not, because the people who drank the water were taken sick, while the non-consumers remained exempt.

What has been said of the Potomac River is equally applicable to the Ohio, Mississippi, Merrimac, Connecticut, Missouri and other American rivers, because they are the sewers and at the same time the source of water-supply for nearly all the cities located upon their banks, and these cities, as shown by the statistics collected by the Marine-Hospital Service, show, moreover, a marked prevalence of typhoid fever, thus confirming what has been observed over and over again that this disease, as also cholera, dysentery and diarrheal diseases, can be carried from one town or city to another by means of a water-course. About three years ago Surgeon-General Wyman estimated, from statistics received in his office, that every year there are no fewer than 45,000 deaths caused by typhoid fever alone throughout the United States. This number has now reached, very likely, 50,000, and, based upon an estimated mortality of 10 per cent., it is within reason to assume a yearly prevalence of 500,000 cases of this disease.

The average duration of a case is not less than thirty days. If we calculate that only $1 per day is expended for care, treatment and loss of work and that the value of a human life is $5000, we have a total loss in the United States every year of $400,000,000 from one of the so-called preventable diseases. Reduce the prevalence of this single disease one-half, which has been accomplished in Europe and can be done here, and the question as to what public sanitation has accomplished will be answered from an economic point of view.

We would not think of establishing a vicious circle

TABLE NO. 1.—DISPOSAL OF SEWAGE BY LAND TREATMENT.

| Name of place, town or city. | Population. | When established. | Number acres. | Remarks. |
|---|---|---|---|---|
| Far Rockaway, N. Y | 2,288 | 1895 | . . . | Broad irrigation. |
| Hemlock Lake, N. Y.. | 1,000 | 1896 | . . | Pail system. |
| Vassar College, N. Y.. | . . . . | 1895 | Several | Broad irrigation. |
| Atlantic City, N. J. | 13,000 to 150,000 | . . . . | . . . | Filtration [not efficient]; no attempts to raise crops. |
| East Orange, N. J. . . | 13,282 | 1888 | . . . | Chemical treatment supplemented by filtration; no attempts to raise crops. |
| Essex Falls, N. J | . . . . | 1897 | . . | Filtration. |
| Freebold, N. J. . . . | 2,932 | 1893 | 16 | Broad irrigation; 16 acres in Hungarian grass. |
| Lawrenceville School, N. J. | . . . . | 1893 | . . . | Broad irrigation; intermittent filtration |
| Morris Plains Asylum, N. J. | . . . . | 1897 | . . . | Sedimentation and subsurface irrigation. |
| Plainfield, N. J. . . . | 13,000 | 1895 | . . . | Broad and intermittent filtration [corn crops]. |
| Princeton College, N. J | . . . | . . . | 4 | Broad and intermitt't filtrati'n. |
| Summit, N. J. . . . . | 3,502 | 1892 | 26 | Broad and intermitt't filtrati'n. |
| Westfield, N. J. . . . | 3,000 | 1897 | 12 | Broad and intermittent filtration and broad irrigation. |
| Altoona, Pa. . . . . | 30,337 | 1867 | 70 | Irrigation; corn crops. |
| Norristown Insane Asylum, Pa. | 1,500 | 1885 | . . . | Broad irrigation; 5 crops of grass annually. |
| Wayne . . . . . | 997 | 1891 | 11 | Broad irrigation; 5 crops of grass annually. |
| Weston State Insane Asylum. | . . . . | 1891 | 27 | Chemical perciptation supplied by broad irrigation. |
| Paris, Texas . . . . | 8,254 | 1897 | 10 | Intermittent filtration; alfalfa crops. |
| San Antonio, Texas . | 36,673 | 1895 | 530 | Irrigat'n; contemplate farmi'g. |
| Fostoria, Ohio . . . . | 2,070 | 1895 | . . | Land purification. |
| Oberlin, Ohio. . . . . | 4,376 | 1893 | 15 | Broad irrigation. |
| Pullman, Ill . . . . . | 11,000 | 1881 | 1,500 | Sewage farm yields a net profit of $8.10 per acre. |
| Rochester Insane Asylum, Minn. | 1,050 | 1890 | . . . | Chemical percipitation, supplemented by intermit filtration. |
| Hastings, Neb. . . . | 13,584 | 1892 | 20 | Sewage farm. |
| Colorado Springs. . . | 11,140 | 1889 | 35 | Sewage farm; 15 acres in alfalfa, 10 acres vegetable. |
| Trinidad, Colo. . . . | 5,523 | 1892 | . . | Sewage farm; blue grass. |
| Helena, Mont. . . . . | 13,134 | 1889 | 40 | Sewage farm; vegetables and nursery stock. |
| Salt Lake City, Utah. | 44,843 | 1896 | 183 | Sewage farm; 80 acres in cultivation. |
| Phœnix, Ariz. . . . . | 3,153 | . . . | 160 | Sewage farm; garden truck. |
| Fresno, Cal. . . . . | 10,818 | 1890 | 80 | Sewage farm; garden truck. |
| Los Angles, Cal.. . . | 50, 395 | 1895 | 2,200 | Sewage farm; grain, orchard, alfalfa, vegetable. |
| Pasadena, Cal. . . . | 4,882 | 1893 | 300 | Sewage farm; grain, orchard, alfalfa, vegetable. |
| Redding, Cal . . . . | 1,821 | 1889 | 100 | Sewage farm; corn, potatoes, vegetable. |
| San Luis Obispo, Cal. | 2,995 | 1888 | . . | Broad irrigation. |
| Santa Rosa, Cal . . . | 5,220 | 1889 | 18 | Farm for vegetables. |
| Augusta, Me., State Insane Asylum. | . . . | 1872 | Few.. | Produces hay and garden crops. |
| Concord, N. H., State Insane Asylum. | . . . . | 1872 | Few.. | Pumped to the irrigated area for crops. |
| Amherst, Mass . . . . | 4,512 | 1881 | . . . | Settling banks and absorption ditches; 3 heavy crops of hay raised annually. |
| Brockton, Mass. . . . | 27,294 | 1894 | 30 | Crops of peas, beans, tomatoes, corn, cabbage, etc. |
| Gardner, Mass. . . . . | 8,424 | 1891 | 2 | Intermitt'nt filtrati'n; no farm. |
| Greenfield, Mass . . . | 5,252 | 1882 | . . . | Meadow irrigation. |
| Lenox, Mass . . . . . | 2,889 | 1876 | 1½ | Subsurface and surface irrigation; no farm. |
| Marlboro, Mass. . . . | 13,805 | 1893 | 37 | 11 acres used for farm purposes. |
| Concord Reformatory, Mass. | . . . . | . . . | . . . | Irrigation; grass and corn crops. |
| Medfield, Mass.. . . . | 1,493 | 1886 | 1 | Sedimentation and upward filtration. |
| Natick, Mass.. . . . | 9,818 | 1896 | 12 | Filtration. |
| Norfolk County Jail, Mass. | . . . . | . . . | . . . | Land disposal plant; no details. |
| N. Brookfield, Mass . | 8,747 | 1893 | 20 | Broad irrigation; good crops. |
| Pegan Brook, Mass.. . | . . . . | . . . | 4 | Filtration. |
| Waltham School, Mass | . . . . | . . . | . . . | Intermitt'nt subsurf. irrigati'n. |
| Sherborn Prison, Mass | . . . . | . . . | . . . | Subsurface irrigation. |
| South Framington, Mass. | . . . . | . . . | . . . | Indian corn, crops standing sold for $30 to $40 per acre. |
| Wellesley College, Mass. | 500 | 1893 | 1.55 | Intermittent filtration. |
| Westboro, Mass. . . . | 5,195 | 1892 | 33 | One-half of the land classed as swamp and meadow. |
| Worcester Insane Asylum. | . . . . | . . . | 30-40 | About 14 acres used for farming purposes. |
| Central Falls, R. I . | 20,355 | 1892 | 35 | Filtration. |
| Pawtucket, R. I. . . . | 32,577 | 1893 | 4 | Filtration. |
| Cranston State Institute, R. I. | . . . . | 1895 | 500 | Irrigation. |
| Bristol, Conn.. . . . | 7,382 | 1893 | 80 | Broad irrigation and intermittent filtration; 6 acres in use. |
| Danbury, Conn.. . . . | 16,552 | 1897 | . . | Intermittent filtration. |
| Lake Wauremaug, Conn. | . . . . | . . . | . . . | Dry-earth system and fluid waste by filtration. |
| Litchfield, Coun.. . . | 3,304 | 1890 | 4 | Irrigation. |
| Meriden, Conn . . . . | 21,652 | 1891 | 150 | Broad irrigati'n intermittent filtrat'n; no attempt at farmi'g. |

TABLE NO. 2.—DISPOSAL OF SEWAGE BY CHEMICAL AND PATENTED PROCESSES.

| Name of place, town or city. | Population. | When established. | Remarks. |
|---|---|---|---|
| Rockingham Co'nty poor farm, New Hampshire. | 1,000 | 1895 | Collecting tanks; sludge utilized for compost; patented process owned by the Glover Company. |
| Mystic Valley, Mass | . . . . | 1887 | By chemical precipitation. |
| Worcester, Mass . . | 98,678 | 1890 | Chemical purification works. |
| Danbury, Conn . . | 16,552 | 1897 | Wolf's disinfecting process with sodium hypochlorite; recently purchased land for intermittent filtration. |
| Brewsters, N. Y. . . | . . . . . | 1893 | Electrical treatment, simply a process of disinfection by sodium chloride; hypochlorite produced by electrolysis. |
| Brooklyn, Twenty-sixth Ward, N. Y. | . . . . . | . . . | Chemical purificatione: J. J. Power's patent. |
| Chatauqua Assembly, N. Y. | (a) | 1893 | Chemical precipitation. |
| New Rochelle, N. Y. | 8,217 | 1894 | Chemical purification. |
| Bath Soldiers' and Sailors' Home, New York. | 1,500 | . . . | Chemical purification; Power's patent. |
| Batavia State Institution for the Blind, New York. | . . . . . | 1891 | Chemical purificat ion. |
| Long Branch, N. J | 7,000-8,000 80,000-100,000 | 1886 | Chemical precipitation and mechanical separation. |
| Reading, Pa . . . . | 58,661 | 1895 | Proprietary process. |
| Alliance, Ohio . . . | 6,707 | 1899 | Chemical purification. |
| Canton, Ohio . . . | 26,189 | 1893 | Chemical purification. |
| Wayne County Poor Farm. | . . . . . | 1896 | Chemical precipitation. |

a Several Thousand.

TABLE 3.—SHOWING THE AVERAGE NUMBER OF DEATHS FROM TYPHOID FEVER PER ANNUM BEFORE AND AFTER FILTRATION.

SAND FILTERS.

| Name of town. | Average number of deaths from typhoid fever per annum before filtration. | Average number of deaths from typhoid fever after filtrati'n. | Reduction. Per cent. | Number of years upon which statistics are based before and after filtration. | Remarks. |
|---|---|---|---|---|---|
| Lawrence, Mass . | 52 | 13.8 | 73.5 | 5 | Filter established September, 1893. |
| Ashland, Wis.. . | 39 | 4.5 | 88.5 | 2 | Filter established September, 1895. |
| Hamilton, N. Y.. . | 0.66 | 0.33 | 50 | 3 | Filter established in 1896. |
| Mount Vernon, N. Y. | 3.4 | 1.8 | 47 | 5 | Filter established in 1894. |
| | 95.06 | 20 43 | 78.5 | . . . . | |

MECHANICAL FILTERS.

| | | | | | |
|---|---|---|---|---|---|
| Macon, Ga . . . . | 10 5 | 7 | 33 | 4 | Filter established in 1893. |
| Atlanta Ga. . . . | 61 | 46 | 25 | 3 | Filter established in 1881. |
| Oakland, Cal. . . | 19 | 17 | 11 | 5 | Filter established (Hyatt) 1892. |
| Reading, Mass . . | 4 | 1 | 75 | 1 | Filter established (Warren), July, 1896. |
| Terre Haute, Ind. | 21.6 | 15 | 31 | 5 | Filter established (Natural filter), July, 1890. |
| | | | Increase. | | |
| Elmira, N. Y. . . . | 10 | 11 | 10 | 1 | Filter established April, 1898. |
| Newcastle, Pa . . | 13 | 28 | 115 | 1 | Filter established (New York), April, 1897. |
| Lexington, Ky . . | 18 | 64.2 | 256 | 4 | Filter established June, 1895. |
| | 157 1 | 189.2 | Increase. 20 438 | . . . . | |

between our mouths and the drainage of our houses and stables and yet practically we have suffered this to be done upon the erroneous assumption that rivers purify themselves. While a certain degree of purification is possible by natural means, such as dilution with unpolluted water, deposition of suspended matter, the agency of aquatic animals and plants, the bacteria of nitrifica-

tion, the destructive influence of sunlight upon microorganisms, and the chemical affinity of certain bodies, I am glad that biologists have about come to the conclusion that "no river is long enough to purify itself."

What has been said of typhoid fever is equally true of other water-borne diseases like cholera, dysentery, cholera morbus, diarrheal diseases, and the transmission of the eggs of intestinal and other parasites, because the germs or eggs of these diseases are present in the intestinal tract and presumably also in sewage-contaminated water. Thus, for example, the cholera epidemic of Hamburg in August, 1892, resulting in 17,020 cases, with 8605 deaths, was caused by a band of gypsies camped on the banks of the river Elbe, and the discharges of one of its members suffering from cholera were emptied into the river, which at that time was served to the inhabitants of Hamburg without filtration. The epidemic spared the adjoining city of Altona, which derives its water from the same river after receiving the sewage of Hamburg with its 800,000 people, but Altona filtered its water and Hamburg did not.

PREVENTION OF RIVER POLLUTION.

When we remember that the general mortality of London a century ago was still 40 per 1000, while at the present time it is between 20 and 21 per 1000, and that no two factors have contributed so much to the prolongation of human life as the improvement of the air we breathe and the water we drink, it must be apparent that it is high time for civilized communities to take steps toward removing the danger to be found in rivers which are the sewers and at the same time the sources of public water-supplies. "One of the most pressing needs, therefore, is an investigation into the pollution of water supplies, which such pollution affects or threatens to affect the sanitary condition of the people of more than one State," because the individual states are powerless to protect themselves against the misdeeds of their neighbors.

Mr. Bartholett's bill for the appointment of a river pollution commission, first introduced five years ago, has not yet become a law. England enjoyed the benefit of such a commission as early as 1855, and in order to prevent, remedy and remove the danger of polluted water-supplies adopted a comprehensive system for the disposal of sewage and of water filtration, the fruits of which are shown by a marked decrease in the number of cases of typhoid fever, diarrheal diseases, and consumption, amounting in some localities to over 50 per cent.

I maintain that no community or individual has a right to pollute streams used for public water-supplies any more than a man has to contaminate his neighbor's well. This principle is very well appreciated by some of the nations in Europe. Thus the inhabitants of a town in Belgium suffered from the effects of a river polluted by the French, and the French government not only compelled the offending city to dispose of its sewage by irrigation, but granted a subsidy for this purpose.

All that is needed in this country is a correct appreciation of the dangers, and the first step in this direction is the appointment of a commission. The Marine-Hospital Service, which has for a number of years satisfactorily performed the functions of a national board of health, could, with the aid of the hydrographers of the U. S. Geological Survey and special agents of the Department of Agriculture, perform this duty without any great expense to the Government.

PURIFICATION OF SEWAGE BY IRRIGATION.

After determining the extent and dangers of river pollution, the remedy can be applied, and consists in the adoption of a system in which the sewage and noxious waste waters are utilized and disposed of by irrigation on so-called sewage farms, and the effluent and purified waters are returned to the streams.

This system has been in vogue in some European cities for many years. The city of Berlin purchased about 20,000 acres of land and, notwithstanding the enormous outlay of a little over $3,000,000 for the land and over $10,000,000 for the sewer system, operates these farms at a net profit of about $60,000 per annum. The city employs men condemned to the workhouse as laborers at the farms, and practically converts vagabonds into producing classes, with a fair prospect, too, that many of these individuals will continue their honest efforts to become self-supporting citizens; moreover, the old manor houses of the individual farms are utilized as country homes for convalescents, and thus the beneficent effects of this system are felt in more than one direction.

It is a matter of great satisfaction, therefore, that within the past ten or twelve years over one hundred communities in the United States have established plants for the disposal of sewage. The first attempt in the establishment of a sewage farm in this country was made at the Augusta, Me., State Insane Asylum in 1872, since which time 78 plants for the disposal by irrigation and 15 by chemical treatment, etc., have been established, and over 40 more projected. I have prepared Table No 1 from data obtained in Mr. George W. Rafter's Brochure No. 22 of the U. S. Geological Survey, 1899, on Water Supply and Irrigation. Among the more prominent and successful sewage farms may be mentioned Brockton and South Framingham, Mass.; Bristol, Conn.; Plainfield, N. J.; Altoona and Wayne, Pa.; Pullman, Ill.; Hastings, Neb.; Colorado Springs, Colo.; Salt Lake City, Utah; Helena, Mont.; Phœnix, Ariz.; Fresno, Los Angeles, Pasadena, Redding, and Santa Rosa, Cal.

Heretofore it has not been considered necessary to prevent the pollution of rivers affected by tide waters. Dr. Conn, of the Wesleyan University, in 1894, traced, however, an outbreak of typhoid fever to raw oysters which had been fattened in a place where they were liable to contamination by sewage from typhoid patients, and since then numerous instances have been reported elsewhere. It has been shown that typhoid fever germs remain viable in oysters from fourteen to thirty days, and the medical officer of the local government board of England, in the twenty-fourth annual report points out the danger of many of the oyster beds on the English coast from sewage pollution, all of which indicates that even this newly-discovered source of danger should be guarded against.

PURIFICATION OF PUBLIC WATER SUPPLIES.

The primary object of disposing of sewage by means of irrigation is the prevention of the so-called water-borne diseases. I do not believe, however, that this method alone can be relied upon, as instanced by the cholera epidemic at Hamburg and typhoid fever epidemics at Plymouth and Cumberland, where the dejecta of a single patient were sufficient to cause the mischief, hence prevention of river pollution should be supplemented by filtration of the water-supply on a large scale, of which there are two systems, the American or mechanical method, and the English or natural sand filtration.

Time will not permit me to enter into their respective merits except to say that the mechanical filters, as first pointed out by Mr. Hill, have accomplished very little in the reduction of typhoid-fever death-rates in cities where they are used. In the subjoined table five American cities using these mechanical devices are compared with five cities in Europe using water from sand filters, with an average for the year 1895 for the American cities of 46.8 typhoid deaths per 100,000 living, against 6 deaths per 100,000 for the foreign cities. That is to say, the American rate was almost eight times greater than the foreign rate.

| EUROPE (SAND FILTRATION.) | Before filtration. | After filtration. |
|---|---|---|
| Berlin | 100 | 5 |
| Breslau | 113 | 9 |
| Hamburg | 21 | 9 |
| Rotterdam | | 2 |
| The Hague | | 5 |
| Average | 78 | 6 |

| UNITED STATES (MECHANICAL FILTERS). | |
|---|---|
| Davenport | 26 |
| Atlanta | 43 |
| Chattanooga | 48 |
| Quincy, Ill | 58 |
| Knoxville | 59 |
| Average | 46.8 |

Lest this comparison between foreign and domestic cities be considered unfair, I have prepared Table No. 3, showing the average number of deaths from typhoid fever in several American cities before and after filtration. From this table we learn that while sand filters accomplished a reduction of 78.5 per cent. in the number of deaths from typhoid fever, the establishment and use of mechanical filters have coincided with an increase of 20.43 per cent.; and even if we eliminate from our consideration Elmira, Lexington and New Castle, where an increase was noted, the reduction of typhoid fever in consequence of mechanical filtration amounts to only 26 per cent., as compared with 78.5 per cent. by the process of sand filtration.

## FLOATING KIDNEYS IN CHILDREN.*

I. A. ABT, M.D.

CHICAGO.

Floating kidneys in children have not been frequently observed. Dr. Jules Comby, at the sixth annual meeting of the British Medical Association, in 1898, reported 18 cases, the children varying in age from one month to 10 years and over. It is remarkable to note that 16 of his cases occurred in girls. This proportion corresponds to the observations which have been made in adults. Ebstein states that 100 females to 15 males are affected, whereas Dietl believes that 100 adult females to one male are affected. Senator writes that he considers the last proportion to be the more nearly correct. Comby's cases do not, however, stand alone in the literature; quite a number of observers before him have reported these cases.

Steiner[1] reported 1 case in a boy 9 years old, and also 2 cases in girls, respectively 6 and 10 years of age. In these 3 cases it was the right kidney which was involved.

Jacobi[2] believes that cases of floating kidneys in infancy and childhood are for the most part congenital in origin. In children of 10 or 12 years he thinks the condition may be due to a fall or a jump. He has observed at least 8 cases in the course of thirty-six years.

W. R. Stewart[3] reports the case of an infant of 8 months, who had swallowed some pieces of plaster, and who suffered afterward from intestinal obstruction. After thirty-six hours of ineffectual medical treatment an operation was performed. A distinctly movable tumor could be felt on the right side, which was believed to be the obstructed gut. Upon opening the abdomen it was found to be a floating kidney, while an intussusception in the left hypogastric region explained the intestinal obstruction. The child had never suffered any inconvenience from the kidney, and its discovery was purely accidental. Richard Frey[4] reports that in 500 autopsies he observed two cases of dislocated kidneys. In each case the kidney of the right side was the one involved. He found that the parenchymatous tissue, the vessels, and the ureters as well as the pelvis of the kidneys were normal. It is a fact well recognized that under normal conditions the kidneys have a certain mobility. In individuals with relaxed abdominal walls the lower pole may be frequently felt during deep inspiration. By floating kidney is meant an abnormal mobility of one or both kidneys, so that the entire organ can be palpated through the abdominal wall. (Senator.)[5]

The etiology of these cases in children, as in adults, is not altogether clear. In adults it is known that the influence of sex is a marked factor, the condition being much more common in women than in men, a fact to which reference has already been made. Not infrequently floating kidney is only one symptom of a general enteroptosis—described by Glenard. Traumatism undoubtedly acts as the direct exciting cause very often. Cases are recorded where blows, falls, the carrying of heavy weights, violent pressure and straining, whooping-cough and a variety of other causes of the same nature have been sufficient to loosen the kidney and cause an undue mobility.

Relaxation of the abdomen after pregnancies, abdominal tumors, ascites, rapid emaciation which leads to a partial or complete disappearance of fat within the renal fascia, may lead to the condition in adults. We must also consider that conditions which influence the weight of the kidney will be sufficient cause to eventually drag the kidney from its normal position and give rise to abnormal mobility. We have, for example, tumors of the kidney, and hydronephrosis.

The recent contributions of Wolkow and Delitzen,[6] on this subject, contain some interesting facts, obtained from experiments on the cadaver. The authors show that the kidneys are attached to the posterior wall in the paravertebral spaces (nischen). These spaces, under normal conditions, are of some depth, and are funnel-shaped below. In the cases where one or both kidneys had moved from their normal position, it was observed that these spaces were cylindrical, and the depth was less marked. The intra-abdominal pressure is an important factor in the fixation of the kidney. The authors also show that the anterior abdominal wall is an important factor in supporting these organs. They believe that the abdominal wall serves as a bandage, and the intestines as an elastic pad, both structures thus serving to support the kidneys.

In very young infants we are compelled to accept the congenital origin of floating kidney. In older children there can be doubt that a congenital predisposition for the disease existed. The hypothesis of Wolkow and Delitgen already cited may be invoked to explain this congenital tendency. The exciting cause may consist

* Read by title before the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Compendium of Diseases of Children, Prague, 1871.
2. Therapeutics of Infancy and Childhood.
3. Medical Record, Feb. 9, 1895.
4. Inaug. Diss., Zurich, 1886.
5. Ziemssen Specielle Pathologie der Therapie, vol. xix.
6. Abstract in Centralbl. f. Chir., 1898.

of an acute or chronic trauma. The latter is an expression of Kuester, which has reference to causes which are constantly acting, or at least which are of frequent occurrence, eventually dislodging the kidney from its fixed position. It is a noteworthy fact that in two of the cases which have come under my observation there was a high degree of pulmonary emphysema and chronic bronchitis.

SYMPTOMS.

Perhaps in the largest number of these cases in children, as is also true of adults, the symptoms are latent. Pain is sometimes noted where the mobility is of moderate degree. In some cases the patients suffer from paroxysmal pain, dependent probably on a twisting of the pedicle. The pain may be colicky in character. At times the attack is accompanied with chill, fever, vomiting and perspiration.

The urinary secretion may be diminished; a temporary or permanent hydronephrosis may result from twisting of the ureter. The kidney is usually sensitive, though not acutely painful if it is pressed. A patient of Gerhardt's who was himself a physician, compared the pain to that which is experienced when a testicle is pressed.

Symptoms on the part of the gastro-intestinal organs are not infrequently associated with floating kidney. Dyspepsia and constipation are very often present. Dilatation of the stomach is not uncommon. It is to be noted that of the five cases which have been observed and are reported in this paper three were in female and two in male children. In one case the kidney of the left side was the one affected.

Case 1.—I. H., aged 7 years, a fairly well-developed female child, was an inmate of an orphan's home. The father had died as the result of an accidental injury. The mother suffers from pulmonary tuberculosis. The child had been previously well. Since her admission to the institution it is reported that she has been compelled frequently to desist from her play and was attacked with a feeling of distress on the right side of the abdomen. She was subject to attacks of bronchitis with elevation of temperature. She had distinct symptoms of adenoid growths in the nasopharynx, which were subsequently operated on. Physical examination of the abdomen showed a stomach of normal size. On the right side of the abdomen a tumor could be felt, which varied in position from one examination to the other; it could be readily grasped, was tender on deep pressure, perfectly smooth, and slipped readily from the finger's grasp. On one occasion the abdominal tumor caused the patient great pain of a colicky variety. An anesthetic was administered and the tumor found to have descended into the pelvis. It was carefully examined and replaced. The examination under the anesthetic showed a perfectly smooth kidney of apparently normal size, which had slipped down into the pelvis of the right side and, it was believed, had become twisted on its pedicle. The patient recently reported to me that if she runs or jumps the kidney descends into the pelvis of the right side, or sometimes it crosses over and is lodged in the pelvis of the opposite side. These distant excursions, she says, give rise to severe pain, and she secures relief by grasping the organ and pushing it up. The kidney is not permanently dislocated. If she has remained for a long time on her back it is difficult to feel the kidney while she is in the recumbent position. She has been greatly relieved by an abdominal supporter recently obtained for her.

Case 2.—Tessie T., aged 12 years, has had measles, mumps and scarlet fever. Her thyroid is enlarged, and her mother says she has had pain in her right side for five years. She has complained for six months with symptoms of indigestion, the appetite is poor, and she has great distress after her meals; her abdomen becoming distended with gas, she has pain and frequently nausea. She observes, however, that the nausea is sometimes present before meals; it is not an uncommon thing for her to vomit before breakkfast.

Percussion over the area of the stomach and the distinct splashing sound over a large region shows that the lower margin of the stomach is three fingers' breadth below the umbilicus. She frequently becomes jaundiced, but this remains only a few days; she also suffers from chronic constipation. Examination in the right hypochondriac region reveals the kidney, which makes deep excursions with inspiration, and no difficulty is experienced in grasping the organ between the fingers. The kidney is smooth and apparently not enlarged.

Case 3.—Joe H., aged 10 years, well-developed, has been ill for a long time, complaining of cough, and some difficulty in breathing at night. His pulse is 90; temperature normal. Examination of the chest reveals hyperresonance over both lungs. Sonorous and sibilant râles may be heard over both lungs, and the respiration is diminished on both sides. The kidney of the right side can be felt one hand's breadth below the costal arch on deep inspiration.

Case 4.—Chester S., aged 14, presented himself at the dispensary of the Northwestern University Medical School, and was examined by Dr. G. A. Gowen and myself. His family history is negative. The patient has had whooping-cough and measles. Two weeks ago he fell from a trapeze in the gymnasium. The fall did not prevent him from resuming exercise immediately afterward. He has suffered from cough for a long time, particularly at night, and at times he suffers from asthmatic attacks. Physical examination of the chest gives the usual evidence of emphysema and chronic bronchitis. On examining the abdomen the kidney on the left side can be plainly felt on deep inspiration. The size and shape, the tenderness on pressure, the consistence and the tendency to slip from between the fingers and ascend toward its normal position leave no doubt that the kidney is the organ involved.

Case 5.—Ruth B., aged 9 years, has always been a delicate child. She was artificially fed in infancy, and during the first sixteen or eighteen months of her life suffered from indigestion. She is an extremely nervous child, is very fond of reading, and is inclined to overwork at school. She is very thin and is poorly developed. Her appetite is poor and capricious. She is subject to attacks of indigestion characterized by vomiting and elevation of temperature. On physical examination of the abdomen it is observed that the stomach is dilated. The right kidney may be readily grasped between the fingers on deep inspiration, if the child is examined in the recumbent position; if examined in the erect position the kidney is easily palpated and descends lower in the abdominal cavity.

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## ADVANCES IN OBSTETRICS DURING LAST HALF CENTURY.*

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The half century is just elapsing since, as a student, I attended my first case of labor, and as I have been engaged in the practice almost continuously to this time and conducted, to within a few years, as many parturitions as fall to the lot of most men, you would naturally suppose there could be no difficulty in selecting an original subject of interest for this paper, but in looking around for the advances of obstetrics in the multiplicity of experiences, I am surprised to find it not so easy, for while medicine and surgery have prodigiously advanced and therapeutics become almost revolutionized, obstetrics continues in the trend of a former half century, and beyond the introduction of necessity for asepsis, the use of anesthesia, and perhaps symphysiotomy in parturitions, gynecologists have captured in their new creations the scepter and left the practice

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proper quietly trudging on in the same lines as it was found fifty years ago.

As soon as gynecology, a surgical offshoot of obstetrics, made its appearance, obstetricians, fascinated by the brilliancy of abdominal surgery, soon tired of the tedious drudgery of obstetric practice and enthusiastically entered the development of the new field where professional reputations and fees astonishingly increased, with fewer hours for work, enabling them to enjoy fixed daily periods for relaxation and to secure at night the rest unknown to the general practitioner.

About medical centers this wholesale withdrawal was a comparative death-knell to the advance of obstetrics, genius took to this surgical offshoot and the consequence is that the proceedings of obstetrical and gynecological associations are almost wholly gynecological, so much so that a late president apologized for selecting an obstetrical subject as the theme of his address and which had no relation to the mechanism of labor or its physiological action, but to a pathological condition that was readily recognized and claimed by the gynecologist as within his province.

In my early days Hodge and Meigs, of Philadelphia, the then medical center of this country, maintained national reputations and were revered by all peoples as the highest exponents of the science and art of obstetrics, in the advance and development of which they had been principal factors. Their labors were only completed as the epoch of the greatest advance in obstetrics was ended by their deaths. Before that time the chair of obstetrics was the highest of the seven cardinal departments in the curriculum of study, made so by their personality, yet they drew the line on the use of the knife when necessary to complete labor and consigned the Cesarean section, the operation of that day, to the general surgeon.

This was the entering wedge for gynecology, though for some years dormant, until the genius of Marion Sims astonished the world in exposing preconceived fallacies by throwing aside the barriers that declared invasion of the peritoneal cavity high treason to humanity and regarded the sacred uterus a *nioli me tangere*. Prior to this, spinal irritation was the fad, then irritable uterus, and, later still, displacements treated by metal pessaries that to-day might be mistaken for horseshoes. The nervous system was then appealed to to reveal the causes of all the ills that befel women, until the successes of Sims and his followers instituted a popular rage, by brilliant achievements in the development of the principles and practice of gynecology. For many years the lines were severely drawn and, as the gynecologist advanced those who remained obstetricians stood still. Ophthalmology, whose sessions in the American Medical Association had been the principal centers of attraction for scientists, as well *hoi polloi* of the membership, soon faded before the alluring wonders of gynecology, which became the absorbing topic and crowded its sessions to a full capacity.

In the minds of the general public, obstetrics is relegated to the position of a mere physiological function and the standing in many civilized countries of the obstetrician is far below that of the man of medicine or surgery. In the triumph of gynecology the average man soon learns to hate practical obstetrics and would avoid it, except for the pecuniary advantages and perhaps his necessities.

How often do you hear the question asked: Who are the distinguished obstetricians of our metropolis? You hesitate. On reflection you find few, and, when asked the names of men who occupy the chairs of obstetrics in various colleges, how many of you can name them? Men who hold them feel their comparative insignificance, as evidenced by their application or expressed willingness for promotion to the vacant chairs of gynecology; and it is a fact that most of them are in training for that step. But as the novelty and acquirement of large fortunes to the gynecologist are fast passing by, revulsion is sure to come when genius will return to the parent and obstetrics resume her place in the original curriculum of importance of fifty years ago, when to the minds of the public the accoucheur will no longer rank so nearly the status of the midwife. The young man who thinks he has accomplished nothing until he has successfully opened and closed a woman's abdomen will intuitively realize a higher sphere in the comprehensive revival when another Hodge or Meigs appears on the stage to lead the van of scientific investigation along its whole course. In our general medical associations, the gynecological sections will no longer occupy the whole time allotted to obstetrics and gynecology, for obstetrics must gather them into her fold by the force of advanced medical education.

As gynecology has robbed obstetrics of all the surgery, I shall confine this paper to the only two marked advances during late years, namely, asepsis, and particularly the use of anesthesia, therapeutically, in the conduct of labor.

The necessity of asepsis in midwifery is so apparent to the practitioner of the present day that cleanliness in all cases and the use of germicides to avert or combat suspected infectious or febrile conditions following labor make the practice imperative to the rational minds of most men. The variety of opinions pro and con expressed by many prominent men as to the value of the different agents and their use in detail, compels others to hesitate, because of their own universal success during long periods of obstetric practice where specific antisepsis was ignored and but the two precautions of cleanliness and avoidance of meddlesome midwifery observed, as taught from the beginning of time. In a healthy woman most of the natural vaginal secretions are germicidal, and in ordinary labors, unless the surroundings are unclean, all women should escape pathological infection, for when sepsis does occur some one is to blame. Infection comes from without, and septicemia is due in many instances to the infected hand of the obstetrician, largely by the use of lard, a fruitful purveyor of septic bacteria.

The profession does not so kindly take to the use of anesthesia, therapeutically, in conducting all labors, especially where by time and patience nature unaided can accomplish the delivery of the child. The causeless fear of post-partum hemorrhage, supposed arrest of uterine contractions, and danger to the life of mother and child, particularly where functional or organic disease of the heart, lungs or kidneys may exist, induces them to desist from its use, on false general principles, due entirely to a timidity begotten of voluntary inexperience.

Twenty-two years ago I had the honor of presenting a paper on this subject to the Pennsylvania State Medical Society, in which, after the administration of the English mixture of chloroform, ether and alcohol to 1000 cases, I felt justified in making the following conclusions, and have since repeatedly proved them to be correct:

1. The parturient state is the only condition of the

system during life in which anesthetics, judiciously administered, are entirely devoid of danger.

2. The physiological action of chloroform, ether and alcohol in a woman during labor is not identical with that in an ordinary subject in a dental chair or on the surgeon's table; and, from the history of such administration, free from a well-authenticated case of death, with statistics showing its superiority over venesection, opium, etc., in the desperate emergencies attending irregular labors, as eclampsia, it is fair to infer that this agent is an especial therapeutic indication for parturient women and should be so regarded in all labors where by its use the pains of the first and second stages could be obviated and this, too, to the ultimate benefit of the mother and safety of the child.

3. In puerperal eclampsia it is especially indicated, because of its direct, rapid and general action controlling nervous physiological irregularities, exciting secretion, relaxing the os and perineum, and, in short, preparing the parts so as to aid the accoucheur in his manipulations for the essential emptying of the uterus, to accomplish which venesection, opium, purgation, baths, counterirritation, etc., either singly or combined, bear to anesthetics the relation of mere fractions to a grand whole.

4. Its application is universal; no disease of heart or lungs should forbid its use.

5. In view of its known therapeutic action and safety in the small quantity required to produce narcosis, no use of the forceps, version or obstetric operation of any moment should be performed without it, not only to save the patient from shock and its consequence, but because of the great saving of time and labor, and in most instances the assistance it affords the operator.

6. Owing to the fact that uterine contractions are sometimes lessened by the administration, it may be regarded as important to precede it by an oxytocic in all labors and at any stage where the pains are slight, so as to increase their force, and also to guard against postpartum hemorrhage, a very infrequent occurrence where such precautions are taken.

7. Accidents to the unemptied bladder, ruptures of perineum and sphincter ani may be prevented, as well as death to the child in prolapsus of the cord, by the facilities afforded for rapid delivery in primiparæ.

8. In no instance have I seen narcosis of the child attributable to the anesthesia.

The small quantity necessary to produce semi-narcosis or full narcosis, the absence of nausea, exhaustion or shock on the return of consciousness, the impossibility of nervous perturbations, the freedom from hemorrhage, the invariably rapid getting up, with the small percentage of stillborn children, are facts that go very far to prove that which I believe to be axiomatic.

By judicious administration of an anesthetic, you can not possibly do harm to a woman in childbirth; nor can you fail to do her good.

In thousands of administrations only two cases of death are alleged to have occurred; even these two cases are so questionable that no one has ever been able to trace them to a reliable source. Whilst no one hesitates to administer the anesthetics in desperate emergencies, they fail to recognize the humanity of administration as a general practice, not alone to relieve pain, but for its imperative demand therapeutically, to facilitate by its aid a happy issue in result.

Few men who will sit by a case of labor using chloroform or the A. C. E. mixture in small quantities to produce scarce semi-narcosis during the pains of the first, and full narcosis in the second stages, can fail to recognize the human adaptability of these agents, not alone to relieve pain, but for the physiological effect in allaying emotional irritants or excitants, thereby moderating central and peripheral nervous irritability, exciting vaginal secretion, dilating the os uteri, relaxing the perineum, giving force and direction to uterine contractions and establishing in all the organs engaged in parturition their true physiological functional activity, so essential to the quick, safe and happy completion of even a natural labor. In exceptional cases, uterine contractions may be lessened, but ergot and the stimulating effect of traction by the forceps will restore the muscular tone and greatly add to the ease and safety of delivery.

But few cases of close observation will be necessary to impress you with the fact that the therapeutic physiological action is not that of any other condition in life, and in eclampsia the patient is safer in the vapor of the anesthetic, during the paroxysms, than when breathing pure atmospheric air.

Many years ago, I saw a primipara with general anasarca, and fearfully apprehensive, because of her condition and the fact that her mother died giving her birth. She was almost blind; the urine was albuminous and scanty. She was exhausted from loss of rest and exhibited the prodromes of convulsions. Without any evidence of labor, I directed an active purge and large doses of bromid of potassium, believing that when labor set in I would have a typical case for testing the virtues of anesthesia in this particular character of convulsive trouble. Before either of the remedies could be administered, convulsions occurred with great violence; I commenced at once the inhalation of the English mixture of ether, chloroform and alcohol at each exacerbation until she was lulled to quiet. Turning a deaf ear to all appeals of the friends for venesection, the anesthetic was steadily continued for two hours, when it was evident her labor had set in and the chief aim was to deliver as soon as possible. While bringing down the child with the forceps, the general appearance of the woman became so alarming as to unmistakably portend to the bystanders certain and immediate death, and, so unwilling were my medical assistants to continue the anesthetic that I was compelled to leave my portion of the work to take the charged towel and crowd it over the entire face of my eclamptic patient; she had apparently almost ceased to breathe, but soon the blueness faded from the finger nails, the extremities assumed a more natural color, the pulse increased in force and the respiration returned to its former stertor. This gave confidence, and the assistants, being assured of no responsibility in the event of a fatal termination, complied with my instructions and for another tedious hour we so guarded her from death as to complete her labor in safety of a healthy, living child.

Twenty years ago, I saw Mrs. D., age 37, with a history of healthy parentage, having herself enjoyed good health until her 29th year. At that time she had her third child, and the labor was followed by a severe attack of measles from which she never fully recovered. A slow and insidious catarrhal pneumonia kept her ill, though not confined to the house or totally disabled from performing her usual domestic duties. She was attended by several physicians for three years, without benefit. In 1878, she was placed in my charge. After three months' attendance, I observed her symptoms steadily increasing in degree. I could not interpret the character of the cough, dyspnea, loss of appetite, diar-

rhea, profuse and uncontrollable night-sweats, leucorrhea and loss of menses, with extreme emaciation, other than as direct indication of an early demise. I ordered a sedative mixture of hydrocyanic acid and morphia, and hopelessly retired from the case. After several months had passed I met her husband on the street and delicately enquired of her subsequent history. His answer was "As good as could be expected," and as he was with other men, I asked no further questions. Two months later, I received a nameless message to call at a house in another part of the town from where I had seen her last. There I found this same woman improved in weight, appearance and in many respects, though she still had cough, dyspnea, and the lungs showing serious physical signs of embarrassment from fibrous deposits. Her face and arms were thin, but the body was round and full, and while I was wondering what mysterious power had prolonged the life of that woman, my services were asked to attend her in an approaching confinement. While I confess apprehension, my faith in this greatest boon to parturient women was unshaken, and I welcomed the opportunity to prove the truth of my conclusion that no condition of heart and lungs should forbid the use of anesthesia in labor. Accepting service, I secured the assistance of Dr. Chrisman. Her labor came on gradually, but when the pains increased in severity her face and chest became cyanotic. I commenced the administration of the A. C. E. mixture and after very few inhalations the laryngismus stridulus entirely disappeared and there was no sign of return of the cyanosis to the end of her labor. But a small quantity was administered at the beginning of each pain; a state of semi-narcosis was maintained for three hours. When I felt she would have the assistance afforded by the forceps, Dr. Chrisman was summoned and the anesthetic consigned to his care. He was directed to produce profound narcosis; the forceps were applied for one hour, and the delivery was accomplished of a large, living, apparently healthy child. During the next three weeks all went comparatively well, but in the succeeding week a sudden change occurred; dyspnea, cough and fever increased; her old symptoms returned and she declined from exhaustive sweats and malnutrition during the beginning of the fifth week.

A postmortem examination revealed the right lung filled with fibrous deposits from top to bottom, with two cavities the size of walnuts, one in the middle and the other in lower lobe. The left lung was of the same character in the upper half, and so studded with deposits in the lower as to make her whole lung capacity but one-fifth. Five weeks before, the deposit may not have been so great; yet I think at a liberal estimate, we may safely say that at the time of her labor she was only using one-half of the left lung, for during the four weeks after labor, my books show that I paid her very few visits.

With this testimony we should have no hesitation to use the anesthetic in all painful labors. How few physicians would refuse an anesthetic to a man or woman who required the lancing of a whitlow, the extraction of a tooth, the amputation of a breast or limb, or any of the ordinary minor or major operations in surgery, where danger to some extent always attends, and in which exists but a small amount of pain, from the shortness of duration, in comparison with that of an average labor where statistics declare no danger under any administration can be apprehended from the anesthetic alone?

Where is the man who as physician or surgeon in his legitimate province could stand coldly by and see with indifference the writhing of a human being in broken or continued pain without offering to him an anodyne or anesthetic? Yet that same man exhibits stolid and heartless indifference when he becomes an accoucheur and has in his sole charge a helpless woman in the agonizing throes of labor, earnestly beseeching him to save her of her anguish or give to her immediate relief in death.

Fortunately in unnatural labors most physicians regard an anesthetic as directly indicated and rarely attempt version or craniotomy without it; but unless some desperate emergency exists, a morbid apprehension of some mythical possibility seems to seize the mind and govern their action, and a humaneness, for which as physicians and surgeons they may be proverbial, deserts them in the very hour when the tenderest sympathy and promptest care should demand the consummation of a possible painless and happy conduct by that boon which, to a parturient in the travail of labor, falls but little short of what may well be termed an especial therapeutic indication.

## WHEN SHOULD PATIENTS BE ADVISED TO EAT EVERYTHING?*

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There can be no question that a large proportion of the chronic ailments from which mankind suffers are mainly direct or indirect consequences of wrong eating and drinking, the secondary effects being produced through autointoxication. However, other hygienic faults are frequently added factors in the causation. The ailments thus induced may include not only the well-recognized diseases of the alimentary system, but also an endless number and variety of more or less obscure conditions of impaired health, ranging from insufficiency of bowel movements or of renal excretion and affections of the skin, to organic disease of the heart, vessels and kidneys as well as apoplexy and many organic changes in the nervous system. They include especially a number of cases of neurasthenia and other vague derangements of the health in ways that often seem very mysterious until a proper interrogation of the digestive organs by the recent exact methods reveals the presence in them of some lesion or functional disturbance, such as a moderate dilatation, displacement or latent catarrh of the stomach or intestines, or, as more frequently happens, hyperchlorhydria with resulting intestinal dyspepsia. Such cases are seen every day by physicians who are accustomed to make thorough examinations of the abdomen and the stomach contents, and not infrequently the only prominent symptoms are nervous ones, especially insomnia and either mental depression or an unwonted nervous tension.

Many patients who place themselves under treatment for the consequences of an unhygienic diet, though their disease may have been years in developing, expect to be so fully cured in a few weeks or months that it will be possible for them to eat everything as they had formerly done. One of the popular tests of the skill of a physician is his ability to cure dyspepsia, as well as the other maladies which require a restriction of the diet, so completely that the patients can again "eat everything."

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Before deciding as to the possibility of restoring to dyspepties and other invalids this coveted power to indulge their palates to any desired extent without danger, it may be well to consider what the normal food requirements of man are, and then to contrast with these the sort of diet that is now in vogue among well-to-do people.

NORMAL FOOD REQUIREMENTS.

Physiologists have determined over and over again that to maintain the human body in full health, albuminoid or proteid material—furnished by meat, fish, eggs, etc.—must form approximately one-fifth part by weight of the food; the hydrocarbons or fats need to be in about the same or a slightly larger proportion; and the carbohydrates—starch and sugar—must form about three-fifths. The various authorities differ a little as to these exact proportions, and these must vary somewhat with the occupation, climate, etc., but all agree that the carbonaceous foods need to preponderate largely in the diet of man, or nutrition will suffer.[1] Lean meat contains chiefly proteid material, salts and water. Other meats contain considerable fatty matter, as do also such albuminoid foods as fish, eggs and cheese, but practically no starch or sugar, except cheese which contains 2 to 6 per cent. of sugar. In beans, peas and other legumens, as well as in the grains and unbolted flours, there is also a large percentage of proteid material combined with a still greater proportion of starch. Indeed, the legumens contain a greater percentage of albuminoid material even than most meats, fish or eggs, in addition to a still larger proportion of starch, and, therefore, are among the most nutritious of foods for persons able to digest them. The needed fat may be obtained from various sources, but especially from butter, cream, milk, olive-oil, the fat of meat, fish, etc. Milk is more nearly a complete food than any other single article of diet, yet does not contain enough of the carbohydrates to maintain perfect nutrition for prolonged periods in adults, without the ingestion of much larger quantities than the stomach could tolerate.

In the treatment of gastrointestinal catarrhs a milk diet, or one of meat mainly, is often prescribed with advantage for a short time, but either alone, if persevered with long, would cause a slow starvation.

Let us see, now, how a large number of the opulent classes, as well as many people in this country, of only moderate means, actually do eat and drink. With a great number of these, especially those who travel, or live much in hotels, breakfast includes a variety of hearty viands, of which meat or eggs or both usually constitute about one-half by weight, not counting coffee, which contains practically no nutriment at all, except the sugar and milk with which it is flavored. Luncheon also often consists of fully one-half albuminoid material, if not more. But the dinners are the most unhygienic. The approved modern dinner begins with oysters or clams, followed usually by a meat soup, fish and roast meat, and after these come frequently some sort of game and various kinds of entrees. All of these so far, except the vegetables served with the roast and fish, and sometimes with one or more of the other courses, belong to the proteid or nitrogenous aliments which, as a rule, should not exceed one-fifth to one-fourth, at the most, of the total food taken. So far, then, the table d'hôte dinner, eaten by the average guest at first-class hotels, consists mainly of albuminoid material, and even when there is added the bread often taken and the desserts with which the meal is topped off, the proportion of proteids is rarely brought down to as low an average as one-half. Moreover, at dinner the carbohydrates eaten are largely in the form of amylaceous articles which are taken mostly with the dessert at the end of the meal when, even in normal stomachs, there is too much HCl present to permit of further salivary digestion, and in hyperchlorhydrics often enough to impair also the action of the pancreatic juice. Then, the cane-sugar served generally with the starch in the dessert is the most fermentable of all foods, and therefore injurious to those patients and convalescents in whom there is a tendency to fermentation.

The pepper, hot sauces, and other sharp condiments with which such a meal is abundantly garnished, produce by over-stimulating the glands, in all except the worn-out stomachs, or those with depressed functions, an abnormally large flow of the gastric and other juices, so that the diner is tempted to eat, and often enabled to digest for a time, until his glands become prematurely exhausted, quantities of rich nourishment of various kinds, out of all proportion to his exercise and needs. The alcoholic beverages which form so common an accompaniment of the dinner, tend ultimately, even when taken very moderately, to produce degenerative processes, and if at all freely used, effect a serious amount of damage, exceeding even that brought about by the long-continued ingestion of a larger proportion of proteids than can be oxidized and assimilated. We know now, too, that alcohol, except in very minute quantities, retards instead of helps the digestive processes, and always impairs, when it affects it in any way, the motor function of the stomach.[2] Furthermore, the testimony of nearly all the leading physiologists is that it is in no proper sense a food.

Under the guidance, then, of our ignorant French cooks and caterers, who prepare their viands as though every one from childhood to old age had feeble peptic glands in constant need of the most energetic stimulation, and arrange their menus as though three-fifths or four-fifths, instead of one-fifth, of man's food should be nitrogenous, the gastronomic tastes and habits of the so-called good livers, and of large numbers of other persons, have become so perverted that it is not safe to advise even the apparently well to "eat everything" put before them. Still less is it safe to give such advice to those who for long periods of time have suffered much from impairment of their digestive functions or from toxemias produced by fermentation or decomposition of undigested food, even when they seem to be entirely recovered, since like causes would in time again produce the same effects and these would, in such persons, result even more certainly and speedily than before.

The truth is that, in all healthy persons with unspoiled stomachs, the gastric and other juices are secreted naturally in abundant quantity with only the stimulation resulting from the chewing and swallowing of any suitable, plain, nourishing food, and without the aid of either alcohol or pepper or other irritating condiments.

1. Laudois and Stirling (Phila.: P. Blakiston's Son & Co., 1887) say there should be one part of proteid or nitrogenous to 3½ or 4½ parts of non-nitrogenous material in the entire food, while Rubner, in "Handbuch d. Ernaehrungstherapie" (Leipsig: Geo. Thieme, 1897), holds that the proportions must vary with the age and activity of the person, but for adults engaged in moderate or severe labor, gives the normal percentage of albumin as 16.7, of fat as 16.3, and of carbohydrates as 66.9 per cent. In the aged he would place these percentages at 17.4, 21.81 and 60.9 respectively—i. e., nitrogenous a trifle more (though still less than one-fifth), the fats considerably more, a trifle above one-fifth, and the starches and sugars jointly at just about three-fifths the total intake of food by weight.

2. Diseases of the Stomach. By John C. Hemmeter. Phila.: P. Blakiston's Son & Co., 1900.

The employment of these irritant drugs as excitants in the daily diet of children, youth and adult persons having normal stomachs, is a most irrational practice which is doubtless productive of an incalculable amount of harm. At the best it must lead to the taking of more food than is required, thus not only overtaxing the secretory organs, but also burdening the liver, intestines and kidneys with an unduly large amount of excretory work; and at the worst it must result in a relatively early exhaustion of both sets of glands, as well as in catarrhal inflammations of the alimentary canal and all the unnumbered maladies grouped under the terms lithemia or uricacidemia, not to mention the more dangerous affections of various organs which are believed to owe their origin often to an excess of uric acid and the xanthin bases, and the more obscure forms of autointoxication. It is not intended, however, to condemn the use of table salt, or the various mild articles employed merely to flavor our foods.

It should be time enough to spur the digestive functions with drug irritants when, in the absence of imprudent eating, they are found to be flagging in their work. Usually, when they fail to meet the demands made upon them, except after acute illness or in old age, it is because the demands have been outrageously heavy. In the majority of cases of dyspepsia there is, in the earlier stages at least, an excess rather than a deficiency of the hydrochloric acid, and generally of pepsin and rennet ferment as well, and in these cases the gastric irritants so recklessly employed by the cooks are as useless and injurious as are the scarcely more powerful stomachics which are still so often ignorantly prescribed for them by physicians.

There is more in dietetics than is dreamed of in many of our philosophies. The diet can be made quite as potent for good or harm as our most frequently used medicaments. Besides the abuse of nitrogenous foods and of the sharper condiments, much might be said, if time permitted, of the overloading of the stomach which constantly results from the bad custom of tempting the palate with a lot of rich and often indigestible sweets after the appetite has been fully satisfied and, considering the artificial stimulation just described, after the needs of the body have already been more than supplied. And I shall not enlarge upon the popular fallacies regarding the importance of fruit in the diet of man. Palatable, and often useful as many kinds of fruit are medicinally to counteract some of the effects of overeating, they do not supply to the system any indispensable elements not present in other articles of much higher food value and not so prone to disagree. In moderation most kinds of fully ripe fruit are safe enough for healthy persons, and for many of those whose chief complaint is constipation, but those of lithemic tendency need to indulge in them sparingly if at all.

### CONCLUSIONS.

To sum up: We should never advise our patients to "eat everything" until we have thoroughly cured their diseased digestive organs and freed them from the lithemic condition; and powerful as are our modern weapons against these, we can not often succeed in accomplishing such a radical cure until the patients have reformed their unhygienic habits, not only in their eating and drinking, but also in both their work and play. They must learn self-denial and at least the rudiments of the immutable laws of health and, having learned, obey them. They must take into their stomachs, in approximately right proportions, the things that will nourish and strengthen them, and little or none of those whose chief effect is to derange or irritate the functions or tissues of the body. In many cases, besides, they must give up sedentary employments or pleasures and take regularly, every day, an adequate amount of exercise out of doors. In short, oxygenation must be made to bear its proper ratio to alimentation.

Nor should we advise even the well persons in the families under our charge to "eat everything," without some regard to their idiosyncrasies and tendencies, as well as a reasonable amount of care that they do not follow a harmful acquired taste for too much of the rich and complicated viands or such an undue proportion of nitrogenous food as would make patients of them a few years later, by setting up gradually insidious forms of chronic disease which would inevitably result, at a relatively early period of their lives, in gout or rheumatism, or in other more serious and fatal organic affections.

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## POISONING FROM AUTOINTOXICATION.*

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In Hufeland's "Art of Prolonging Life," written in 1790, and one of the few books of that century still published and read, there is a distinct recognition of autointoxication states generated in the intestinal canal by the fermentation and changes of foods and drinks. Several of the proprietary medicines owe their success to the recognition of this condition and the application of antiseptic and eliminative measures. One such remedy, widely advertised and supported by volumes of testimonials as having cured obscure disorders and averted serious diseases, contains sulphate of magnesia and soda concealed by some flavoring substances. The value of this remedy is in its power to overcome these autointoxicative states which are largely unknown. A book written by an unknown man, claiming to be the science of a new life, nothing more than a promulgation of the theory of two meals a day, points out the same range of causes, with abstinence as the remedy. Eating large quantities of food three times a day is very apt to produce intestinal troubles by supplying more nutriments than can be assimilated, and furnishing the conditions for poisoning from that which is not used. Every practitioner is familiar with autointoxication and infection from the presence of foods which undergo putrefactive changes. The good results from antiseptic and eliminative treatment demonstrate this. The limits of this present paper make it impossible to do more than call attention to a particular form of autointoxication due largely to the products and chemical disturbances which follow from the use of beer and spirits. The common theory that spirits increase or in some way aid digestion, and can be used with foods with comparative safety, has no support in modern research. Persons who drink wine and beer only at meals are never good types of health and free from digestive disorders so common to all classes. Moderate users of spirits only at meals are not common in this country, for the reason that they are unable to confine the use of spirits to the time of food-taking. Literally, such persons soon begin to drink at other times and occasions, and often to excess. The average moderate drinking man, whether using spirits at meals or on other occasions, very soon becomes an

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invalid. Often this invalidism is called "rheumatism," "malaria," etc., and is marked by local palsy, headaches, irregularity of the heart's action, insomnia, dyspeptic symptoms, catarrhal difficulties, with alternate constipation and diarrhea. These and other obscure symptoms are ascribed to various causes and are rarely recognized as having any connection with the use of beer or spirits. The disappearance of all these symptoms after periods of total abstinence from spirits is usually ascribed to some other cause. The ordinary beer drinker is the most prominent example of autointoxication. In many instances but little change is noted in the first period of addiction. One may use beer daily for a long time, without any noticeable change, but sooner or later a class of symptoms will appear which clearly point out the presence of toxic products and their absorption into the system. The fatty degeneration so characteristic in beer-drinkers, associated with increase of flesh, loss of vigor and enfeebled action of the heart, is common to most cases. Enfeebled vigor and slow vitality is noticeable, particularly among the English workmen in large cities and towns. Such persons have every appearance of health, but when injured or attacked with disease, have no resisting power and die from apparently trivial causes. In this country beer-drinkers usually are dyspeptics, and have catarrhal and other local inflammations. They suffer from influenza, malaria, are sluggish, exhibit mental feebleness, and are great patrons of the doctors and the free dispensaries. The use of wines and stronger liquors in moderation or excess is followed by neuralgias, insomnia, and obscure pains which are called "rheumatism," and "malaria," or "the sequelæ of the grip." Other symptoms of disability which are noted in persons who use spirits to excess are frequently apparent in disorders of the nervous system. Some of the most obscure symptoms pointing to changes in the brain disappear rapidly from the discontinuance of spirits. In clinical studies this fact is so apparent that careful inquiries are always directed toward the habits of the patient to determine the influence of alcohol, if possible. The fact of using alcohol is becoming of greater significance clinically, and next to syphilis is a contributory cause in the production of a great variety of disease, and should be inquired into in every obscure case.

### ACTION OF ALCOHOL.

Recent pathologic studies have cleared away much of the obscurity concerning the action of alcohol on the organism. We now know that alcohol, even in a small quantity, has a peculiar corroding action on both cell and tissue, impairing its power of growth and repair, and diminishing its functional activity. The nutrition which would naturally be used to repair cell and tissue is diverted, changed, and becomes waste products. The action of alcohol on the nerves, particularly those which control the blood-vessels, lessens the power of control and permit the blood to pass with greater force and volume, putting greater strain on the walls of the minute arteries, and is probably followed in many instances by minute hemorrhages. Alcohol in the blood diminishes the oxygen-carrying property, destroying the hemoglobin, and is followed by states of starvation. The waste products increase and the power of elimination decreases, hence all the processes of digestion are disturbed and altered. The waste products are retained and become sources for the growth of pathogenic germs. Both the liver and kidneys are subjected to increased activity with diminished nutrition. The pathologic condition is clearly that of starvation and irritation which rapidly merges into inflammation and exhaustion. The products of these deranged metamorphoses become real poisons, and their presence in the system is marked by many and obscure symptoms. Often the evidence of these pathologic conditions is confirmed by the results of treatment. An example will make this more clear. A moderate-drinking lawyer who was an invalid, having been unsuccessfully treated by many physicians for many grave diseases, suddenly became a convert to "Christian Science." He abandoned the use of all spirits, and lived on a restricted diet, with mineral waters. The recovery which followed was attributed entirely to mind effects. In reality, it was simply the removal of the causes, viz., the spirits, overeating, and the autointoxication which followed.

Again, a farmer, who used cider-brandy regularly every day, was thought to have gastro-enteritis, with colitis and local paralysis. Heart lesion and asthma were also present. After various efforts to recover, which were unsuccessful, he gave up all use of spirits, and was treated in a sanitarium, by baths, milk, and a restricted diet. The result was most satisfactory, and the recovery very rapid. These are common instances which are often seen in practice. The young physician trained in the technique of modern diagnosis would find very grave symptoms of organic disease in such cases. To the older physician with experience and an intuitive diagnostic sense, the term "bilious" would express his conception of diagnosis and subsequent treatment. A great variety of obscure symptoms whose origin would be doubtful, should always be treated on this supposition that the poisonous products may be spirits and allied causes. Inflammatory states and bacterial sources of infection, localized lesions, and irritations may all spring from the same source, and their sudden recovery following the use of commonplace remedies and placebos should be considered evidence of their toxic origin. Many of the most wonderful cures ascribed to various remedies are nothing more than the removal of toxic poisons. In neurotic persons these conditions are probably often present, and the value of a hospital treatment is very often due to a change of diet and removal of certain causes which were not recognized. The action of a cathartic in all inflammatory conditions is a practical measure along this same line. Neurasthenic states of the brain and nervous system, from overwork and neglect of normal living, may strongly predispose to the formation of toxins in the intestinal tract, the absorption of which will still farther complicate and add to the disorders present. Want of proper muscular exercise, confinement in bad surroundings, using food not adapted to the climate and work, are also prominent causes. Insomnia is another common condition following poisoning. In a patient under my care, where insomnia led up to morphia taking, the treatment by baths, mineral waters, and restricted diet resulted in complete recovery. The original cause was toxemia. The use of beer for its supposed food and strength value often increases this condition. The temporary relief which follows from its anesthetic action on the nerve-centers creates the impression of cure, while in reality the poisoning is increased. Spirit taking for the same reason is often followed by the same results. Sclerotic states of the brain and cord which follow the moderate or immoderate use of spirits, and the slight hemorrhages which we now realize to be very common, are all the direct results of the changes in the metabolism and the formation of poisoned products which in themselves become sources of injury. The term "bilious," in disrepute among

modern physicians, and indicating in a general way some unknown congested condition, has pointed out lines of treatment the results of which have been far more satisfactory and nearer a final cure than from any modern remedies. The hydropathic theory of disease and its treatment, particularly the internal use of water, is also much nearer the most advanced teachings of science and its practical application. I append some clinical illustrations of these facts which will bring them into greater prominence. I select some extreme cases as examples of the possibilities of relief from treatment based on this theory of autointoxications.

### RESULTS OF TREATMENT.

A lawyer at 52 gave up business on the supposition that he had paresis and must die. A period of ten years of active treatment and consultation had confirmed the opinion that he was incurable. He continued to use spirits every day, at meals and at intervals, eating very heartily, and exercising very little. He suffered from palsy, lancinating pains, insomnia, and gastro-intestinal disturbance, was intensely irritable, and depressed at times, and had delusions of exaltation, which slowly increased. By an accident, he was forced to stay at a sanitarium, where he reluctantly consented to the withdrawal of spirits and the substitution of baths and moderate exercise. The change was so pronounced that the treatment was continued. Three months afterward all symptoms had subsided and he was able to go about free from pain and fully restored. He returned to his profession, working moderately and living abstemiously, using baths daily. Four years afterward he was still well and strong. The inference was clear that his paresis was very largely functional, and due to the toxic conditions of the body. This case was the subject of much discussion, and has been published in the journals.

An instance of a remarkable cure ascribed to a preparation of soda was undoubtedly due to hygienic measures of baths, abstinence from spirits, and a limited diet, followed continuously for months. I pointed out this probable fact to the disgust of the physician, who thought he had made a discovery of a new use of soda.

A second example of the same class was that of a prominent clergyman, who for years had used wines at table, and beer at intervals for its supposed tonic action. After an attack of influenza, hemiplegia with great enfeeblement came on. The urine showed disease of the kidneys and the stomach and intestinal tract were also deranged. Several very elaborate diagnoses of grave diseases were made by physicians, and equally elaborate plans for treatment were suggested. He was finally put under the care of a country doctor with no hope of recovery and the only expectation of making his last days comfortable. This physician used a cabinet bath for profuse sweating, and massage followed by a course of dieting, with mineral waters, and passive exercise. The recovery was rapid. The paralysis disappeared. His mental condition changed, and all symptoms of inflammation vanished. The restoration was complete. He did not resume his profession, but went into active outdoor service, and is now—three years afterward—well and vigorous. This case, like the other, was clearly one of poisoning which was rapidly merging into a chronic condition, but fortunately the removal of the active causes enabled Nature to restore much of the lost health and vigor.

An active, energetic lawyer, 55 years of age, had a convulsive attack, with unconsciousness, followed by hemiplegia and mental feebleness. This was considered cerebral hemorrhage. The physician gave spirits as a tonic and large quantities of liquid foods to keep up his strength. He had been a wine-drinker at the table, also a very hearty eater of meat, using large quantities of rich food, and occasionally using spirits. For two years he suffered from headaches and intestinal troubles and prolonged periods of prostration. Albumin was found in the urine, and his case was regarded as serious. I was called to witness his signature to a will, and to determine his mental condition. Acting on my advice, the family physician removed all spirits, and restricted the diet, giving mineral waters and baths daily. The result was very marked, with rapid recovery and complete change. After a tour to Europe, under the care of a physician, he returned in good health and vigor, and is now—six years after—strong and well. This was a clear case of autointoxication and the supposed hemorrhage was a poison attack from accumulation of toxins in the brain-centers.

A mechanic and mill-owner, without hereditary history, who had been temperate and regular in his habits up to 46 years of age, returned from a trip to Europe with the habit of using wine at meals. For the next five years he drank sweet wines freely at the table, using large quantities of rich foods on the supposition that he needed more strength and vigor with increased age and work. Attacks of rheumatism, with headache and extreme exhaustion, appeared and were treated by the physician without success. Inflammatory conditions of the joints followed, and convulsive attacks with great irritability and mental changes appeared. These were associated with depression of spirits and physical exhaustion. He went to a sanitarium; spirits were removed, the diet restricted and active eliminative treatment carried out for several months. Recovery followed. He resumed his business and two years later began to use wine at the table again, with rich foods. Strong spirits were taken at intervals, for strength. Later, rheumatism reappeared, then convulsive attacks which were pronounced epileptic. The physician continued to allow wine at meals, using narcotics to prevent the attacks, until finally death took place from acute pneumonia. In this case undoubtedly autointoxication from the use of wines and foods was the special exciting cause of the epilepsy and death. Had abstinence from spirits, rigid diet and careful eliminative treatment been persevered in, the result might have been different. The poisonous irritants and toxins concentrated in the brain-centers were the exciting cause of the explosions of nerve energies and the subsequent debility and death.

### NECESSITY OF RECOGNITION OF ACTION OF SPIRITS.

I conclude at this point with a statement of the necessity of recognizing the poisonous action of spirits whether taken in moderation or excess, and summarize what I wish to make prominent as follows:

1. Alcohol in any form, taken into the body as a beverage, is not only a poison but produces other poisons, and associated with other substances may develop toxins. Alcohol is also an anesthetic and not a tonic or so-called stimulant. It increases the waste products of the body and diminishes the power of elimination. It also destroys the phagocytes of the blood, and thus removes and lessens the protective power of the blood-cells.

2. Whenever alcohol is used continuously as a beverage, for its medicinal effects, favorable conditions and soils for the cultivation and growth of poisoned compounds are created. These may be neutralized by other

conditions and not be apparent in the derangements of the functional activities which follow. Where disturbance and derangements of the nutrient and functional activities of the body are associated with the use of alcohol, their transient character and disappearance by the removal of spirits suggests the causes.

3. The functional and organic symptoms of derangement appearing in those who use spirits in moderation or excess, which quickly disappear by abstinence and eliminative measures, are clear indications of autointoxications from this source. Obscure symptoms of the nervous system in persons who use spirits should always be examined in relation to the toxic origin from this source. Also grave nutrient disturbances should suggest the same cause with the same treatment.

4. The treatment of all such cases, in which alcohol is used in any form, should be by antiseptic and eliminative measures, and the supposition should always include the possibility of poison by chemical products formed in the body.

## PROPOSED NATIONAL BUREAU OF MATERIA MEDICA.

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At the Richmond meeting of the American Medical Association, in 1881, I read a paper before the Section on Materia Medica and Therapeutics, entitled "The Materia Medica of the Future." In this paper I called attention to a condition of affairs threatening progress in materia medica science and, in a resolution offered for me by Professor Dunster, of the University of Michigan, after the reading of the paper, I suggested a way out of some of the difficulties which I then foresaw. The correctness of my reasoning at that time has been amply proved by subsequent events.

From the Richmond meeting I went to Washington and proposed to Prof. Spencer F. Baird, the secretary of the Smithsonian Institution, the advisability of establishing a national laboratory of materia medica under the auspices of the Government. Conferences were held with the heads of various departments, including the medical departments of the army, navy, and marine-hospital service, army medical museum, national board of health, etc. Professor Baird finally said that he considered the plan one of the most important ever brought to the attention of the Government. But lack of appropriation caused its abandonment at the time. In papers read before the Ninth International Medical Congress, Philadelphia County Medical Society and the American Medical Association, I again and again advocated the plan. The American Medical Association memorialized Congress on the subject in 1891, and reprints of my paper[1] accompanied it.

What I contend is that the "Materia Medica of the Future" depends for progress upon the proper interpretation and application of the patent and trade-mark laws. If those laws are so applied as to leave materia medica products free to the science, so that they can be investigated by the co-operative work of the profession, and the knowledge thus evolved reduced to law and embodied in system without the interference of self-interested persons who seek to appropriate it for the purposes of exploitation by misleading advertisements, their application for the protection of capital invested in the drug business will be beneficial. If, on the contrary, these laws are so applied as to create monopolies in medical products, and encourage dishonesty in advertising, they will prove a hindrance to materia medica science and a curse to the American people.

Under act of Congress approved June 4, 1898, a commission was appointed to revise the statutes relating to patents and trade-marks. This commission reported Dec. 4, 1900, and the subject comes before the next Congress for debate. The time is therefore opportune, and it is important that the subject should be understood by the profession in all its bearings. Accordingly I beg attention to the following paper, which I have arranged in the form of a prospectus for a proposed bureau of materia medica. That the Government should inaugurate such a bureau all will doubtless agree. If the Government will not do so an association might be formed of the teachers of materia medica, and the work done by the experts connected with the medical and pharmaceutical schools and colleges working under the auspices of the association.

The plan I have suggested in the following paper is tentative, and needs most earnest consideration and discussion. When the right plan is reached, the committee on national legislation of the American Medical Association will be in a position to bring it before Congress.

### PROSPECTUS.

The objects of this bureau are: 1, to establish the standards of the materia medica preparations on the market and keep them under analytic and pharmacodynamic observation, with the aid and co-operation of the expert chemists, physiologists, biologists, botanists, pharmacologists and clinicians connected with the medical schools and colleges, and the pharmacists and manufacturers of medicinal drugs and chemicals; 2, to act as the medium of communication between the scientific workers in the laboratories, hospitals and clinics engaged in the investigation of new materia medica products, and those engaged in manufacturing and marketing them, to develop the knowledge of their origin, genesis, nature, composition, methods of manufacture, standardization, pharmacodynamic properties and therapeutic uses; 3, to collect the knowledge of materia medica products, reduce it to law, embody it in system, and publish it for the benefit of science; 4, to aid the manufacturers of materia medica products and preparations who conform their goods to recognized standards in the introduction of their brands to commence by advocating that the medical profession in prescribing shall specify those brands which comply with scientific and professional requirements.

### STANDARDS.

The necessity for authoritative standards to fix the nomenclature, define the character, establish the purity, and regulate the strength of medicine, is recognized by all civilized countries. These authoritative standards are called pharmacopeias. The "United States Pharmacopeia" is an authoritative list of medicinal substances with definitions, descriptions, or formulæ for their preparation. The work was devised, and is decennially revised by a committee appointed by a congress of physicians and pharmacists, which assembles in Washington every ten years for that purpose. The pharmacopeias of all nations, except those of the United States, Chili and Greece, are issued under the authority of the respective governments, and therefore partake of the nature of laws.

### WANT OF UNIFORMITY IN MATERIA MEDICA PRODUCTS AND PREPARATIONS.

Compliance with the Pharmacopeia not being obligatory, there is a wide difference of uniformity in this country between the products of the various manufacturers. The processes of the Pharmacopeia yield products with characters which distinguish them from the products yielded by other processes. There are, for example, quite an extensive variety of processes extant for making fluid extracts. Taking the products of the Pharmacopeia as standard, and comparing the products of the other processes with them, grading them in accordance with their resemblance to the official fluid extracts, decided difference of character will be observed between the two extremes. The Pharmacopeia directs a certain process for the manufacture of tinctures. It is evident that the tinctures prepared by the official process, and those prepared by diluting the dif-

1. Journal A. M. A., Oct. 24, 1891, p. 623.

ferent kinds of fluid extracts prepared by the processes of the different manufacturing houses, give an equal number of species of tinctures.

Another reason for want of uniformity in such preparations as the fluid extracts, tinctures, and other preparations of vegetable drugs, is due to the wide variance in the amounts of active principles present in different samples of the same drugs. To overcome this variation the Pharmacopeia directs that certain drugs, such as opium and cinchona, for instance, shall be assayed by official processes given for that purpose. Chemical assay, however, is confined to those drugs containing alkaloids, glucosides, and other definite principles, for which practicable processes of assay have been determined.

And what has just been said regarding galenic preparations applies also to chemicals, though, perhaps, not to the same degree. Each chemical process, however, gives a product with characters of its own; and, unless the product be rendered chemically pure, which is rarely the case, the variation in uniformity between products will be governed by the process employed in their preparation. Again, the commercial standards for purity in chemicals pertaining to the market is in many cases decidedly lower than that of the Pharmacopeia, this being another cause for want of uniformity in products.

### WANT OF UNIFORMITY IN PRODUCTS MEANS WANT OF UNIFORMITY IN THERAPEUTIC EFFECTS.

The very first essential to uniformity in therapeutic effects is uniformity in products. The importance of all manufacturers conforming to the standards and processes of the Pharmacopeia is therefore apparent. The only exceptions to this rule permissable is in cases where pharmacopeial standards and processes can be improved upon. When such improvements are attempted, the manufacturers should furnish sufficient scientific reasons to justify departure from official standards. This means the employment of experts provided with laboratory facilities and instruments of precision.

### THE QUESTION OF MONOPOLY OF MEDICAL PRODUCTS AND PREPARATIONS.

The beneficence and professional liberality which should distinguish the medical and pharmaceutical professions from the vocations of the merchant and tradesman, and the fact that the knowledge evolved by the co-operative work of professional men belongs by right to humanity, makes it unethical for those who are practicing the medical arts to individually appropriate the knowledge resulting from original investigation for selfish purposes. Pharmacy, or the art of manufacturing medicines, is a medical art, and the pharmacist and manufacturer are bound by the same ethical obligations as the physician. Therefore, those who violate the principles upon which medical practice in all its departments is founded, deliberately place themselves without the professional pale, and have no right to expect that the profession will accord them the privileges which belong only to those who comply with professional and scientific requirements. Among those privileges is the use of the scientific pages of the medical journals for the purpose of adding to the knowledge of materia medica by the publication of the results of original research. *But the price of science is publicity, and the surrender of all claims to proprietary rights in the products investigated.* Papers relating to patented or controlled products can only be regarded in the light of nostrum "write-ups" or testimonials, when favorable to the product, and regarded with suspicion when condemnatory; and no physician nor pharmacist of standing can afford to risk professional reputation by reporting upon them for publication.

### THE QUESTION OF COPYRIGHTS AND PATENTS.

Carried to its logical conclusion, the enforcement of the professional ideal would exclude from fellowship the authors of medical books, who take advantage of the copyright law to secure monopolies of the products of their brains. Copyright has been made necessary, however, on account of the necessity of protecting the capital of publishers engaged in the business of printing and marketing books. But the monopoly obtained by copyright does not extend to the subject written about. It only includes the title of the book and its language. In the same manner exception can be made in favor of the inventors of new processes and apparatus for manufacturing medicine, and the Government can, without danger to science, grant them the right to prevent others copying their inventions for limited periods of time, so long as the patents do not cover the products themselves. If the product itself is monopolized, every effort is made by the manufacturer to push it to the front as a therapeutic agent by exaggerating its merits, and repressing its unfavorable side, so that it becomes next to impossible for physicians to ascertain its limits as a therapeutic agent and use it intelligently. And if any physician of standing has the temerity to publish its untoward effects, he excites the antagonism and reprisal of the manufacturer.

### COMMERCIAL CLASSIFICATION OF MEDICINES.

According to the present classification in use at the United States Patent Office, "medicines" constitute a "class of goods," and manufacturers are permitted to register as trademarks on the class names which they are supposed to use for the purpose of distinguishing their goods of the class from other goods of the same class, but which they in fact use as the titles of the medicines themselves. As well might the patent office group in one class all metallic substances and permit the names of all new metals discovered to be registered as trademarks on the class of goods "metals."

Medical products may be distinguished and classified commercially by order, class, tribe, genera, species and variety. Take quinin sulphate, for example; it belongs to the order "alkaloid," class "cinchona alkaloid," tribe "quinin," genus "sulphate," species the product furnished by a stated "process," variety the "brand" of a stated manufacturer. Now it is evident that as each manufacturer has a right to use any unpatented process to make his brand of quinin sulphate, and that there are several such processes extant, and as the product of each process possesses characters of its own, it is important to name the process as well as the brand. There is a difference between process and brand, even in such definite substances as quinin sulphate. And this difference between process and brand is still more accentuated in case of fluid extracts and tinctures. By the use of the pharmacopeial process for making tinctures one species of tincture may be produced, and different varieties will result according to the amount of skill possessed and employed by the individual pharmacist or manufacturer in using that process. It follows, therefore, that the individual learning and skill which gives character to a medicinal product should have a name as well as the process. That name is the name of the manufacturer, or a name or mark standing in place of the name of the manufacturer—his mark, his commercial signature or trademark.

It is universally acknowledged in law that the function of a trademark is to distinguish the manufacturer, and it is perfectly apparent that the name of the order, of the class, tribe, genus or species of a medicinal preparation, is incapable of performing the function of a trademark. Not until that point is reached, where the individuality of the manufacturer counts, does the commercial signature, which distinguishes between one maker and another, come into play. It logically follows that the specifying of brands by physicians in prescribing throws the responsibility of character, purity and strength of medical products and preparations on the manufacturer where it belongs. This does not relieve the pharmacist who compounds the prescription from his responsibility in the matter of selecting between the various brands of fluid extracts, and other preparations on the market. The physician has the right to assume that the pharmacist fills the prescriptions entrusted to him with preparations made in accordance with the U. S. P., unless those made by other processes are specified.

### THE QUESTION OF SPECIFYING IN PRESCRIBING, BY USING PROCESS NAMES AND BRAND NAMES.

Taking the above facts into consideration, it is evident that physicians in prescribing will consult their own interests, and the interests of their patients, by specifying processes and brands; and the manufacturers would consult their own interests by divulging their processes in many instances by patenting them, and providing their products with process names and brand names by which they may be specified. This particularly applies to new medicinal substances as prepared for the market before they have been standardized as to character by the committee for revising the Pharmacopeia.

Take, as an example, tannin albuminate. Knoll has invented a process for preparing it. The name "tannalbin" has been given to that species of tannin albuminate produced by the Knoll process. The Merck brand is on the market. Now it is evident that a patent granted Knoll for his process, which carries with it the right to prevent others from manufacturing and dealing in tannalbin for seventeen years, is protective alike to science and commerce, for no monopoly of tannin albuminate has been created, and exact knowledge of the Knoll process has been filed in the patent office in Washington, and may be had by any applicant for the small sum of five cents. It is also evident that the inventor, in making Merck his agent for introducing tannalbin to the American market, places himself in a similar position to that which the author of a copy-

righted book occupies in relation to the publisher, and that the physician in specifying "Tannalbin-Merck" secures the benefit of the Knoll process for manufacturing tannin albuminate and the guarantee of Merck for the character of the preparation. But if the patent on the Knoll process should have been extended to include tannin albuminate itself in the monopoly it would be a similar monopoly to that which the author of a medical book would obtain if his copyright could be made to cover the subject of the book as well as its title and language. It would be very similar to giving a botanist a right to prevent others from writing and publishing anything with regard to a new medicinal plant because he was the first to discover it and write about it. Manifestly, he would be able to control the knowledge of the plant during the existence of the copyright and exploit the plant as a "new remedy" by misleading advertisements "without let or hindrance." Knowledge must be protected, and science promoted, by leaving the products themselves open to the introduction to science by the co-operative and educational channels of the profession. Therefore, proper discrimination should be exercised by the physicians in prescribing to make sure they are not playing right into the hands of the nostrum trade.

### THE INTRODUCTION OF NEW MEDICAL PRODUCTS TO SCIENCE.

The knowledge of materia medica, reduced to law and embodied in system, constitutes that important branch of medical science properly described as pharmacology. Pharmacology is defined as the science of medicines, their nature, preparation, administsration and effects; including pharmacy, pharmacognosis and pharmacodynamics. Knowledge of one medical product, not known as related to any other, or of many such products not known as having any mutual relations or as comprehended under the general law of pharmacologic science, does not reach the meaning of science. The knowledge of new remedies remains a heterogeneous medley of facts and fancies without co-ordination or control, until it is reduced to law, embodied in system, and provided with a proper nomenclature.

It is evident, therefore, that the only way by which new medical products can be introduced to science is by the co-operative work of those engaged in the practice of the pharmacologic arts, and through the educational channels of the profession—the professional societies and press, the laboratories and lecture-rooms of the professional schools and colleges, the text-books, pharmacopeias, and dispensatories.

### THE INTRODUCTION OF NEW BRANDS TO COMMERCE.

There is a great deal of difference between the introduction of new products to science and new brands of manufacture to commerce. The former belongs to the sphere of science, and the latter to the sphere of commerce. The former can only be accomplished by the use of scientific methods; the latter requires commercial methods. The exploitation of new products by exaggerating their merits and repressing knowledge of failures is one of the most dangerous forms of quackery. The introduction of new brands to the medical and pharmaceutical professions, in the advertising pages of the medical and pharmaceutical press, shows business sagacity and enterprise. But it should always be remembered that: "Commercialism is not a word in good repute in connection with the practice of medicine (including pharmacy or the manufacturing of medicine for therapeutic use). Not that it is wrong for a physician (pharmacist or manufacturer) to make money if it is done honorably; nor is it beneath the dignity of an ethical member of the medical (or pharmaceutical) profession to apply honorable business principles in obtaining just remuneration for services rendered; but it is wrong, and degrading, for him to subordinate all he may do to commercialism. The making of money is the mainspring of commerce, but medicine (including pharmacy) in its scientific as well as altruistic ideals, has a higher and nobler aim. The laborer is worthy of his hire, but in medicine the latter is only an incidental, not the ideal, end and aim. If it were, our widely uttered claims of being a liberal profession are false, and a large proportion of what we may call the non-scientific portion of medical literature, including most addresses to graduating classes in medicine (and pharmacy) and to societies, is the veriest talking for effect."[2] Taking these facts into consideration, it becomes evident that the medical profession itself is the most to blame for the present unsatisfactory condition of materia medica knowledge, especially as related to new products, and that the only cure for "commercialism" in pharmacy, including that of the manufacturer and the corner drug store, is to discriminate against those who violate the professional ideal, and in favor of those who conform to professional and scientific requirements, by specifying the products of the latter exclusively.

2. Editorial, Jour. A. M. A., Feb. 2, 1901.

### PLAN OF CO-OPERATIVE INVESTIGATION, STANDARDIZATION, ANALYTIC AND PHARMACODYNAMIC OBSERVATION.

*Rules.*

1. A manufacturer or dealer who desires to market a product under the auspices of the Bureau of Materia Medica shall make application in writing, stating the name of the product, the name of the process, the name of the brand, stating also what claims have been made for it as a therapeutic agent, and on what authority, and promising to abide by the following rules:

2. If the product is one for which a formula has not been published whereby it may be duplicated and become a matter of scientific record, the manufacturer shall provide the Bureau with such formula. The working formula of the manufacturer is not required, although for scientific and ethical reasons it should be published. But a formula must be given by which the product may be reproduced by any person skilled in the art, so that it may be placed on a basis similar to quinin, sodium carbonate, and other official chemicals, or to fluid extract of belladonna, tincture of opium, or other official galenicals, and thus be subject to proper classification and standardization, and fitted for intelligent therapeutic use.

3. The manufacturer shall furnish a sufficient quantity of the product for its scientific examination by the Bureau, which shall, with the manufacturer's aid, fix a standard for it upon which all future claims shall be based.

4. The Bureau shall then announce the fact that the article is under the auspices of the Bureau, and shall declare the standard adopted, and send this information to at least one medical and one pharmaceutical journal for publication.

5. If the article is a new remedy, or extrapharmacopeial preparation, the Bureau shall collect all available information concerning it, and shall send it, together with material for investigation furnished by the manufacturer without charge, to a selected number of medical institutions, hospitals and clinics for experiment to determine its nature, pharmacodynamic properties, and medical uses, and shall collect the results for classification and study. If the nature of the results are sufficiently promising to warrant the Bureau in retaining the product under its auspices, the name of the article shall be placed upon the list of the bureau. If the test shall prove unsatisfactory, the manufacturer shall be informed of the fact and the article dropped by the Bureau.

6. The Bureau shall, at irregular intervals, purchase on the open market, samples of the articles marketed under its auspices, and submit the same to scientific examination, to ascertain whether the standard agreed upon is being maintained.

8. If at any time the scientific examination shall prove the article to have fallen below the adopted standard, the manufacturer shall be notified and permitted to correct the error by informing the trade and replacing the stock of the article in the hands of dealers—the stock bearing the number of the batch from which the article was taken.

9. Should the manufacturer refuse to correct the error, the Bureau shall drop the article from the list and inform the trade that the article has been dropped, and that the batch examined is below standard.

10. Should willful adulteration, sophistication, or depreciation of quality be proved against the manufacturer, the name of the manufacturer shall be dropped from the list of affiliated manufacturers, and the profession and trade informed of it.

11. The claims made in advertisements for the article shall be frequently subjected to examination and, if erroneous statements are found therein, the manufacturer shall be notified; and, if such error be repeated, the article shall be dropped and the profession and trade so informed.

12. Any three affiliated manufacturers shall have the privilege of appealing to the Bureau in writing, requesting the scientific examination of any article on the list. If the article shall be found below standard, Rule 9 shall apply. The fee for this examination shall be paid by the challengers.

13. The manufacturer of an article being marketed under the auspices of the Bureau shall have the privilege of stating that fact on the labels of the article, and in advertisements relating thereto, but this shall in no way be construed as an endorsement of the claims to therapeutic value. It means only that the article conforms to the standard of strength, quality and character.

14. The Bureau shall classify extrapharmacopeial preparations generically and specifically, giving a name to each new genus and species when required. It is of course understood that the manufacturers are free to employ brand names in connection with the specific names to designate the varieties emanating from their respective laboratories; but the manu-

facturers should use care on their part not to force the medical public to use their brand names as the generic or specific names of the products. They should always provide their preparations with identifying names which may be employed in common by all manufacturers of the same article. Unless this precaution be observed, the manufacturers can blame no one but themselves if they are taken at their word, and their brand names are adopted as the generic or identifying names of the products themselves, become incorporated in the common language as material nouns, and thus sink into the public domain. The courts of Great Britain have, within about a year, made void the registration of "Formalin" and "Vaseliu" as trade marks on the ground that the function of the trade mark is to point out the manufacturer, and the name of the goods, whether a coined name or not, is required as a noun of the language.

APPENDIX.

Under Act of Congress approved June 4, 1898, a commission was appointed to revise the statutes of the United States relating to patents and trademarks. The report of this commission is now before Congress, and is known as Senate document No. 20. It has been printed. By referring to page 31 of this report it will be observed that many foreign countries exclude from patent protection inventions relating to medicines. The report states that they are "excluded in Germany, France, Austria-Hungary, Italy, Japan, Denmark, Norway, Sweden, Portugal, Russia, and a number of other countries. Other classes of inventions excluded from protection in many countries are foods, chemical products, and inventions relating to war material." "The exclusion from protection of inventions relating to medicines or foods does not generally extend to those relating to processes or apparatus for their manufacture." "In all foreign countries which exclude chemical products from protection, except Switzerland, inventions relating to chemical processes may be patented, and in nearly all such countries it is expressly provided by law that a patent for a chemical process by which a new chemical product is made shall in effect cover such product, unless it is shown that such product was in fact made by some other process." (Read in this connection the second paragraph of this prospectus.) "It has been urged before us, both at the hearings of the commission, and in written communications laid before us, that the United States law should be amended to exclude from patent protection both medicines and chemical products generally, at least so far as such inventions are the inventions of subjects or citizens of the foreign countries which exclude these classses of invention from patent protection, and it has been contended that subjects or citizens of foreign countries should not be permitted to receive in this country patents for inventions which are not patentable in their own country."

On page 100 of the report appears a paragraph which shows that the claims made by some that the invention or coining of a word gives the inventor a natural right, or right at common law, to prevent others from using the word, are not supported by the law.

"Criminal prosecutions being had under the statutes of 1870 and 1876, in the southern district of New York and the southern district of Ohio, and a difference of opinion having been certified to the Supreme Court on the question whether these acts of Congress on the subject of trademarks were founded on any rightful authority in the Constitution of the United States, the cases came before the court for review at the October term of 1879. (Trademark Cases, 100 U. S., 82.) The court showed with admirable clearness that because of the distinction between patents and copyrights and trademarks, pointed out in the decision, the power of Congress to enact the law could not be derived from that paragraph of Article I, Section 8, of the Constitution which relates to authors and inventors, since the right of ownership in trademarks is created by *adoption* and not by authorship or invention."

On page 91 it is shown that "The adoption of a trademark or device to indicate the manufacture or origin of a certain article does not give any right to the exclusive production of the article so marked. Any article of manufacture, unless it be protected by a patent, may be made and sold by any person."

On page 107 appears the statement that "The representation of a star or the word 'star' has been registered in the United States Patent Office as a trademark for nearly every recognized class of goods, having been registered nearly 400 times."

On page 108 occurs the following: "It will, of course, be understood, that a star or an anchor or any other mark, may be used by manufacturers of or dealers in different classes of goods without conflict. For instance, the use of a star as a mark for tobacco does not conflict with the use of a star as a mark for matches or dress braid. Antipyrin, phenacetin, and the names of most all the other German synthetics have been registered as trademarks. If the claims of the manufacturers had been sustained by the courts then these names could have been held for all time as private property and the monopoly created by patents on products and process continued after the expiration of patents for an indefinite time. The decision of the United States Supreme Court in the Singer Sewing Machine case, in 1895, prevented such monopoly. This decision reads as follows:

The result, then, of the American, the English, and the French doctrine universally upheld is this, that where, during the life of a monopoly created by a patent, a name, whether it be arbitrary or be that of the inventor, has become, by his consent, either express or tacit, the identifying and generic name of the thing patented, this name passes to the public with the cessation of the monopoly which the patent created. Where another avails himself of this public dedication to make the machine and use the generic designation, he can do so in all forms, with the fullest liberty, by affixing such name to the machines, by referring to it in advertisements and by other means, subject, however, to the condition that the name must be so used as not to deprive others of their rights or to deceive the public, and therefore that the name must be accompanied with such indications that the thing manufactured is the work of the one making it, as will unmistakably inform the public of that fact.

The manufacturers of secret nostrums congratulated themselves that this decision did not apply to them. However, it is reasonable to suppose that it does include them, in the light of the above facts, and logical conclusions therefrom set forth in this prospectus, and in the light of the following decisions of the courts on the subject.

The name of a secret preparation may be used by anyone for goods actually prepared according to the recipe, for they are the goods indicated by the name, whether prepared by the original inventor of the recipe, or his successors in business, or not. Until the secret is discovered or betrayed the goods of the original inventor or his successors can be the only goods to which the name is applicable, or which are denoted by it; but when other people can make them, the difficult question of fact arises, whether the name is merely that of the goods themselves, or that of the goods of the kind prepared or sold by the original inventor or his successors in business. This was well put by Fry, J., in the Angostura Bitters Case (Siegert *vs.* Findlater, 7 C. D., p. 813), "I cannot say," the learned judge said, "that Meinhard may not, if he can, make a bitter identical with the plaintiffs', and if he does, I cannot prevent him from selling it as Angostura Bitters." It is to be observed that the person who produces a new article, and is the sole maker of it, has the greatest difficulty (if it is not an impossibility) in claiming the name of that article as his own, because until somebody else produces the same article, there is nothing to distinguish it from. No distinction can arise from using the name of the class, so long as the class consists of only one species, for then the name of the species and the name of the class will be the same. (The Law of Trade-marks, by D. M. Kerly, published by Sweet & Maxwell, 1894.)

There must be some word or sign, or device other than a generic name and words of descriptive quality. (Commissioner's decision, 1881, p. 97.)

So the words, "Night Blooming Cereus" were held to be invalid as a mark, being the proper descriptive appellation of the article. (Phalon *vs.* Wright, 5 Phila., 464.)

The same rule defeated the adoption of the words, Desiccated Codfish. (Harris, Beebe & Co.)

The policy that the mere use of a name to designate an article would give to those employing it the exclusive right to designate such article by such name, would be giving a copyright of the most odious kind, without reference to the utility of the application or the length of the title, and one that would be perpetual. Neither the Trade-mark Law, nor the Copyright Law, nor the Patent Law, affords any such right, or, under the pretense of the same, allows any one to throttle trade under the alleged sanction of law. (Browne on Trademarks.)

No one can claim protection for the exclusive use of a trade-mark or trade-name which would practically give him a monopoly in the sale of any goods other than those produced or made by himself. If he could, the public would be injured rather than protected, for competition would be destroyed. Nor can a generic name or a name merely descriptive of an article of trade, of its qualities, ingredients, or characteristics, be employed as a trade-mark, and the exclusive use of it be entitled to protection. (Canal Co. *vs.* Clark, 13 Wall, 323.)

We of course understand that when a name is coined by one who *uses it as a trade-mark* upon a particular article, if that name is originally a lawful trade-mark, its subsequent adoption by the public as a common appellative cannot take away the right already acquired. (Celluloid Co. *vs.* Cellointe Co., 32 Fed. Rep., 98.) But "When an article is made that was theretofore unknown, it must be christened with a name by which it can be recognized and dealt in, and the name thus given it becomes public property, and all who deal in the article have a right to designate it by the name by which alone it is recognizable." (Leclanche Battery Co. *vs.* Western Elec. Co., 23 Fed. Rep., 227.)

A word which is the name of an article, or indicates its quality, cannot be so appropriated. Every one has the right to manufacture the same article, and to call it by its name or descriptive character. (Phalon *vs.* Wright, Am. Tr. Cas., 308.)

It is only the seductive name that they claim as their exclusive property, and doubtless from the experience in its value in the extension of their sales. This, however, is a species of property which in my opinion is unknown to the law, and that can only be given to one by an infringement of the rights of all. . . . It has been repeatedly held that a trade-mark cannot be obtained in a name where it is the proper name for the article, as in the case of Schnappe, the subject of the controversy in Wolf *vs.* Goulard, or where it has by general use become the proper name of an article which all manufacturers may use, as in the case of Dr. Johnson's Yellow Ointment, Godfrey's Cordial, and Essence of Anchovies.

# HOSPITAL CARS FOR RAILWAY SERVICE.*

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The end of the nineteenth century exhibits marked improvement in the means of alleviating suffering and for saving life. The sick and wounded in the last two wars have had furnished them life-saving appliances and means of transportation never dreamed of in former times. Public sentiment is so exercised in the matter of efficient attention to the needs of the sick and wounded in warfare that it is astonishing that people think or do so little in ordinary civil life in the matter of efficient first aid and comfortable transportation for the much larger number of persons who suffer injury on our railroads. The Interstate Commerce Commission shows that, in round numbers, there were 51,743 railroad casualties to persons in the year just ended. There were 7123 fatalities and 44,620 injuries. The total casualties to the British army in the war in South Africa, up to date, amount to about 48,000.

An interesting compilation of the number of persons killed and injured on the railroads of the United States during the year ending June 30, 1899, has been made by the Interstate Commerce Commission and furnished to the insurance press. During the twelve months 7123 persons were killed and 44,620 injured, a total of 51,743 casualties. In summarizing the accidents, it is found that 1 out of every 420 employees of railroads was killed, and 1 out of every 27 was injured. Of trainmen, engine drivers, firemen, conductors, etc., 1 out of every 155 was killed and 1 out of every 11 injured. One passenger for every 2,189,020 carried was killed and 1 injured out of every 151,998 carried. During the year 239 passengers were killed and 3442 were injured.

When one reflects that railroad casualties are continually going on, and will continue to occur, while those of warfare are intermittent and frequently far apart, as happily wars are not frequent in modern times, it is astonishing to know that scarcely any efficient system for assisting and caring for injured persons exists on many of the railroads in America. The purpose of this paper is briefly to consider the suggestion of furnishing properly-equipped hospital-cars on railroads for the purpose of caring for the injured and sick persons along their lines, and especially to incite discussion of this important subject from thoughtful, earnest, practical surgeons who are connected with railroads.

The experiment has been tried on a few lines. I know of the Long Island Railroad, the Lehigh and Susquehannah branch of the New Jersey Central Railroad, and and I am told that the Plant System also has such cars. The Missouri, Kansas and Texas Railroad has in preparation a car to be used for transporting sick and injured from an emergency hospital to their general hospital. There are probably others of which I know nothing.

I have been able to obtain very little data as to the efficiency and value of the few hospital-cars in use, so I shall have to discuss the subject purely theoretically in the light of the well-known necessities for surgical aid on railways.

1. *Expense.*—A very important matter when it comes to the adoption of the system on a railroad line will be the expense. For the car itself it may be estimated that $2500 or $3000 will be spent, the expense of its equipment will depend on how complete its appointments shall be made. If the system shall displace other methods of rendering first aid and be more efficient, there must be, besides beds and stretchers, a stock of aseptic dressings and antiseptic appliances, with simple splints, bandages, etc., which would doubtless amount to $300 to $500. At a low estimate, therefore, $3000 would be required to build and equip each car. Besides, the cost of running and transporting the cars over the line would be considerable in the course of a year.

2. *Range of Efficiency.*—Recently I asked an experienced dispatcher about this matter, and in answer to the question, "Under the ordinary conditions which prevail on a busy railroad line, how fast time could you guarantee a hospital-car in moving from one point to another?" He replied, "Twenty-five miles an hour would be about the limit." In other words, it would require about an hour to reach an injured man if he were twenty-five miles away from where the car was located. The reason for this is that the car would have to be sent "special," usually with a slow locomotive, and with chances of failing to get "right of way," or be attached to one of the lesser trains, which are usually slow. The fast express trains are too heavy usually, and their running time too close to add to their burdens; to attach a car to the limited or to side-track the limited for the car running "special" would not be thought of under ordinary conditions. As a means of rendering first aid, therefore, a hospital-car would be too slow to be efficient in a great many, perhaps the majority of instances.

3. *Location of the Car and the Number Required on a Line.*—As noted above, twenty-five miles an hour would, under ordinary conditions, be the expectation of hospital-car service. This might be in two directions, and so make the range of one car fifty miles. In order, therefore, to assure this service of one hour from the time of its call, there must be one car for every fifty miles of track. When there are a number of lines branching out from a common center, the proper location of the car would naturally be at the center or the point of convergence of the lines. One car under such conditions might serve for a much larger territory. Under the ordinary conditions of trunk lines, however, one car for every fifty miles would be necessary to give service with any degree of promptitude. For a main line of 500 to 800 miles ten to sixteen care would be necessary. Then there would be yards and branches to be cared for, and these would require, for a 500 or 800 miles' system, the addition of five or six cars—a total of fifteen to twenty-two hospital-cars. Yards, reshipping points, crossings, junctions and termini are generally regarded as especially liable to accidents. Wreck cars are, as a rule, not evenly distributed over a line. It would doubtless be well to follow this rule with hospital-cars. Perhaps with every wreck train a hospital-car might be located. I find that about ten wreck cars are allowed to a road of 500 miles of main line track. To follow this last suggestion would provide about the same number of hospital-cars as the first idea of distribution required. Putting them with the wreck cars would assure prompter service in case of serious catastrophes, perhaps; it would delay them, however, in many other instances. They would have to be uncoupled and detached from the wreck train when the hospital-car alone was required.

4. *What Provision Shall be Made for Surgical Service on Hospital-Cars?*—If the cars are to be properly efficient, a surgeon or surgeons must accompany them on all expeditions of mercy. To assure this, it would be

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

necessary to recast the ordinary arrangement of local surgeons along a railroad. It might be made a rule that the surgeon in whose territory the accident occurred should serve on the car. In the East, however, it is rare for one local surgeon to have charge of a territory of twenty-five miles of road. He might render first-aid and then turn the patient, or patients, over to the next local surgeon on reaching his territory, so that in a transportation of twenty-five miles two surgeons might have to officiate. It is rare on most roads to find, in every section of twenty-five miles, a hospital or place of permanent treatment to which the injured person could be carried. The journey of the car would have to be much longer in some instances. The first surgeon to render aid would have to go far afield, and perhaps leave his location for many hours, or else there would be a large number of changes of surgeons en route. This would, in the last instance, work no end of confusion. Suppose, however, the rule were made that the first local surgeon to render aid must accompany the patient to his destination. The time this would require would be a very serious matter to a surgeon, without any direct pecuniary return for his work and time. Grant, however, that the railroad company would pay for the surgeon's time and work. If it were at the usual rate of fees, very few railroads would stand it. If it were at contract rates, very few efficient medical men would stand it. This service would, to be efficient, require salaried surgeons, and the expense would be very heavy if the men employed were properly qualified. I believe no railroad would stand such expense.

Another arrangement might be made, and in some instances it would not prove inhumane not hurtful, viz.: a local surgeon might render first-aid, see the patient aboard the hospital-car, and put him in such position and condition as would seem proper at the time, and then entrust him on his further journey to a lay employee—a brakeman, flagman or conductor. Surely some one ought to remain in the car with the patient. If it be a lay employee, he must give up his other occupation during this time; this frequently required might also make a serious expense, and be in a great many instances inexpedient and dangerous.

Another point is: if the car has to leave its own territory, as it must do in order to prevent the evil of transshipment, and very serious discomfort to the injured person in many cases, what provision shall be made for caring for possible accidents during its absence? This might be a very serious matter. It would not do for the next car on the line to take its place, as this would only transfer the evil. It is therefore obvious that a hospital car must be supplemented by other provisions for caring for injured persons.

If the foregoing points are well taken, it is evident that in order to equip a railroad line which has a main line of as many as 500 miles with hospital cars in sufficient number to begin to do efficient service in the majority of emergencies, it would cost from $30,000 to $50,000, and the maintenance and running of these cars would also add materially to the annual expense account. The personnel and the usual arrangement with local surgeons would have to be materially changed. Lastly, and *especially,* prompt and rapid first-aid by means of hospital-cars, under the ordinary conditions, could not be rendered in a large number of individual emergencies. No doubt the sentimental value of a system of hospital-cars for emergency work would be very considerable, but as practical men can we advocate any such system when we know there are other and prompter means of succoring injured people, and which are on this account and perhaps in other respects more efficient?

The argument that a hospital-car furnishes seclusion, comparative comfort and facilities for proper dressings, and even operating-room facilities is frequently used. I am willing to grant the first point, namely, that the car furnishes seclusion and comparative comfort, without argument, *provided the car is at once* available. I have shown, however, that in many instances this will be utterly impracticable. The value of the other points of the argument are very doubtful. We all know it is much more important that the man who does the first dressing shall have the proper training and experience and know the best modern way of handling injuries than that all proper facilities for doing the dressings shall be provided to a less competent man. As I have said, in writing on the "Treatment of Compound and Complicated Fractures," the fate of the injured person depends very greatly on the man who does the first dressing. I doubt whether it is best for a seriously injured person to put him in the hands of an inexperienced and poorly trained aseptician with all the facilities for doing first-rate permanent work. I mean by this that the inexperienced man will thus be encouraged to attempt dressings which are intended to be the final restitution and rehabilitation of compound fractures, of very severe lacerations, or evulsions. Very rarely, except in minor cases, ought operations be attempted in hospital-cars.

It seems to me that the provisions and effort should be, in handling injured persons on the railroad, to furnish such simple aseptic dressings and apparatus as will prevent any further soiling or infection of the wounds, prevent or control hemorrhage, immobilize injured parts, and to transport the injured person where he may have careful and skilled permanent treatment just as soon as it can possibly be furnished him. Hospital-cars can not do all this. In this age of multiplicity of stationary hospitals along railroad lines, the publicity and some added discomfort in using the old manner of transporting injured persons are far less harmful than delays in delivering them at hospitals where they may find rest and permanent treatment at the hands of experienced men.

Is there then no field, no call, for hospital-cars on railroads? I think there is: 1. On a railroad composed of a number of short lines radiating from a common center, when the "center" has hospital facilities and the short lines have none, the car may be efficient for conveying relief in apparatus, a skilled surgeon and means of transportation. 2. Suburban short lines could also use a hospital-car efficiently. In both these instances one or two cars would suffice, and these roads could afford to employ a skilled surgeon to accompany the car. In both instances the object would be first-aid and the bringing of the patient to the hospital base, namely, the city in which the terminus might be. 3. Hospital-cars would be very efficient on railroads which have a system of small emergency hospitals along the lines, and one or two "base hospitals" at the termini. They would be used in transporting patients from the emergency hospital to the base or principal one. Dr. Yaney, chief surgeon of the Missouri, Kansas and Texas Railroad, informs me that his road has a hospital-car in preparation for this very purpose. 4. It may be considered utopian and very far ahead of the times, but an especial need for hospital-cars is for—intermittent—use on through express trains, to transport sick and injured passengers.

No doubt all of us can recall many instances of having seen and heard of cases of illness clearly contagious or infectious on crowded trains, in such conditions and locations that they must communicate the specific diseases. It is a matter of the commonest experience for persons suffering from pulmonary tuberculosis to travel long distances on railway coaches. Sleeping-cars are especially apt to be selected for these ailing persons. Efficient disinfection of coaches, especially sleeping-cars, is rarely practiced. It is astounding when one reflects on the subject that sanitarians have been so dilatory and slow to appreciate the great danger to the traveling public from the contaminations and infections of railway cars, and that no laws nor rules have been passed to meet this crying need of modern times. The various states have passed stringent laws requiring the careful embalming, disinfection and hermetic enclosure of all corpses of persons dying of contagious diseases, during their transportation on railroads. Individuals while still alive may travel without let or hindrance, suffering from any one of the contagious or infectious diseases on any railroad in the United States, and as a rule are placed in the very cars which are most sure to be frequented and most difficult to disinfect.

Understanding as we do the usual methods of transmission and the specific cause of pulmonary tuberculosis, it is amazing that no restriction has yet been placed on the transportation of persons who are in advanced stages of this disease. It would be a barbarous prohibition to prevent tubercular persons from using railroad cars in order to go whither their one chance of recovery might demand they should be. It seems to me the only proper, safe, comfortable and sanitary solution of this problem of contagious and infectious disease-spreading custom is for railroads to furnish properly-equipped hospital-cars which may be used to transport any doubtful case of disease to its destination, and so separate it entirely from the other travelers on the train. In order to make this system efficient, the co-operation of physicians generally must be obtained, and the various states should pass laws requiring the use of isolating or hospital-cars for sick persons. When such cars are known to be in use on a railroad line, a physician whose patient was about to make a journey for any reason would simply notify the proper railroad authority, and he would have the hospital-car prepared and attached to a given train. The patient and his attendants would have seclusion, more comfort, and efficient treatment might continue, without any danger to other people on the train.

These cars should be so constructed as to be inconspicuous on the outside, and have the simplest fittings inside commensurate with comfort and efficiency, and everything inside should be so arranged and constructed that thorough disinfection after, and proper sanitation during, the use of the car might be obtained. Two or three cars of this kind would be all that were necessary on a line of a thousand miles of main track. If they were properly stationed, they might also prove very efficient in cases of serious catastrophes along the line.

I wish it clearly understood that in recommending hospital-cars for express trains I do not advocate the abrogation of the usual ordinary laws of isolation which nearly every community has in vogue for the purpose of preventing the spread of contagious and infectious diseases, nor do I recommend common and frequent transportation of these cases, but as they so often travel surreptitiously, it would be far better to have proper provision for this transportation, and, under stress of circumstances or necessity, they might safely thus be carried. When, furthermore, it was known that proper provision was made for their comfort and care, the sanitary authorities might permit removals which would be of great benefit not only to the sufferer but to communities. The value of these cars for transporting tubercular persons, those having typhoid fever, and those having some forms of specific enteritis can not be questioned, both for the infected person and for the traveling public as well.

## A RULE FOR COMBINING CROSSED CYLINDERS.

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One of the stumbling-blocks of the students of optics lies in the proper transposition of different combinations of spheres and cylinders. It always requires long practice at the test-case and no little figuring to become familiar with and able to make the proper combinations. Dr. James Thorington, of Philadelphia, in his excellent work on "Refraction," recently published, has greatly simplified these problems for the student by formulating set rules for transposing combinations of spheres, cylinders and of a sphere and a cylinder. In working out mathematical problems of this character in optics the easiest and quickest way to master them is by rule, depending upon experience to sink the rules in the background.

As a student, I could find no rules in the literature for the transposition of plus and minus cylinders with opposite axes into a sphero-cylinder, and worked out the following formula, which has been of great assistance to me and which was published this year in "Retinoscopy," by Dr. Thorington.

*Formula.*—To transpose crossed cylinders into a sphero-cylinder: "The cylinder is the sum of the two cylinders with the sign and axis of one of the cylinders. The sphere is the strength of the other cylinder with *its* sign."

Example:

$$-1 \text{ c. axis } 180^\circ \bigcirc + 2 \text{ c. axis } 90^\circ =$$
$$-1 \text{ s.} \bigcirc + 3 \text{ c. axis } 90^\circ, \text{ or}$$
$$+2 \text{ s.} \bigcirc - 3 \text{ c. axis } 180^\circ.$$

The use of the lighter and thinner lens is always to be aimed at and will usually give the best result; occasionally, however, the heavier lens will be more satisfactory, and rarely there are cases where only the crossed cylinders will be accepted.

It is in retinoscopy especially that the student will find rules of this character of great value, for there are always two meridians to be reduced to a sphere or a sphero-cylinder. The experienced refractionist will not need them.

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**Viavi Remedies.**—These secret nostrums have undergone an airing in connection with a recent inquest in Liscard, England. The public analyst to the County of Chester reports that the liquid furnished him contained 30 per cent. of sugar, together with tincture of hydrastis and morphin. The pills were made of sugar, aloes and probably some colocynth. It appears that these preparations are as much exploited in Great Britain as they are in this country, it being the custom there as here to employ the wives of clergymen, and other socially respectable individuals to act as local agents for their sale. The *British Medical Journal* remarks that since it is shown that these preparations contain morphin, they come under the provision of the pharmaceutical act regulating the sale of poisons, and their agents and vendors may find their business conducive to serious consequences to themselves.

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## HYSTERICAL SENSORY APHASIA—WORD-DEAFNESS—IN A CHILD.

Although we do not as yet know the ultimate nature of hysteria, we have long since learned that it has nothing whatever to do with the uterus, after which it was named. An ample experience has taught that it may occur also in men, and it is fully appreciated that it may develop even in children—boys and girls alike. From existing knowledge and from analogy it may be safely inferred that hysteria is a nutritional neurosis, the aberrant function resulting from as yet undemonstrable changes in nerve-cells primarily susceptible in greater or lesser degree. These changes are probably due to processes engendered within the body and only indirectly by agents introduced from without. The inherent susceptibility of the nerve-cell would appear to be the primary essential factor, and it would be for this reason that hereditary influences are so important in an etiologic connection.

Whatever the mechanism of hysteria, it would seem that there is scarcely any disorder that it may not simulate, and at times so cleverly that even the expert may find difficulty in distinguishing the counterfeit from the genuine. It is not implied, and it is no longer believed, that hysteria is a simulated disease, although there can be no doubt that a tendency to exaggeration or deception is often a not inconspicuous feature. While the diagnosis, therefore, is at times difficult enough in adults, it may in children be practically impossible within the bounds of certainty. A case in point has recently been reported by Dr. Ludwig Mann.[1] The patient was a girl, 7 years old, in whom progressive indistinctness of speech and apparently complete loss of hearing had been noticed in the sequence of some emotional disturbance. More careful examination, however, disclosed that the child could hear, but failed merely to comprehend spoken words, although intelligence in general was present. In addition, there was a certain degree of paraphasia. The child could not write spontaneously nor from dictation, although she could copy printed and written matter. She was apparently unable to read intelligently. No lesion of the ears, and no other evidence of nervous disease was discoverable. Because of the absence of other symptoms of a lesion sufficiently extensive to account for those present, of the variability of some of the symptoms, of the mental attitude and condition of the patient, and of the development of the symptoms in the sequence of emotional disturbance, the conclusion was reached that the condition was one of hysteria. The treatment consisted in painful applications of the faradic brush to the lips and the face, but it was at first unattended with improvement. It was then decided to isolate the child, and in addition to painful electrization, cold packs and douches were employed and instruction in speech was given. Improvement now set in and, while at the beginning slow, it subsequently became more rapid and advanced.

The case is believed to be unique, for although cases of hysterical deafness have been reported, word-deafness or sensory aphasia of hysterical origin has hitherto been rarely, if at all, described. Charcot has reported a case of hysterical motor aphasia and suggested the possibility of hysterical word-deafness. Paraphasia also has rarely if ever been described as an hysterical manifestation. The diagnosis in this case has been questioned by Oppenheim,[2] who gives reasons for believing that an organic lesion may really have been present. He points out the possibility of a circumscribed lesion of the temporal lobe giving rise to the symptoms present and of the paraphasia being due to a natural want of development of the speech-functions in a child. The inconstancy of the symptoms he considers as favoring organic not less than functional disease, while the mental attitude of the patient may be looked upon as an individual peculiarity. Too much importance should not be attached to the results of treatment, inasmuch as they are just such as could be expected, as the developing child is particularly susceptible of re-education. We must confess, however, that we are not convinced by these arguments, although it must be admitted that the diagnosis is not easy. In the first place there is always something in the tout ensemble of a case that eludes delineation and can be appreciated only by those under whose immediate observation it comes and of course is lost in a merely didactic consideration. In the second place the absence of provocative etiologic factors, the mode of onset, the absence of paralytic or irritative phenomena, and of interference with consciousness render less likely the presence of organic disease. The case, thus, is of exceeding interest, even though it should prove not to be of hysterical origin.

Curschmann, in his monograph on typhoid fever, in Nothnagel's "System of Special Pathology and Treatment," refers, it is true, to the case of a girl, 10 years old, in whom, during convalescence from a severe and protracted attack of typhoid fever, ataxic aphasia suddenly developed, with preservation of consciousness and of all other functions, and especially without paralysis in the extremities. Speech began to return in the course of two weeks, and after the lapse of five weeks was completely restored. In a second case also ataxic aphasia

1. Berliner Klin. Woch., 1901, No. 5, p. 135.

2. Berliner Klin. Woch., 1901, No. 7, p. 203.

developed in the third week of a severe attack of typhoid fever, without loss of consciousness. Improvement set in after the lapse of a week and was almost complete in the course of a few weeks. In this case, however, there was, besides, some ataxia in the lower extremities, though with preservation of sensibility and of knee-jerks, but this also disappeared entirely in the course of ten weeks.

The fact is not to be overlooked that in both of these cases the complication arose in the course of an acute infectious disease attended often with profound changes in the blood.

## THE ETIOLOGY OF TUMORS IN HYPERPLASTIC INFLAMMATIONS.

Careful review of the evidence before us of the parasitic origin of malignant tumors, by competent authorities such as Lubarsch, Councilman, Adami, and others, demonstrates that there is as yet but little real support for the parasitic theory. The recent work of Gaylord, noticed in THE JOURNAL, has not been officially published in full and so can not be considered at this time. Inoculation and cultural experiments and persistent study of the tissues of tumors for parasites have been faithfully carried out, the results being largely of a negative character. Had similar zeal and time been spent in a search for the cause of diseases that are more likely infectious, such as smallpox, syphilis and measles, it may be that more positive results might have been secured. Of course this effort to find a parasitic origin for malignant tumors has extended greatly our knowledge concerning many phases of tumor growth. The parasitic theory not having been satisfactorily demonstrated, Cohnheim's theory, at least as regards malignant tumors, being quite generally abandoned, and Ribbert's views no longer easily defended, investigators again are taking kindly to the old irritation theory of Virchow. In the case of carcinoma, Hauser and Hansemann assume a primary disease of the epithelium which expresses itself in an excessive multiplication of the epithelial cells. This disease may be the result of irritation, and by irritation is understood trauma in its broadest sense: the result of mechanical injury, the effect of bulky scars, continuous suppuration and inflammation, etc. The well-known instances of carcinoma developing in the smoker's lip, in the chimney sweep's scrotum, and in the biliary passages when affected with gall-stones, as well as numerous other similar examples, are recalled at once. Birch-Hirschfeld, in 123 cases of primary carcinoma of the gall-bladder, found calculi in 113; in 13 cases of secondary carcinoma there were calculi but twice. Cullen and others point out the significant relationship between carcinoma of the cervix and pregnancy—only a small percentage of the cases have not borne children.

From India we learn that the natives of Kashmir show a large number of cases of carcinoma of the thighs, probably the result of repeated burnings by portable stoves. Carcinoma frequently develops in pre-existing lesions often due to trauma or other factors such as leukoplakia linguæ, leukoplakia urethræ, psoriasis, fistulæ, syphilis, and tuberculosis. It seems that carcinoma not infrequently develops on the basis of a tuberculous lesion. In these instances it would seem as if the previous lesions favor the development of the primary disease of the epithelium that Hauser, on which Hansemann and others lay so much stress. It is a noticeable fact that the processes that precede carcinoma belong to the so-called hyperplastic inflammations and are characterized by cellular activity, especially in one direction, namely multiplication. Indeed, Le Count,[1] in his recent thorough study of the genesis of carcinoma of the Fallopian tube in hyperplastic salpingitis, points out that it is often impossible to draw a sharp line of distinction between purely inflammatory glandular hyperplasias and tumors. Le Count reviews the literature bearing upon this interesting and difficult problem in connection with growths developing upon various mucous membranes. He shows that great confusion has arisen in regard to tumors of the Fallopian tube, especially because of the failure to recognize that a diffuse hyperplastic inflammation may exist, which in many instances is quite distinct from tumor-growth. This confusion has in part been due to the fact that hyperplasia is so frequently combined with sacto-salpinx. Le Count cites several examples of growths in the tubes which were removed during the transition between hyperplasia and tumor. These considerations would seem to suggest that any factor that stimulates cell proliferation may lead indirectly to carcinoma, and that great care should always be used in interpreting hyperplastic conditions, especially of mucous membranes, as there are numerous forms of hyperplasia which do not merit the name carcinoma, although they may become the starting-point of carcinomatous proliferation.

## SOME OF THE BLOOD-CHANGES ATTENDING TYPHOID FEVER.

The industry with which the study of the blood has been pursued in recent years is yielding rich fruit, and the results, while by no means complete, have already contributed much to the facility and the certainty of diagnosis. The field is, however, a large one and there is yet much virgin soil to be tilled. To confine ourselves to typhoid fever, it has been shown that, ordinarily, during the course of this disease, the number of corpuscles, both red and colorless, as well as the hemoglobin, is reduced in amount. In the presence of complications, however, such as perforation, peritonitis, suppuration and the like, the leukopenia is replaced by a leukocytosis, and this fact may prove of great diagnostic importance. Of the approved value of the Gruber-Widal agglutination-test nothing further need be said. There occur, however, certain changes in the blood that are probably responsible for a general hemorrhagic state

1. Johns Hopkins Hospital Bulletin, 1901, xii, 55-68.

or for the dissolution that results in the development of hemoglobinemia and hemoglobinuria. These manifestations are, it is true, uncommon and their exact mechanism is not definitely understood. When they occur they stamp the case as one of grave character. Their investigation is, therefore, all the more desirable and all the more to be encouraged.

Hemorrhage from the nose and from the bowel are well-known features of typhoid fever. Epistaxis is observed most commonly in the period of incubation or in the initial stage of the fever. It is due to hyperemia of the nasal mucous membrane or rupture of degenerated blood-vessels. It occurs in from 6 to 8 per cent. of cases. Hemorrhage from the bowel is one of the most important complications of typhoid fever, being observed in from 4 to 6 per cent. of cases. Occurring early—within the first two weeks—it is probably due to the hyperemic and spongy condition of the affected tissues of the intestinal wall. At a later period it must be attributed to erosion of vessels by ulcerative processes in the solitary follicles and Peyer's patches.

Apart from such conditions, hemorrhage may take place from all possible parts of the body as a manifestation of the hemorrhagic diathesis. This is a rare condition and it appears to occur only in grave cases, or it may be it is that which gives them this character. The bleeding is likely to take place first from the nose, then from the gums, into the skin and subcutaneous connective tissue, into the brain or the cerebral or spinal meninges or any of the serous sacs and from any of the mucous surfaces. With the hemorrhage there may be associated gangrene. This condition must, in the absence of more definite knowledge, be attributed to some as yet undiscovered change in the blood and the blood-vessels, of toxic or infectious origin. Whether it is dependent on the typhoid bacillus, and thus occurs as a complication, or on some other micro-organism and thus constitutes an intercurrent disorder, has not as yet been determined.

A fatal case of this character has recently been reported by Nicholls and Learmonth[1] and reference is made in this communication to four others reported by Nicholls. Two fatal cases have been reported also by Eshner,[2] and Hamburger[3] last year reported a case in which recovery ensued. In the case of Nicholls and Learmouth, which was studied with great care both clinically and pathologically, the extensive hemorrhage present was attributed in part to the fatty degeneration of the basement membrane of the capillaries and various endothelial cells, especially noticeable in the lungs and kidneys after death, but it could not be determined whether the escape of blood occurred by rhexis or by diapedesis. The degenerative changes were in turn ascribed to systemic intoxication, but, although mixed or secondary infection with staphylococcus albus was present, no micro-organism could be determined to be specifically responsible for the hemorrhagic condition and it is thought that all contributed a share.

Even less common than generalized hemorrhage are hemoglobinemia and hemoglobinuria in the course of typhoid fever. But a few instances of this kind have been recorded in the literature. The report of a case of this character was recently read before the Philadelphia County Medical Society, by Musser and Kelly.[4] This case is especially remarkable, apart from the rarity of the complication, on account of the recovery of the patient, and on account of the beneficial effects of the cold bath, which by some has been thought to favor the occurrence of hemorrhage and cold being generally recognized as one of the exciting causes of hemoglobinuria. The occurrence of the blood change is attributed to some idiosyncrasy, by reason of which the blood was peculiarly susceptible to the action of the typhoid bacillus or its products. A case of hemoglobinuria attended with recovery has been reported also by Osler.[5]

1. The Lancet, Feb. 2, 1901, p. 305; JOURNAL A. M. A., February 23, p. 530.
2. Am. Jour. of the Med. Sci., March, 1901.
3. Johns Hopkins Hosp. Reports, viii, p. 309.
4. Phila. Med. Jour., Jan. 19, 1901, p. 119; JOURNAL A. M. A., February 2, p. 346, ¶ 10.
5. Johns Hopkins Hospital Reports, v, p. 311.

## THE PATHOLOGICAL UNITY OF TABES AND GENERAL PARALYSIS.

Some time ago this topic was discussed by the Pathological Society of London.[1] The chief points in favor of the pathological unity of the two diseases are well summarized by Mott, who holds that the poison of syphilis is the most important factor in causing two forms of progressive degeneration in the nervous system, one involving the exogenous afferent spinal neurons, namely, locomotor ataxia, and the other the association system of neurons of the cerebral hemispheres, namely, general paralysis. The two diseases are one and the same process affecting different parts of the central nervous system. It is now quite generally accepted that certain cases of locomotor ataxia present mental symptoms, that a certain number of cases of general paralysis present the symptoms and lesions of tabes, and cases of tabes may die of general paralysis. In both these diseases syphilis is regarded by many as the most important etiologic factor.

Mott has examined 12 cases of the tabetic form of general paralysis, and found in the brain the changes characteristic of general paralysis and in the cords the changes peculiar to tabes, namely, degeneration of the exogenous systems of fibers. He emphasizes as supporting the general trend of his argument that juvenile general paralysis and juvenile tabes probably occur only in congenital syphilitics. Krafft-Ebing's epigrammatic summary of the etiology of general paralysis, in the two words, "civilization" and "syphilization," with special emphasis on the latter, represents the general teaching of a number of prominent students of this perplexing

1. Transactions, 1900, ii, 339-398.

malady, which many regard as a primary meningo-encephalitis, but which Mott holds is a primary degeneration of the neurons with secondary meningo-encephalitic changes, and for the following principal reasons: 1, its relations to tabes dorsalis; 2, the presence of Argyll-Robertson pupil in the majority of cases; 3, the existence of gray atrophy of the discs in a number of cases, and these last two symptoms are explainable only on the score of primary atrophy; 4, wasting of the whole nervous system out of proportion to the inflammation affecting some parts more than others, the wasting being undoubtedly primary and not secondary to bodily disease because it is more extensive than that seen in cachectic diseases, or even in starvation.

Many of the prominent London clinical neurologists took part in the general discussion, and on the whole the views expressed agree with those of Mott outlined in the foregoing. It was pointed out by Gowers and others that the selective action of the toxic substance at work in locomotor ataxia is well shown by the limitations of its action to the intraspiual continuations of the posterior spinal roots—a strong argument in favor of the lesion being primarily degenerative. All the speakers endorsed the view that syphilis is the preponderant factor in tabes, and this seems to have been generally accepted as true also of general paralysis. Indeed, Ferrier has come to the conclusion that if there were no syphilis there would be no general paralysis or tabes. Of course it is impossible to prove a statement like this, but certainly there is much in favor of this view. The question whether tabes and general paralysis are one and the same morbid process affecting different parts of the nervous system, although perhaps to a certain extent a question of words, receives an affirmative answer in so far as both are considered as the result of parasyphilitic lesions of similar pathogenesis. From the standpoint of prevention this is an exceedingly important doctrine, because all measures limiting the spread of syphilis will diminish the frequency of tabes and general paralysis.

## PROPOSED BUREAU OF MATERIA MEDICA.

In another column appears an article by Dr. F. E. Stewart, on "A Proposed National Bureau of Materia Medica." The suggestions made are well worthy of consideration, and a careful perusal of the article is advised for those who are interested in the question of the relation of pharmacy to medicine. That there is a mutual interest in the two professions none will deny; that each is dependent on the other, is a self-evident proposition. There ought to be some way through which scientific pharmacy can be protected and rewarded. While some of the pharmaceutic preparations offered to the profession of this country may be classed as nostrums, and are unworthy of support in any way, the great majority are not only of therapeutic and scientific value, but those who produce them should be financially rewarded. There certainly ought to be some method by which the "wheat can be separated from the chaff," and while we are not prepared to say that Dr. Stewart's proposition will meet all the objections, still it does appear as though his solution of the problem is a satisfactory one, at least as far as is possible at the present time.

## ERADICATION OF YELLOW FEVER IN HAVANA.

In his letter accompanying the report of the vital statistics of Havana for March, Major Gorgas, the chief sanitary officer, calls attention to the fact that Havana at last is free from yellow fever. He expresses the opinion that never before has that city been so long free from the disease, and attributes the present conditions in a large part to the systematic war waged on mosquitoes during the month of March. He has, he says, the strongest hopes of destroying the foci in that way. In former times and even since the American occupation the milder types of the disease passed largely unrecognized, and no such strenuous attempt was made to report them as is the case at present. Hence the significance of present conditions, and it is evident that the health authorities of Cuba are trying to verify clinically as well as experimentally the mosquito origin of the propagation of the disorder. This is only the beginning of the clinical test of the theory, but it is apparently a promising one. If they succeed in stamping out yellow fever, this result alone will be worth all the cost of the Spanish-American War. What can be done in Cuba can be done also elsewhere, and with this scourge of the American tropics, and malaria, eliminated, the area of the habitable globe will be appreciably increased for the white race, to say nothing of the removal of the danger to our southern coast from Cuban foci of the disease.

## GENERAL SECONDARY INFECTION IN THE COURSE OF CHRONIC PULMONARY TUBERCULOSIS.

Chronic pulmonary tuberculosis in the majority of cases represents a mixed infection of the lungs. The exact rôle of the bacteria of secondary infection may not be fully and clearly established, but there is no question that the presence in the pulmonary foci of bacteria like the pneumococcus, streptococcus and staphylococcus is fraught with an element of additional danger to the tuberculous patient. In addition to hastening the local destructive process and causing more or less pneumonic infiltration as well as general intoxication, these secondary invaders may enter the general circulation and perhaps cause a terminal bacteriemia. Many investigators have examined the blood of the tuberculous for bacteria, especially during the period of hectic fever, and with varying results. One of the most extensive investigations of this kind is that by Teissier,[1] who studied bacteriologically the blood of fifty-three cases and obtained positive results in nine. His method appears to be quite reliable. He obtained streptococci and staphylococci. It is probable that in many cases the general infection does not lead to secondary localizations, but instances of endocarditis, of thrombosis, of metastatic suppuration are observed

1. Jour. de Phys. et Path. gén., 1901, iii, 223-230.

in the course of pulmonary tuberculosis, showing that localizations may occur which are of decided prognostic significance. Hence in combating pulmonary tuberculosis the physician should not lose sight of the significance of secondary infection.

### THE ST. PAUL MEETING.

The coming meeting of the AMERICAN MEDICAL ASSOCIATION at St. Paul promises to be largely attended and of especial interest. The steady growth of membership the past year, the progress in medical science, the new questions that have arisen, and the locality, affording as it does an opportunity to visit some of the most interesting sections of our country, all favor a specially large attendance. The members of the medical profession of St. Paul are zealous to demonstrate the capabilities of their city as a place of meeting, and everything promises that the occasion will be one of special interest and value. The scientific program, as shown by the preliminary announcements of the several Sections, is excellent. The date of the meeting is such as to harmonize with other attractions of a summer trip and, to those who have never visited it, the scenery of the upper Mississippi, which Anthony Trollope called the most beautiful river in America, will be a revelation. Among other side attractions are special arrangements for visiting the Yellowstone National Park, which will be opened one week earlier than usual on this account. Altogether there is every reason to look forward to the St. Paul meeting as one of the landmarks in the history of the ASSOCIATION.

### DR. KINYOUN AND SAN FRANCISCO'S PLAGUE.

Some of the San Francisco papers are expressing a sort of malignant satisfaction over the prospects of a transfer of Dr. Kinyoun from that station to some other in the U. S. Marine-Hospital Service. They apparently look upon it as a sort of punishment to be inflicted on him for not acting in accordance with their wishes, and as a result of their efforts. Since Dr. Kinyoun's offense was that he simply told the truth and did not actively go to work to suppress it at their demand, it would be a disgrace to the service were this the motive of the order for the transfer, and we trust, therefore, that their assumption is a false one. As far as Dr. Kinyoun himself is concerned, it can hardly be altogether disagreeable to him to get away from those who have persistently and maliciously slandered him for simply doing his duty, and we trust the change, if it occurs, involves no serious inconvenience to him, and is not contrary to his wishes. The misfortune is that it gives to the newspapers which have opposed him, the opportunity to pretend, however falsely, that their influence has effected the removal, and it puts the head of the U. S. Marine-Hospital Service on his honor, as it were, to show the falsity of such misrepresentations. Dr. Kinyoun can hardly ask for a better vindication of his course before the medical public, than has been given by the facts in the report of the government commission (see last and this week's JOURNAL). If he is transferred it should be with the assurance to the public that his course, as regards the facts of the plague, is fully endorsed by his superiors. If public and professional confidence is to be given to the quarantine service, there must be no suppression of facts whatever may be the local wishes. Actual falsehoods seem to be demanded by a portion of the San Francisco press, and until the situation there is cleared up beyond any possible doubt, there is especial need of an honest and fearless representative of the Government at that post.

### THE QUESTION OF ANTI-EXPECTORATION.

There is no physician—at least we confidently assume this to be the case—who will not endorse anti-spitting ordinances on general principles. If there is any way in which the tuberculosis germ can be universally disseminated it is through expectoration, and there are other sanitary objections, only a little less emphatic, against the practice, to say nothing of moral and esthetic ones. If the antituberculosis crusade does nothing more than put an end to the abominable practice of public expectoration in all sorts of places it will deserve the gratitude of mankind. But will it do it? The most sanguine optimism can hardly venture to predict this result with certainty. Spitting is considered an inherent right; a judicial decision, perhaps more than one, has settled this fact, and in most of the municipalities of the country the chances of this offense being duly punished are affected by the fact that the prosecution must run the gauntlet of expectorating police and spitting magistrates in a very large proportion of cases. Then we must consider the objection of the average tough to interference with what he considers his right to be a nuisance, with the consequent hesitancy of the usual meek-minded citizen to come into collision with him, and the difficulties of the enforcement of the law grow upon one's consciousness. A policeman was nearly murdered in St. Paul the other day in attempting to make an arrest for violation of an anti-expectoration ordinance, and other similar events are not unlikely. Nevertheless, the enactment of such regulation is a good thing. A law does not go at once into innocuous desuetude—to use the term introduced by and associated with a great public functionary—because it is not universally enforced. A partial or imperfect enforcement has still a certain moral effect, and what is more needed than anything else is its educative action on the public. What we want is a creation of a general sentiment that it is indecent and disreputable to spit in public places, and when that exists it will not be difficult to make the act unprofitable and to enforce regulations against it. Our civilization is too much behind that of most countries in this regard; a duly educated public opinion bringing the public spitter into proper contempt is what we need. It may be necessary to acquire this before anti-spitting regulations can be fully enforced, but the present agitation, if not allowed to die out, will help to bring this about. Let us have anti-spitting laws and enforce them as far as we can.

**Another Xiphopagus.**—Chapot-Prévost has found another pair of united twins which he is studying with interest. The twins are Chinese boys, 14 years of age, and are now on exhibition in a circus in Europe. The connecting band is comparatively long and narrow, thus allowing considerable freedom of movement.

# Medical News.

## CALIFORNIA.

**Dr. Kate P. Van Orden,** Ventura, has been appointed a member of the board of health.

**Dr. John J. Kinyoun,** Federal quarantine officer at San Francisco, who has made himself *persona non grata,* because of his refusal to conceal the existence of plague in San Francisco, has been transferred to St. Paul, Minn. He will be succeeded by Dr. Duncan A. Carmichael, now Federal quarantine officer at Honolulu, Hawaii.

**Plague in San Francisco.**—The Medical Society of the State of California, on April 17, passed a resolution expressing confidence that the San Francisco Board of Health, the State Board and the Government Commission will be able to watch and take proper measures for suppression of the plague in California.

## ILLINOIS.

**The Semi-centennial in Medicine,** of Drs. S. S. Salisbury, Tolono, and Dr. Charles H. Mills, Champaign, was celebrated by a banquet tendered by the Champaign County Medical Society, April 9.

**Smallpox in Springfield** is taxing the patience of the health authorities. After securing a location for the isolation hospital, in a remote spot in Oak Ridge Cemetery, they were enjoined by persons who lived near the cemetery. They then set up the tents in Reservoir Park, but during the night of April 23 these were destroyed.

**Rummage Sales and Smallpox.**—Dr. James A. Egan, secretary of the State Board of Health, declares that a rummage sale held recently in one of the churches at Metropolis was responsible for the spread of "Cuban itch," that is, smallpox. He considers these sales great disseminators of disease, and that they constitute a most pernicious practice.

## Chicago.

**Dr. Reuben Peterson** has been made Bates professor of gynecology and obstetrics in the University of Michigan, vice Dr. James N. Martin, resigned.

**Dr. William Osler,** Baltimore, will deliver the annual lecture before the Chicago Society of Internal Medicine, at the rooms of the Chicago Medical Society, May 15.

**St. Luke's Hospital Bazaar,** given last week by the graduating class of the St. Luke's Hospital Training School for Nurses, netted $1000 to the charity work of the hospital.

**Chicago's Mortality.**—Of the 551 deaths reported for the week ended April 20, 195 were due to diseases of the respiratory system, and 48 to violence. The death-rate for the week was 16.33 per 1000 per annum.

**Nicholas Senn Hall.**—A permit was issued April 17 for the erection of a seven-story addition to Rush Medical College, to be ready for occupancy November 15. It will cost $115,000 and will be devoted to clinical instruction.

**Rush Students Transferred.**—After July 1, the instruction in the first two years of the medical course of Rush Medical College will be given at the University of Chicago. President Harper announces in addition that large sums of money have been recently given to this department to buy new apparatus and to enlarge its capacity.

**Smallpox.**—There was a slight increase in the number of cases of smallpox discovered during the week, including a larger proportion of out-of-town cases. The second death from the disease occurred on Saturday—a typical case of confluent smallpox, in a patient "never vaccinated." Out of 193 cases since Nov. 30, 1900, there have been but two deaths. The isolation hospital report for the week is 17 new cases received, 13 discharged recovered, 1 death, 40 remaining.

**Mortality and Morbidity.**—After nearly three months of the lowest mortality rate on record, the scale has turned and the death-rate is rapidly rising to the usual spring proportions. A total of 551 deaths from all causes was recorded last week, an increase of 106 over the total of the previous week, and only 10 less than in the corresponding week of last year. This is an increase of nearly 24 per cent. over the average of the previous two months. In the weekly bulletin of the health department this result is attributed to the unusually low temperature of the month and the continuance of raw, chilling and depressing east and northeast winds laden with moisture from the lake. Chronic invalids and the aged, stricken with acute disease, are the principal sufferers from these conditions, and the death-rate among those over 60 years of age has increased more than 35 per cent. within the week, while pneumonia, heart disease and consumption all show an increased mortality. With a continuance of the prevailing weather conditions a further increase of the pulmonary diseases is inevitable. Individual precaution against undue exposure, attention to personal hygiene and thoroughly sprinkled streets, in the absence of rain, will restrict this increase in the degree in which these measures are enforced. Frequent showers, even at the expense of muddy streets, will do much for the public health at this season of the year, by limiting the spread of the air-borne and dust diseases.

## INDIANA.

**In Indiana,** the State Board of Medical Registration and Examination has granted license to practice to forty-seven out of about seventy-five who applied.

**The internes** of the Indianapolis City Hospital, selected by competitive examination, have been assigned to duty; 5 to the dispensary and four to the hospital. Of these, 8 are graduates of the Medical College of Indiana and 1 of the Central College of Physicians and Surgeons.

**Dr. R. B. Short,** Union Mills, the Representative who had the Wood medical bill in charge in the house, says that the bill is causing large numbers of "Christian Scientists" throughout the state to retire. The laws of all the states surrounding Indiana are just as stringent against their practices as is the new law in Indiana. He has not observed that the law is operating to drive out of the state any other class of practitioners.

## IOWA.

**Dr. C. H. Cretzmeyer,** Waverly, has been appointed to the house staff of the Iowa City Hospital.

**Sioux City College of Medicine** held its eleventh annual commencement April 24, and graduated a class of six. The trustees have decided to make the course of study eight instead of seven months, as heretofore.

**Dr. John McClintock,** of the Medical Department of the University of Iowa, will soon start for Europe to purchase new material for the pathologic and biologic laboratories which were recently destroyed by fire.

**Iowa College of Physicians and Surgeons,** the Medical Department of Drake University, Des Moines, held its annual commencement April 23, and graduated a class of fourteen. Hon. A. B. Cummins delivered the commencement address.

## MARYLAND.

**The Hospital for Consumptives** has bought sixty acres more land, near Towson, in the suburbs of Baltimore.

**Dr. John S. Fulton,** secretary of the State Board of Health, has sent a circular to the truck farmers of the state calling their attention to the prevalence of smallpox and urging them to exercise care in employing hands and to see that those employed have been recently vaccinated.

**Smallpox Threatens.**—As the eastern shore counties are threatened with smallpox from Delaware, so the western part of the state is threatened from Pennsylvania. On April 15 there were thirty cases in Bedford County, Pennsylvania, within a small radius, near the Maryland border, and steps were being taken to establish a rigid quarantine by the Maryland authorities. The disease seems to have been carried to Pennsylvania from Cumberland, Md., by an infected individual, who escaped from that city before quarantine could be established.

## Baltimore.

**Dr. Melvin S. Rosenthal** has returned after a year's stay in Europe.

**Baltimore Medical College** graduated a class of ninety-six on April 23.

**Baltimore Medical College Alumni Association** celebrated its twentieth anniversary on April 16. Dr. Edward L. Whitney was elected president.

**Dr. John C. Hemmeter's** new composition, "Des Sængers Himmelfahrt," for chorus and full orchestra, was produced by the Arion Society at Germania Maennerchor Hall, April 17.

**Drs. Thomas H. Magness,** Baltimore, and Dr. Joseph T. Devine, New York, have been elected resident and assistant resident physician respectively of Baltimore University Hospital.

**The annual report** of the Librarian of the Medical and Chirurgical Faculty of Maryland shows that 941 books were

added during the year. The journals regularly received number 156, chiefly English, German and French. There were 4123 readers and 1732 books were taken out. The Frick Fund books now number 1693.

**Garrett Fellowship in Pathology.**—Mr. William Johnston, the Liverpool ship owner, has founded an international fellowship of $500, in pathology and physiology, in memory of the late John W. Garrett, of Baltimore, president of the B. & O. R.R. It is open to members of American universities and medical schools. The incumbent must devote himself to research in the Thompson-Yates laboratories of University College, Liverpool. The professors of University College, in whose hands is the nomination, have asked the Johns Hopkins Faculty to send the first fellowship from Baltimore.

## MICHIGAN.

**Dr. Herbert M. King,** Grand Rapids, has been delegated to represent the State Board of Health at the tuberculosis congress in London this summer.

**Dr. William B. Watts,** Jackson, has been appointed grand medical examiner and adviser of the Brotherhood of Locomotive Firemen, with headquarters at Peoria, Ill.

**Dr. T. J. Haines,** Three Rivers, who sued the Lake Shore and Michigan Southern Railway for injuries received in a railway accident, in 1899, has been awarded $3000.

**The plague in Ann Arbor** has no new victims thus far. The student is rapidly recovering from the infection and his two physicians are convalescing from the effects of the Haffkine serum injections.

**The house** has passed the bill providing for women physicians in Kalamazoo, Pontiac, Traverse City and Newberry asylums, in the home of the feeble-minded, Lapeer, the industrial school at Adrian, the school for the deaf at Flint and the school for the blind at Lansing.

## MINNESOTA.

**Dr. Thomas S. Roberts,** Minneapolis, has been elected to the chair of pediatries in the medical department of the State University.

**The State Board of Medical Examiners** recently granted licenses to practice to eighty-nine out of ninety-eight applicants who appeared for examination.

**The vaccination order,** which has been in force in Duluth since October last, and prevented unvaccinated children from attending school, was revoked April 6.

## NEW YORK.

**Dr. F. W. Robertson,** formerly of Bellevue Hospital, and for the last few months resident physician and acting superintendent of the Elmira Reformatory, has been appointed permanent general superintendent of that institution.

**Personals.**—The governor has sent in the nomination of Norman S. Dyke, of Kings, as trustee of the State Consumption Hospital in the place of Walter Jennings, resigned, and has also nominated, for New York Quarantine Commissioners: Hugh McRobert, Frederick H. Schroeder and Charles H. Murray.

**State Hospital for Consumptives.**—The committee on Rules of the Assembly has amended Senator Davis's bill for the construction of a state hospital for consumptives, in the Adirondacks, so as to provide that the commission to review the selection of the site shall consist of the governor, the speaker *pro tem.* of the Senate and the speaker of the assembly.

**New York State Cancer Laboratory.**—The annual report of this institution has been transmitted to the legislature. It relates to the work of Dr. H. R. Gaylord in the protozoan cause of cancer, and speaks hopefully of the discovery of an antitoxin. After calling attention to the increase in cancer mortality in the state during the past year, and the importance of the work thus far done, a further appropriation of $20,000 is asked for, and $15,000 was appropriated to carry on further investigations.

**To License Hypnotism.**—The Senate has passed the McCabe bill which seeks to legalize and license hypnotism and mesmerism as taught in so-called schools for the purpose. The bill provides that neither hypnotism nor mesmerism shall be taught except in schools approved by the regents, and no one shall practice either, except physicians and surgeons, unless duly graduated from such school and his diploma registered with the county clerk. By this measure it is hoped to put hypnotists and mesmerists on a legal and licensed footing, and give the countenance of a state law to the practice.

### Buffalo.

**The monthly report** of the Department of Health gives a death-rate of 14.57 per 1000.

**Dr. Prescott Le Breton** has been appointed assistant orthopedic surgeon at the Children's Hospital.

**Dr. Charles F. Howard** has been renominated by Governor Odell to be a member of the board of managers of the Elmira Reformatory.

**A bill** has been introduced at Albany to allow Charles E. Abbott, of Buffalo, to go through the medical department of the University of Buffalo and take the usual degree and afterward take the regents examination, which, as a rule, is required to be passed as a preliminary to entrance into a medical college.

### New York City.

**Dr. Morris J. Asch,** after forty-six years of practice, is taking a year of rest.

**Diphtheria** has attacked so many of the 600 pupils attending the public school at Highbridge that the school has been ordered closed.

**Arrests for Expectoration.**—The Board of Health, on April 21, caused the arrest of thirty-two persons for spitting on the floors of street-cars and the decks of ferry-boats. Of this number, sixteen were held for trial and nine were fined from $2 to $3. It is thought that the publicity given to this crusade will act as a wholesome deterrent.

## NORTH CAROLINA.

**Smallpox** was reported during March in twenty-five counties. In Green County 173 cases were reported.

**State Board of Health.**—The governor has made the following appointments: Dr. Richard H. Lewis, Raleigh; Dr. Francis Dutfy, Newbern; Dr. George G. Thomas, Wilmington, and Dr. William P. Ivey, Lenoir.

**State Examinations.**—The regular annual session of the North Carolina State Board of Medical Examiners will be held in Durham, N. C., beginning May 16. Applicants desiring examination will carry with them a diploma from a college of medicine requiring not less than three years' attendance, evidences of clinical instruction, and certificates of character. The license fee is $10. The president of the Board is Dr. E. C. Register, Charlotte; secretary-treasurer, Dr. J. Howell Way, Waynesville.

## OHIO.

**Starling Medical College,** Columbus, held its fifty-fourth annual commencement April 11. The graduating class numbered thirty-three, and the address of the evening was made by President W. O. Thompson, of the State University.

**Ohio Medical University,** Columbus, held its ninth annual commencement exercises April 16, graduating a class of forty-four. The address to the graduating class was made by Rev. Louis Edward Holden, president of Wooster University.

**A controversy over smallpox,** between health officers and physicians of Springfield, resulted in the calling of Dr. A. Ravogli, Cincinnati, as an expert. He found one of the patients free from any indication of this disease, while the other disputed case was undoubtedly smallpox.

**School Investigation.**—The *Cincinnati Post* has engaged Dr. S. P. Kramer, late major and surgeon, U. S. V., to make a sanitary investigation of the public schools of this city. The sewerage, ventilation, lighting, construction of seats, and the effect on the spine of uncomfortable or poorly adapted seats, water-supply, the manner of collecting and disposing of dust, and all other conditions that might effect the health of the pupils, will be studied. The investigation will include one school a day, and Dr. Kramer will be accompanied in his rounds by a medical member of the Board of Education.

## PENNSYLVANIA.

**A bill** has been introduced in the state legislature making it unlawful for cities of the first class to reopen, for the purposes of sepulture therein, any grave in which any corpse may be interred.

**An attempt** was made to destroy the smallpox hospital at McKeesport, April 18. A can of gunpowder, with matches and a fuse, was found in the building. There were no patients in the hospital at the time.

**Large Medical Bill.**—Probably the largest medical fee ever presented in Pennsylvania is that of Dr. Walter C. Browning, of Philadelphia, against the estate of Christopher Magee, of Pittsburg, recently deceased, who is reported to have been worth several million dollars. According to reports, the bill

covers a period of twenty-one months, and includes trips to the seashore, and to Hot Springs, Va. The total amount of the bill is $190,000.

### Philadelphia.

**Dr. Lewis Morris,** of the United States Navy, has been assigned to duty at the Naval Hospital of Philadelphia.

**Dr. Samuel D. Risley** has resigned, after a service of many years as professor of diseases of the eye at the Philadelphia Polyclinic. As a mark of appreciation of his services the Board of Trustees created the office of Emeritus Professor of Diseases of the Eye, to which Dr. Risley was elected.

**Dr. William Campbell Posey** has been elected professor of diseases of the eye at the Philadelphia Polyclinic, to succeed Dr. Risley, resigned. Dr. Posey is a graduate of the University of Pennsylvania, has studied abroad, and is connected with the Will's Eye Hospital, Howard, Epileptic, and Home for Incurables.

**Smallpox.**—Two new cases were reported in one day during the last week, and the total number is now eight. The cases have been found in various portions of the city. The first was discovered about three weeks ago, and two fatal cases have occurred. The patients have been removed to the Municipal Hospital and the infected houses quarantined.

**As a precaution against plague,** the Board of Health will take all the precautions possible to prevent the introduction of rats coming from vessels on board of which there is any suspicious disease. The medical board at Reedy Island will hereafter insist on a new style hawser, since it is believed that by the old style the rats have a means of reaching the shore.

**The Ptolemy Society,** the purpose of which is for social intercourse and to disseminate medical science, has been chartered with the following officers: Stilman Henry Conner, president; Bert Edward Goodman, vice-president; Atlee David Mitchell, secretary; Frank Cornelius Leytze, treasurer; and Drs. Hobart Amory Hare, Hiram R. Loux, Justus Sinexon, Edwin Russell Kennedy, and Dudley D. Smith, board of governors.

**Obstetric Amphitheater.**—Through the gift of Mrs. C. B. Newbold, the University of Pennsylvania has received $25,000 for the construction of an obstetrical amphitheater to be added during the present year to the University Hospital. The new addition will be known as the Scott Amphitheater, in memory of Mrs. Thomas A. Scott, Mrs. Newbold's mother. The building will be of brick, fifty feet square, and will accommodate 150 students.

**Exhibit of Board of Health.**—In response to an invitation by officials of the Pan-American Exposition, the Board of Health will make an exhibit showing its work. It has been completed under the direction of Chief J. Lewis Good and Dr. W. M. Welch of the Municipal Hospital. The exhibition consists of a handsomely bound portfolio, and contains a complete set of all circulars, blanks, health diagrams, photographs, etc., showing the sanitary work done throughout Philadelphia. The photographs include the city hall, Municipal Hospital, smallpox building, leper building, diphtheria ward, and disinfecting rooms of the Municipal Hospital, and other data.

### TENNESSEE.

**The State Board of Medical Examiners** met at Nashville, April 4, and issued licenses to practice to ten of the thirteen applicants whom they examined.

**Tennessee University Medical Department,** Nashville, graduated a class of seventy-nine, on March 26. Dr. Perry Bromberg delivered the charge to the graduates.

**Grant University Medical Department.** Chattanooga, held its commencement exercises April 23, graduating a class of about sixty. The orator of the evening was Judge Floyd Estill.

**Vanderbilt University Medical Department,** Nashville, held its commencement exercises April 3, and graduated a class of ninety-one. Hon. W. A. Henderson, Knoxville, delivered the address to the graduates.

**The medical practice law,** at present in force in the state, requires the State Board of Medical Examiners to recognize diplomas of all colleges in the state. This list includes two "magnetic schools" and the "Chattanoogiense Gentiticium Medicum Collegium."

### TEXAS.

**Dr. Absalom A. Ledbetter** has been appointed city health officer of Hallettsville.

**Dr. John Foster,** Georgetown, has been appointed third assistant physician at the State Lunatic Asylum, Austin.

**Fort Worth University Medical Department** held its seventh annual commencement, April 5. A class of twenty-six was graduated. The Faculty address was delivered by Judge B. D. Tarleton.

**Temple Hospital** has elected the following medical staff: Drs. Arthur C. Scott; Benjamin F. Lee; John M. McCutcheon; Victor Oatman; Robert W. Barton; John S. McCelvey; R. R. White; Lee Knight and James M. Woodson. The hospital association is prosperous and is planning to add a new wing to the hospital building.

### UTAH.

**Smallpox** has broken out in the family of the author of the McMillan antivaccination bill passed by the recent legislature and vetoed by the governor on the ground that it "is a step backward, which will be disastrous."

**The State Board of Medical Examiners** met April 2 for organization and re-elected Dr. Elias S. Wright, Salt Lake City, president, and elected Dr. Robert W. Fisher, secretary. Five applicants for license appeared, two of whom passed the examination.

**Smallpox in Salt Lake City.**—Twenty-three new smallpox cases were reported in Salt Lake City the first week of April. There are now 120 cases under quarantine and in the isolation hospital. Of the twenty-three patients only two had been vaccinated, and these not later than 1866.

### WISCONSIN.

**The State Board of Medical Examiners,** at its session in Milwaukee, April 9, refused to recognize diplomas of a southern medical college which requires only a three years' course. The board passed favorably on fifty-five out of sixty applications.

**Frank X. Schaeffer,** charged with practicing medicine without proper legal qualification, was found guilty and fined $50 and costs, to stand committed to jail until the money is paid. The costs will amount to $400 or $500, as this was the third trial of the case. The jury was out only ten minutes. He appealed at once on writ of error to the supreme court.

**The Circuit Court** has decided that the State Board of Medical Examiners has the right to determine whether an applicant for registration is a reputable resident physician, and its decisions on this question cannot be reviewed by mandamus. The decision was rendered in the case of a practitioner of Hillsboro, against the state board, he seeking to compel the board to grant him a certificate of registration.

### CANADA.

**Dr. R. A. Reeve** has been reappointed dean of the medical faculty of Toronto University.

**The Winnipeg General Hospital,** for the week ending April 13, treated 198 patients—102 men, 53 women and 43 children. There were also 42 out-patients.

**Sir William Hingston,** on May 8, will have completed the fortieth year of his connection with the Hotel Dieu Hospital, Montreal, as consulting physician, and on that occasion will be tendered a *dejeuner* by the sisters of the institution.

**McGill Items.**—The graduating class numbered over one hundred, in medicine, this year. Dr. Ruttan, registrar of the medical faculty, has been re-elected representative from that faculty upon the corporation of the university. Dr. William Gardner has been chosen to deliver the valedictory of the faculty to the graduating class at the convocation to be held about June 15.

**Honors Awarded.**—Dr. Andrew Haliday, Shubenacadie, N. S., who has been studying during the past winter in the Pathologic and Public Health laboratories of the Western Infirmary and the University of Glasgow, has, after examination, been awarded first class honors with first place in the sanitary division of the class of pathology and bacteriology, and also a diploma in State Medicine.

**Ontario's Smallpox.**—The smallpox outlook throughout Ontario is brighter, although within the past two days four or five new cases have been discovered in Toronto, and one of these, a medical practitioner, who contracted the disease while attending a supposed case of chickenpox. The men employed in the lumber camps of the northern part of the province have all left for their homes, and some five thousand of them have been vaccinated, and two thousand pieces of baggage disinfected at Sudbury. At present the disease exists in some fifteen centers west of Sudbury, and in thirty in what is called Old Ontario. All persons going north for the next few months, to work on boats and at summer resorts, will be examined.

**"Christian Science" in Canada.**—"Christian Science" is said to now boast of a little over 5000 adherents throughout all Canada; and lately there has been noticed a marked tendency among clergymen of all denominations to make a concerted and vigorous attack upon what they regard as the growing evils and delusions of this doctrine. In Toronto, in a number of the prominent churches, the subject has been taken up repeatedly of late, and the ministers of the city, though by no means unanimous in their views of Mrs. Eddy's belief, have broadly and generally made determined onslaughts on her doctrines. Starting in Canada with a membership of only a score or two in 1890, the sect is believed to have a membership of 3000 and about 5000 adherents. It has thirty-two churches scattered over all parts of the Dominion; four of these are owned. In Toronto there are about 500 "Christian Scientists" attending the two churches that city possesses. It is said that no adherents are drawn from the Roman Catholic Church.

**Medical Convocation.**—The convocation of the medical and dental faculties of Bishop's College, Montreal, was held last week. Dean Campbell, of the medical faculty, in his annual report spoke of the need for larger endowments for the faculty if it is hoped to carry on the work of teaching in the future as successfully as it has done in the past. The primary chairs especially require assistance, as they can not be filled at the present time by men who enjoy large practices. The year just closed shows an increase in the medical faculty and a decrease in the dental, perhaps due to the additional year now demanded and a more searching preliminary examination. There were eighty-four medical students in attendance last session. Dr. Hyman Lightstone delivered the valedictory.

**Registration in Ontario.**—It costs each student $100 to become a licentiate of the College of Physicians and Surgeons of Ontario. An annual fee of $2 is then demanded and every practitioner is required to pay this fee and be registered on the register of the College. Some ten years ago a storm was raised over this very same fee and many practitioners have refused to pay it at all. Now a number are in arrears and they have been notified by the prosecutor of the Medical Council that their names have been already erased from the register and that if arrears for assessments are not paid within thirty days from date of notice they will be proceeded against in the usual way as against all other unregistered practitioners. The Medical Council is composed of practitioners, representatives from different constituencies in the province.

**Montreal's Sewerage.**—The Sewage Farm in Montreal, a description of which appeared in the columns of THE JOURNAL about fifteen months ago, is now in an awful condition and has proven a flat failure. The farm, which is situated at the head of St. Denis St., in that city, and into which the sewage from the northern portion of the city has been emptying, cost in the neighborhood of $75,000, and to-day is useless, and the raw sewage is seen rolling across country and into the Back River, constantly emitting a foul stench. The whole volume of sewage from the sewer outlets empties itself into the surface of the farm at one end and then rushes out at the other, and on as above described. The people living in the neighborhood threaten the city with legal proceedings unless the nuisance is abated at once. It appears that when the farm was in course of construction a double set of pipes was advised by the city surveyor, but his advice was disregarded, and Montreal now finds herself up against another source of danger from disease through the coming summer months.

**Prevention of Tuberculosis.**—A special meeting of the Executive Committee of the Canadian Association for the prevention of tuberculosis was called at Ottawa on the 20th. His Excellency, Lord Minto, in the chair. Dr. Lachapelle, of Montreal, was added to the committee. On resolution it was decided that all the secretaries of the provincial boards of health should be corresponding members of the Executive Committee. The Rev. Dr. Eby, of Toronto, has been appointed special organizer and agitator in the Providence of Ontario, for a period of six months, in order to prosecute a systematic campaign of education on the line of providing municipal sanitaria. Toward this end the central association granted $300. Dr. Eby in the meantime resigns the secretaryship of the Canadian Association, and Dr. H. B. Small, of Ottawa, has been invited to act as honorary secretary.

## FOREIGN.

**The Soemmering Prize.**—This has been awarded by the Senckenburger Natural History Society of Frankfort to Prof. Franz Nissl, of the University of Heidelberg, for his discoveries in the finer structure of the nerve cell, with especial reference to its alteration in disease.

**University Chair.**—The Wurtemberg Chamber has voted anew for the founding of a chair of homœopathy in the University of Tübingen. The Cultus Minister, von Weizsacker, and the chancellor of the University, von Schönberg, fought the proposition energetically, but in spite of this it was carried by 43 to 31 votes.

**Honors to Bottini.**—A committee of the friends and students of Professor Bottini are planning to celebrate the twenty-fifth anniversary of his appointment to the chair of surgery at Pavia. A *Festschrift* or souvenir volume of original articles on surgery will be presented to him, with a gold medal and a framed parchment list of all subscribers. L. Tansini is secretary of the committee and the subscription asked for is twenty lire, or about $4.

**Requirements in Brazil.**—The *Gazeta Med. da Bahia* for March is a students' number and describes the two medical colleges in Brazil, both of which have been open to women since 1879. Six women have taken the full course at the Bahia institution, which commenced as a school of surgery in 1808 and became transformed into a college in 1852. The requirements for admission are a high school course or a certificate of proficiency in Portuguese, French, English, or German, Latin, algebra as far as equations of the first degree, history, etc. For a course of obstetrics the requirements are merely proficiency in Portuguese and either French or English or German, and a knowledge of arithmetic as far as and including proportion.

**Belgian Federation.**—The profession has watched with much interest the struggle between the Brussels medical society, the collège des médecins, and the Belgian federation of mutual aid societies. Six years ago the physicians engaged by the federation resigned their positions on account of its arbitrary terms and demands and their position was endorsed by the local medical societies. Certain physicians were found, however, who acceded to the demands and the federation thus practically gained its point, although it has continued to make overtures to the former medical attendants and others. The collège des médecins officially decided, at a recent meeting, to revoke its former action and remove all hindrance to the acceptance of positions with the federation by any of its members.

**Smallpox at Glasgow.**—The number of cases has been steadily decreasing. On April 9 there were 234 cases in hospital. In the week ending April 5, 45 new cases were admitted, 100 patients were discharged, and 6 deaths occurred. Dr. Chalmers, the medical officer of health, has reported some interesting figures regarding the influence of revaccination. Among the patients were 39 persons who stated that they had been revaccinated; in 36 the date of revaccination and of the onset of smallpox were ascertainable. In all, the interval between revaccination and sickening fell short of the inoculation period, so that in none was the operation performed before the disease was contracted. This very cogent fact, however, has not silenced the antivaccinators, and they have held a series of meetings in the city.

**Progress of the Plague.**—In Cape Town 22 Europeans and 108 colored persons have died from plague, while the total number of cases has been 83 in Europeans, and 266 in colored persons. In the week ending March 30, there were 60 new cases, as follows: Europeans, 18; colored, 29; Malay, 6; Indian, 2; Chinese, 1; natives, 4. The 22 deaths in the same period were: Europeans, 6; colored, 9; Malay, 3; Indian, 2; natives, 2. The total number of cases during the week ending March 16 was 8829, a considerable increase on the previous week. In the city of Bombay there were 1203 deaths—a slight increase on the previous week. The condition of the city is twice as bad as at this time last year. In the Bombay presidency, 717 deaths occurred. In the Madras presidency 73 deaths were reported, a decrease on the previous week. In the northwestern provinces there were 557 deaths and in the Punjab 105. In Calcutta, on March 19 and 20, there were 168 and 190 new cases of plague, and 161 and 151 deaths—unprecedented numbers. A death from plague is reported to have occurred in Alexandria on April 7, which is the first case for twelve months.

## PARIS LETTER.

### The Doctor on the Stage and in Literature.

The rôle of the physician in contemporary life is the subject of quite a number of plays brought out recently. In one by Brieux, a playwright, called the "Substitutes," the question of nursing is discussed. There are two doctors in the cast; one, the type of the fashionable physician, sacrifices his principles to the inclinations and the requests of his clients, who

prefer to hire nurses, whereas the other, who is from the country, upholds the author's idea, which is that mothers should always nurse their children if possible. This play serves to educate the public, and moreover a law passed not long ago in France forbids a woman hiring herself out as a nurse until her child is 7 months old. In literature too, one can find quite a number of books which deal with medical subjects. One published recently is called "Le Mal Nécessaire," *The Necessary Evil*, and is a study of the life and practice of a great surgeon of a certain familiar type. The book is a species of satire on the tendency shown by such to operate brilliantly and cleverly, without perhaps justifying their actions by a sufficiently clear conception of the requirements of any given case. Surgeons are much talked about in the French papers, much more so than they are in America, and it is getting to be rather bad form to have one's name appear in the newspapers.

### Russian Sanatorium.

The tsarewitch, who died some time ago at Nice, was buried at the villa Bermond, and the ground around the estate was bought up by the Russian government. There is some reason to believe that a sanatorium for the Russian poor is to be established in this place, and Prince Georges of Leuchtenberg is at the head of this enterprise.

### Influence of Bile on the Kidney.

According to most text-books, bile has a pernicious influence on the kidney, and its elimination in the urine causes albuminuria. Dr. Milian has studied the question carefully, and, at a recent meeting of the Anatomical Society, said that he had examined the kidney in Hanot's disease, or hypertrophic cirrhosis, and had found no reason to accept such a statement. There is, as everyone knows, choluria in this disease, and yet albumin is not even found in the last stages of this malady. Polyuria is generally noticed, as much as two liters being secreted every twenty-four hours. On performing the autopsy, the kidneys are found slightly enlarged, sometimes very much so, weighing together 610 grams instead of 280. On examining them microscopically, no alterations are found, both tubes and glomeruli being in a normal condition.

### Exophthalmic Goiter.

At a recent meeting of the Society of Neurology, Dr. Babinski described the results he had obtained in the treatment of exophthalmic goiter by salicylate of soda. In one case a woman, 28 years old, began to show symptoms of this affection nearly three years ago. Since January, 1899, the symptoms have increased considerably, and in February there was a clearly defined goiter, very apparent exophthalmia, tremulation in the arms, and the pulse was 140. The patient had grown much weaker and lost flesh. The treatment by salicylate of soda was recommended and continued several months. In October, 1899, the condition of the patient was absolutely transformed. The pulse was only 80, the goiter and tremulation had disappeared, the patient's strength had returned and she had increased in weight. Toward the end of last year all exophthalmia had disappeared. Dr. Babinski also cited two other cases where noticeable improvement followed the use of salicylate of soda.

### Intestinal Hemorrhage in Typhoid.

At a meeting held by the Society of Therapeutics, March 13, Professor Mathieu spoke on the treatment of intestinal hemorrhage in typhoid fever by very hot enemata. This method had been recommended by Dr. Tripier, but Dr. Mathieu thought it well to add chlorid of calcium. The treatment is carried out in the following manner: 1, complete immobilization of the patient—suppression of the baths, which are replaced by the cold pack; 2, immobilization of the intestine—opium and reduced amount of liquid food; 3, every morning an enema of a liter to a liter and a quarter at a temperature of 46 degrees, given very cautiously—pressure 20 to 40 centimeters. This enema should contain three to four grams of chlorid of calcium. One to 3 grams of chlorid of calcium are given by the mouth. Dr. Mathieu does not believe in giving more than 3 or 4 grams of chlorid of calcium, as when larger doses are given the coagulability of the blood is diminished instead of being increased. This method was tried on eight patients, and Dr. Mathieu found that the hemorrhage ceased after twenty-four hours. One great advantage of administering enemata in this manner is that the blood which remains in the intestine gets putrified and is the cause of an increase in the fever and the typhoid symptoms. Dr. Mathieu added that he prefers subnitrate of bismuth to naphthol as an intestinal disinfectant. He gives it in doses of 5 grams three times daily. He has found naphthol more irritating.

## LONDON LETTER.

**Sir William Church**, the present president of the Royal College of Physicians, has been re-elected.

### Bilateral Ossification of the Tendo Achillis and Plantar Ligaments.

At the Harveian Society, Mr. Daniel recently showed a case, in a man, aged 35, who had suffered from rheumatic pains all his life. His father was also rheumatic. The patient, for as long as he could recollect, had had tender feet. At 18 he was exposed to bad weather, took a chill and suffered from great pain in the feet, especially in the heels. Since then he has always been more or less crippled. Marked shooting pains were often present in the pectoral muscles of the back, deltoids and glutei, rendering him unable to move his limbs, the joints appearing fixed. No swelling of the joints was noticed. He walked with difficulty. There was no evidence of myositis ossificans and he had good movement in the back and all the joints, including the ankles. The heels were slightly enlarged and glossy and tender. For 1½ inches above the os calcis an irregular mass could be seen and felt on either side of, and propably on, the tendo Achillis. Cold, damp, and walking increased the pain. There was some rigidity of the great toes. Liniments, especially of iodin, and iodin internally gave relief.

### Dangers of Flannelette.

An inquest has been held on the body of a servant girl who was recently burned to death. While cleaning a grate a cinder fell out and set fire to her petticoat, which was made of flannelette. The coroner remarked that flannelette is a most dangerous material, and that when once lighted there is no hope of extinguishing it. Deaths from the catching fire of flannelette night-shirts have been previously recorded.

# Correspondence.

### Conveyance of Yellow Fever.

Baltimore, Md., April 20, 1901.

*To the Editor:*—Relative to the editorial notice in The Journal of the 13th, on a paper of mine that appeared in the *Philadelphia Medical Journal* of April 6, "on the Corelation of the Theory of Conveyance of Yellow Fever by the Culex Fasciatus, with our Generally Accepted Beliefs," I would say:

1. My paper was written about the first of December last, when Finlay's experiments and Major Reed's "Preliminary Note" were the only *direct* evidence extant in favor of the conveyance of yellow fever by the mosquito as a host. Neither of these seeming to me—nor, I think, to others—fully convincing I attempted to compare this theory, without regard to this evidence, with what was known and admitted on the subject, to try to determine if it were antecedently probable or improbable. The paper is confined to a bare statement of the case, purposely avoiding summing up, although I think a decided antecedent probability was shown for the theory. Since the publication of Reed's "Additional Note" (in February) this matter—the antecedent probability of this theory of conveyance—is of small importance. The direct evidence for it is satisfactory and, counting the conveyance of yellow fever from the sick to the well by a mosquito host as proven by such evidence, there is no question of probability to consider. 2. I can not think that the period of incubation of yellow fever will be found to vary analogously to that of malarial fever. In thirteen cases of experimental yellow fever, reported by Reed, the period of incubation was never over six days: in ninety-five collected and recorded by myself (*Medical Record*, March 9, 1901), in none did this period show over eight days, and in only two over six days, the usual period being from three to four days. We have no trustworthy evidence of an incubation period much beyond the limits given above. Save the transmission by a host, there is little analogy between yellow fever and malarial fever. There is no chronic yellow fever, there is no recrudescence of yellow fever in a patient; there are no "hold over" cases of yellow fever; and, finally, there is a very general—almost universal—immunity to yellow fever produced by one attack. To my mind the analogy is rather with Texas cattle fever than with malarial fever. Respectively,

H. R. Carter, Surgeon, U.S. M.-H. S.

### Implantation of Ureters.

NEW YORK CITY, April 11, 1901.

*To the Editor:*—In view of the fact that the patient on whom I operated for implantation of the ureters into the rectum by a new method, as described in the *American Journal of the Medical Sciences*, Vol. clv., pp. 270-276, is still living and enjoying the best of health at the end of 4½ years—not 3½ years, as stated by Dr. Peterson. I wish to protest against paragraph 3, in the General Conclusions at the end of his article on "Ureteral Anastomosis" (THE JOURNAL, March 23, p. 814), in which he says: "All efforts to prevent ascending renal infection in animals or in man where the ureter has been implanted without its vesical orifice have proved futile." In order to support the contention that the "operation is unjustifiable" (paragraph 5, General Conclusions), he endeavors to assume that, in my case, "the kidneys have been infected, but that the infection has been overcome with resulting contracted kidneys." This assumption in the absence of the slightest suspicion that such has actually occurred in the case, would seem to be in a great measure gratuitous, if not absolutely unwarranted, even though "experimental work would lead us" to such a conclusion.

Further, I wish to call attention to the alleged foundation for thus discounting, and even practically ignoring, the result in this case. It would appear, by a paragraph on the same page, that Dr. Peterson performed the operation on a dog, implanting one ureter, and killed the dog at the end of twenty-seven days. At the autopsy the kidney corresponding to the implanted ureter was found to be "decidedly smaller than the other and showed evidences of ascending infection. *No bacteriologic or microscopic report on the specimen has yet been made*" (italics mine).

Beyond calling Dr. Peterson's attention to the fact that the mucous valve formation is neither the only nor the most important feature of the operation in question, and that therefore its disappearance in the case of the dog need not necessarily militate against the procedure, it is scarcely necessary for me to waste your space by further comment. Yours very truly,

G. R. FOWLER, M.D.

### Immunity Against Zymotic Diseases.

TOPEKA, KANS., April 18, 1901.

*To the Editor:*—I have read, with appreciation, the article on "Immunity Against Zymotic Diseases," by Dr. J. W. Class, published in THE JOURNAL of April 13, and have been much impressed by the author's lucid exposition of what is generally considered a perplexing theme.

The rather unique theory advanced by the author particularly attracted my notice, because its essential features had all been presented and elaborated in a paper of similar import, read Feb. 18, 1901, before the Medical Science Club of Topeka, by Dr. O. P. Davis, of this city, the original of which is in my keeping as secretary of that organization. In this paper, Dr. Davis, after canvassing the various theories of immunity, and pointing out their insufficiency, arrives by a process of deductive reasoning at what seems to be a new and plausible theory embracing all that Dr. Class sets forth, and more. The following main propositions were developed:

1. Acquired immunity is due to the continued presence in the body of the specific microbe of the given disease, in a form sufficiently attenuated to be tolerated by the host, and yet sufficiently active to stimulate the production of an antitoxin.

2. Germs may undergo attenuation outside, as well as within, the body, and entering the body, thus attenuated, may confer protection without typical infection.

3. During the whole time that this immunity continues the attenuated germs continue to reside in the protected body.

4. Such germs as will not undergo a stable attenuation, but tend to revert to the virulent type, will not confer permanent immunity by their presence in the body, but bring about either an immunity that is transient, or an increased susceptibility with subsequent reinfection, or both.

All these propositions were amply developed in Dr. Davis's paper, and though Dr. Davis set forth no special claim to originality on this subject, yet it seems that he has the priority over Dr. Class at least, in the enunciation of what appears to be a well-sustained theory. Very truly,

CORBAN E. JUDD, M.D.

### Anesthesia of Ear Drum.

MEMPHIS, TENN., April 3, 1901.

*To the Editor:*—In Dr. Henry Gradle's recent article on "Purulent Otitis, Its Treatment and Prevention by the Family Physician" (THE JOURNAL, March 30), in speaking of paracentesis of the drum membrane, he says that it is a painful procedure and the pain is not lessened by any of the local anesthetics. I would like to mention a combination of local anesthetics which I have found to act admirably in producing an anesthesia of the drum, permitting painless paracentesis. The mixture is equal parts of cocain, carbolic acid and menthol. It is attributed, I believe, to Bonain (*Rev. Heb. de Lar.*, June 17, 1899), and I claim no originality in connection with it. I have used it many times this winter with invariable satisfaction. After cleansing and drying the canal, I have applied this mixture with a cotton-tipped applicator directly to that portion of the drum which I wished to incise. In a moment the surface becomes white, and this is convenient in that it becomes easier to confine your incision to anesthetized parts. While I have used it mostly in adults, I have also tried it in children, and in them it is equally successful if you can allay their fears over the prospect of being cut. In one woman I did double paracentesis at one sitting without pain, and later in the progress of the case it became advisable to enlarge the too rapidly closing incision. This was done under the same mixture, and again without pain. I would like to urge on my colleagues in otology the use of this mixture, with which I am sure they will be pleased. Another popular mixture for the same purpose was suggested by A. A. Gray, in *The Lancet* of April 21, 1900, and is composed of cocain, alcohol and analin oil, in the proportion of 5 per cent of the alkaloid in equal parts of the other two ingredients, but I have had no experience with it. Very truly,

E. C. ELLETT, M.D.

### Original Papers Used for Advertising.

PHILADELPHIA, April 16, 1901.

*To the Editor:*—In reference to the communication from Dr. Harvey, on page 1058 of THE JOURNAL of April 13, I would say that this matter did come to my ears very shortly before I saw his letter. I at once wrote to the manufacturers, who have so used my article, to stop all and every use made thereof, which they very promptly promised to do. That I never knew anything about the uses thus made, is a sufficient answer to the question at issue. If this is not satisfactory, I respectfully refer to the manufacturers, who have expressed great regret for using my paper at all, which was a sufficient apology to me, and I hope satisfactory to Dr. Harvey also

Yours, EDWIN ROSENTHAL, M.D.,
Former Chairman of the Section on Diseases of Children.

### Life Expectancy in Medical Men.

BURLINGTON, N. C., April 11, 1901.

*To the Editor:*—Having seen it stated that medical men are shorter lived than those of other professions and trades, I have collected from the obituary notices in THE JOURNAL in succession as the deaths occur, the ages of 510 physicians, in the United States, Canada, and Europe. These statistics include deaths from accident and suicide, as well as those from disease. I find the average age to be 58 years and 9 months, not such a bad showing for the longevity of the physician after all, especially as the cases from accident and suicide, as well as casualties in the army service, are included. Yours truly,

W. G. SAFFORD, M.D.

# Association News.

**The Growth of the American Medical Association.**—As the time draws near for the Association's next annual meeting, interest in its affairs naturally grows more active among the profession at large. As to the meeting itself, which is to be held in St. Paul on the 4th, 5th, 6th, and 7th of June, there can be but one opinion and but one confident expectation, namely, that it will be at least the equal of any former meeting of the same body, whether from the point of view of the scientific work that will be done or from that of a reunion of the best elements of the American profession. As one annual meeting after another approaches, however, one's thoughts turn more and more on questions more closely bearing upon the Association's future usefulness than most of the proceedings that are likely to mark the occasion. The American Medical Association has accomplished a great work, but is it, as at present organized, fitted in the best possible manner for the work that is yet before it? There are those—and they are among the Association's best friends—who, recognizing fully that it was originally organized in a way admirably fitting it to cope with the problems of half a century ago, are inclined to think that changed conditions call for some modification of its machinery if it is to keep on doing for the profession the best that can be expected of such a body. When the association was organized, American medicine was in a decidedly unpromising state. There was, to be sure, no lack of brilliant and progressive men in the profession, but the teaching faculties were almost entirely irresponsible bodies, issuing at their pleasure diplomas which, while certifying to but little that a man could be proud of, gave their holders unquestioned prestige with the general public. Everybody had the right to practise medicine, and quackery was rampant. Authoritative pronouncements by the better class of physicians were required to educate the people up to the point of remedying these evils. Such have proceeded from the American Medical Association and from other medical organizations, and they have slowly taken effect. They were authoritative in proportion as they came from a representative body. It was seen at the outset that this would be the case; hence the delegate system in the Association's organization. But the delegates have now become so numerous, about fifteen hundred in all, that, though there are always many absentees, the general session is almost sure to be unwieldy on occasions when a conflict of opinion is to be settled by a vote, many uncalled-for speeches are apt to be made, not a few of the voters fail to get an adequate idea of the merits of the question, and emotion rather than calm judgment is prone to carry the day. All this hinders the real purposes of the meeting so far as legislative action is concerned, and it diverts men's minds from the scientific work in hand, to say nothing of the waste of time entailed. Quasi-legislative action on the part of the Association—and by that term we mean the adoption of resolutions, memorials, and the like, calculated to influence State and national legislation—seems to have become less and less important of late years, for the defects which it was formerly needed to correct have been almost wholly remedied. A decided reduction of the number of delegates, the proportion for each constituent body remaining the same, would, it seems to us, enhance the scientific work done in the sections and give time for a greater number of formal addresses, papers of general interest, and demonstrations. There need be no limit to the number of non-voting members, so that the attendance at the meetings would go on increasing as it has done up to the present time. In short, we can see no objection to a decided curtailment of the representative element, and we believe that it would prove advantageous. Such a move, we are quite aware, would involve practically a reorganization of the Association; if our ground is well taken, however, why should not a reorganization be effected?—*New York Med. Jour.*, April 20.

**The Pathological Exhibit in St. Paul.**—Last June we had the pleasure of commending the enterprise and good judgment of some of our Indiana brethren as shown in the exhibition of pathological specimens given in connection with the Atlantic City meeting of the American Medical Association. We were convinced that it could not have failed to make a most favorable impression, and we are glad to have our view confirmed by the announcement that a display of practically the same scope is to be made in St. Paul in June, this time under the Association's official recognition and as an integral part of its work. The committee in charge of the St. Paul exhibition, consisting of Dr. Frank B. Wynn, of Indianapolis; Dr. A. P. Ohlmacher, of Gallipolis, Ohio, and Dr. Hugo Summa, of St. Louis, has recently issued a circular of information from which we infer that a similar exhibition is hereafter to be a feature of all the Association's annual meetings. Gross pathological specimens, it is stated in the circular, will naturally constitute the greater part of what is to be displayed, but the committee add that they "will seek to present a wide range of practical scientific demonstrations, imposing only the condition that they bear absolutely no commercial impress." The educational object is to be kept constantly in view, particularly that of demonstrating the fundamental relationship of pathology to diagnosis, therapeutics, and sanitary science. In addition, however, to the pathological specimens, the committee will make an effort to present demonstrations of research and experimental investigation, which, it is quite properly remarked, will tend to stimulate original inquiry among the members of the Association, all of whom are appealed to to contribute specimens. It is suggested that in many instances such contributions may advantageously be made in connection with papers read before the sections. Besides their appeal to individual members of the Association, the committee urges upon State and other medical societies that they should select representatives to collect and present material on their behalf. Substantial co-operation is expected on the part of medical colleges, hospitals, laboratories, and various scientific institutions, among them, we hope, the Army Medical Museum. It is announced that an energetic local committee is charged with securing suitable quarters for the exhibition, separate and distinct from those of the commercial exhibits. Contributors are asked to have their material well in hand by the 1st of May, and to furnish the committee with complete lists of their specimens by the middle of that month. Institutions will be encouraged to present groups of specimens illustrative of some particular phase of pathology or bacteriology, and will be permitted to maintain them intact, but smaller collections and single specimens entrusted to the care of the committee will be disposed in the manner best suited to display their instructive features. It is asked that, so far as possible, all pathological specimens be accompanied by a history of the case and, unless the condition is so typical as not to call for it, a description of the specimen. Copies of the circular—which, by the way, is remarkably well written—together with further information, may be had by writing to Dr. Frank B. Wynn, No. 18 East Ohio Street, Indianapolis, to whom and to his fellow-members of the committee, we must add, the physicians of the whole country should feel indebted for their intelligent and zealous management of this most important undertaking.—*New York Med. Jour.*, April 20.

## Section on Materia Medica, Pharmacy and Therapeutics.

PROGRAM OF SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Mode of Manufacture of Serums and Organ Extracts. Charles T. McClintock, Detroit, Mich.

Theory and Practice of Organotherapy. S. Solis-Cohen, Philadelphia.

Acromegaly Treated with Pituitary Body. Sydney Kuh, Chicago.

Treatment of Graves' Disease with Thymus Extract. John M. Dodson, Chicago.

Pharmacologic Action of the Various Preparations of the Suprarenal Gland. E. M. Houghton, Detroit, Mich.

Discussion on Organotherapy to be opened by Victor C. Vaughan, Ann Arbor, Mich.

Utility of Antitoxin Serums. Joseph McFarland, Philadelphia.

Further Observations on Serumtherapy in Croupous Pneumonia. J. C. Wilson, Philadelphia.

Antitubercle Serum. E. A. de Schweinitz, Washington, D. C.

Discussion on Serumtherapy, to be opened by Simon Flexner, Philadelphia.

Influence of Certain Common Remedies upon Gastric Functions. Boardman Reed, Philadelphia.

Treatment of Gastric Ulcer. Gustav Fütterer, Chicago.
Treatment of Gastric Hyperesthesia. Charles G. Stockton, Buffalo, N. Y.
On the Therapeutic Management of Dyspepsia from the Neurologist's Standpoint. C. H. Hughes, St. Louis, Mo.
Discussion on Gastric Disorders, to be opened by James B. Herrick, Chicago.
Chronic Myocarditis. J. H. Musser, Philadelphia.
Treatment of Neurasthenia. Harold N. Moyer, Chicago.
Therapeutic Indications Presented by the Conditions of the Blood in Disease. O. T. Osborne, New Haven, Conn.
Experimental Work in Intraorganic and Venous Injections and Blood Extraction in the Cure of Acute Organic Diseases. W. Byron Coakley, Chicago.
An Analysis of Cascara Sagrada. L. L. Solomon, Louisville, Ky.
Standardization of Crude Drugs and Galenical Preparations. A. B. Lyons, Detroit, Mich.
A Plea for More Uniformity and Strength in Our Armamentarium. C. F. Wahrer, Ft. Madison, Iowa.
Indication for and Utility of Altitude Treatment of Pulmonary Tuberculosis. S. E. Solly, Colorado Springs, Colo.
Adaptability of Southern California and Similar Climates to the Needs of Consumptives. Norman Bridge, Los Angeles, Cal.
Specific Treatment of Pulmonary Tuberculosis. E. L. Shurly, Detroit, Mich.
Tuberculin Treatment of Pulmonary Tuberculosis, with Statistics. Charles Denison, Denver, Colo.
Specific Therapeutics in Pulmonary Tuberculosis. Arnold C. Klebs, Chicago.
Discussion of Treatment of Tubercular Disease of the Lungs, to be opened by R. H. Babcock, Chicago.
Treatment of Lobar Pneumonia. De Lancy Rochester, Buffalo, N. Y.

Papers have also been promised by Drs. Frank Billings, Chicago; J. Edward Stubbert, Liberty, N. Y.; John V. Shoemaker, Philadelphia: Geo. F. Butler, Alma, Mich.; H. M. Whelpley, St. Louis, Mo. The titles are to be announced.

# Book Notices.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Second Edition, Revised and Largely Rewritten. With Illustrations. Vol. I. General Therapeutic Considerations, Prescription Writing, Remedial Measures other than Drugs, Preventive Medicine, Diathetic Diseases and Diseases of Nutrition. Pp. 856. Vol. II. Fevers, Diseases of the Respiratory and Circulatory Systems, Diseases of the Digestive System and Kidneys, Nervous Diseases and Diseases of the Skin. Pp. 926. Vol. III. Anesthesia and Surgical Technique, Fractures and Dislocations, and Minor Surgery. Surgery of the Lungs and Pleura and of the Peritoneal Cavity, the Rectum and Anus, Diseases of the Genito-Urinary Apparatus and of Parturition and of the Puerperium, Diseases of the Eye and Ear and of the Upper Respiratory Tract. Pp. 841, 3 vols. Price $15.00. Philadelphia and New York: Lea Brothers & Co. 1901.

This valuable composite handbook of treatment, so well received by the profession when it first appeared nine years ago, comes to us now in a new edition, and largely in new form and authorship. It is hardly the rule for works of this kind to pass to a second edition, but this is one of the exceptions. Naturally in view of the advances that have been made a thorough revision was to be expected, and more than this has been furnished in the present work. A large part of the articles have been completely rewritten so that the matter is altogether new, and in most cases this has been insured by a change of authors. Further than this, several entirely new chapters have been added either on subjects not included in the former edition or as amplifying and specializing the treatment. The arrangement of the work, as will be noted by those familiar with the earlier edition, has also been considerably altered.

In the first volume the subject of mineral waters and their medicinal uses, which was included with the general subject of hydrotherapy in the earlier edition, is given a separate chapter and treated with greater fulness and thoroughness, by Dr. James K. Crook. Another article notably changed is that on tuberculosis, by Dr. L. F. Flick, which is brought up to meet the views as modified during the past ten years. It is thoroughly modern in all respects. Diseases of the thyroid have also received an entirely new chapter, by Dr. S. J. Meltzer, giving the latest established facts as to the treatment of these disorders, among which obesity and its thyroid treatment are included. Other subjects that are handled anew in this volume are those of syphilis, massage, disinfection, and scorbutus.

In the second volume, fully two-thirds of the matter is entirely new, and the remainder has been thoroughly revised and brought up to date. Among the new articles with new authorship may be mentioned those on malaria, by J. M. Anders; diphtheria, by Floyd M. Crandall; typhoid fever and pneumonia, by H. A. Hare; liver disorders, by J. H. Musser; asthma, bronchitis, etc., by Norman Bridge, renal diseases, by N. S. Davis, Jr., which with a number of others, also new, make up the bulk of the volume.

In the third volume there is hardly fifty pages not altogether new, the only articles not completely rewritten by different authors being those of Dr. Ransohoff on cerebral concussion, etc., and Dr. Martin on intestinal obstruction. It is practically a new book and this can be said to be the case with the system as a whole. We miss the names of many of the well-known authors of the first edition, but those of the second are hardly, if at all, less familiar and welcome. There is an advantage in this, which is not gained in most new editions: the older book need not be discarded but still kept as a valuable series of therapeutic monographs for reference. In its present form the first volume is nearly one-half, the second two-thirds, and the third almost altogether of different authorship from the first; it is also more condensed and by this space is made for new subjects not noticed in the earlier edition and here included. The new edition deserves fully as cordial a reception by the profession as did the last.

HYPNOTISM AND SUGGESTION in Therapeutics, Education and Reform. By R. Osgood Mason, A.M., M.D., Fellow of the New York Academy of Medicine. Cloth. Pp. 344. Price $1.50. New York: Henry Holt & Co. 1901.

The author has presented certain phases of hypnotism which are at present of special interest. These seem to be largely the psychic element in general therapeutics, what he calls "rapport" or what we should otherwise call telepathy and the ethics of hypnotism. He also gives considerable attention to the peculiar phases of medical disorders that have been reported from time to time as cases of double consciousness, of which Azam's noted case is perhaps the type. The points in which we should especially disagree with the author are the extreme views which he holds as to the therapeutic value of hypnotism, reporting as he does cases of epilepsy, neuritis and other organic diseases temporarily or permanently cured. Some of his cases reported are a little hard to credit, not as to facts as believed, but as to their interpretation. The author's views concerning "rapport," though supported by numerous stories or accounts, some of them from investigations of the Society of Psychic Research and some from other quarters, seem hardly acceptable scientifically. We can not say positively that certain things have not been done, but under the most favored conditions in which these have been attempted in our presence, they have failed, and we believe that a thorough study would eliminate a large number of these cases from the category of proven facts. Recognizing as we do the limitation of our intellects and the mysteries that are all about us, we must not be too positive in saying what may and may not be done, but judicial skepticism seems to us the most rational course. The practical value of hypnotism so far as we have seen its work in medicine seems to be greatly overrated in the present volume; the views expressed are not in accordance with the experience of the medical profession. The book is well written and naturally makes very interesting reading. The only thing is how far it should be accepted as scientific truth. There is no need of questioning the honesty of the author's view and the opinions he holds are those of many others, but we doubt their acceptance by the medical profession.

SANITY OF MIND: A Study of Its Conditions and of the Means of Its Development and Preservation. By David F. Lincoln, M.D. Cloth. Pp. 177. Price, $1.25. New York and London: G. P. Putnam's Sons. 1900.

This little volume by a physician who is already known as an author on subjects of public health is an excellent and popular presentation of the general subjects of mental hygiene.

The subjects taken up in detail are: 1. The outlook of the present tendencies as regards mental health. 2. Nature of mental derangement. And following this, in natural order, is the subject of degeneracy. Under this head are briefly described the principal stigmata and their psychic and moral associations. The largest part of the book is given to the subject of education, including self-education, which is treated in a separate chapter. It also contains a concluding chapter on social and civic duties in relation to mental soundness and its maintenance in the community. The book is one that will be profitable reading for educators, and for parents and citizens generally.

Infant-Feeding in Health and Disease. A Modern Book on all Methods of Feeding. For Students, Practitioners, and Nurses. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik; Bacteriologist to St. Mark's Hospital; Professor of Diseases of Children in the New York School of Clinical Medicine; Attending Physician to the Children's Department of the Westside German Dispensary; Fellow of the New York Academy of Medicine, etc. Containing 52 Illustrations, with 16 Charts and Tables, Mostly Original. 368 pages, 5¾x8 inches. Neatly Bound in Extra Cloth. Price, $1.50, net. Delivered. Philadelphia: F. A. Davis Company.

The object of this book is to answer a question that is so often asked the family physician: "What shall I feed my baby?" The introductory chapters are devoted to the anatomy and physiology of digestion in infants, the latter especially in relation to chemistry and physiology of the different periods of infant life. The various milks, artificial foods, methods of feeding and the relation of certain foods to special physical conditions of the infant are discussed in all their phases. The author makes use largely of German authors in his quotations, and his book is a reflection of modern German practice, to a great extent. It contains a mass of practical and valuable information, in regard to diet for the mother, before and after the birth of her child, management of the breasts, preparation of foods, management of a few of the minor ailments in infants resulting from errors in diet or faults of digestion, etc. There is room for improvement in the literary style in several instances, but these minor faults are outweighed by the great practical value of the work.

A Manual of Practical Hygiene for Students, Physicians and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with 12 Plates and 105 Engravings. Cloth. Pp. 729. Price $4.25. Philadelphia and New York: Lea Brothers & Co. 1901.

The author handles his theme in general in a satisfactory way, and has in some respects carried his considerations a little beyond the limits of the ordinary work of this kind, that is, military and naval hygiene are treated, as well as quarantine laws, and tropical hygiene, a question which is now coming to be of some importance to medical sanitarians of the United States. He has, however, excluded some engineering questions, such as hospital arrangement, sewerage, etc., which are sometimes included in the larger text-books and has left out the usual chapters on bacteriology, which he thinks can be better studied in special works. The book is fairly accurate, though once in a while there is a slip, as for example when it says that up to 1892 the water-supply of Chicago was taken from a shore intake, a condition which has not existed for nearly thirty years before that time. Another point that impresses us as being open to criticism is the ignoring of a large part of American medical literature. A very few American journals only are quoted, while foreign authorities are quite adequately noticed. The book is well illustrated and will in the main meet the needs of the student satisfactorily. We hope that in future editions more attention will be given to one point we have mentioned, viz., the American contributions to the subject of sanitation and hygiene.

Nursing Ethics: For Hospital and Private Use. By Isabel Hampton Robb, Graduate of the New York Training School for Nurses attached to Bellevue Hospital. Cloth. Pp. 273. Price $2.00. Cleveland, Ohio: J. B. Savage. 1901.

The author has already published a work on nursing which has been well received, and here gives in a general and also rather specialized way instructions as to personal conduct of nurses in their relations to the public, patients and the physician. Very little if anything is said to which we could take exception. Questions of personal habits, education, culture, the general care of the person, of the rooms, duties toward superiors and inferiors in the hospital, take up nearly two-thirds of the work. Only a few pages at the close are given to the relation of the nurse to the physician, a very important subject which might have been amplified. Still, the nurse who follows the advice here given will not come under the condemnation which has been uttered by various physicians, Dr. Malcolm Morris, for example, and others, and which, it must be said, often has a very good basis. The art of nursing is not all of the business, for there is something in natural aptitude, disposition, etc., and not every nurse can be satisfactory in all respects.

A Manual of Obstetrical Technique as Applied to Private Practice. With a Chapter on Abortion, Premature Labor, and Curettage. By Joseph Brown Cooke, M.D., New York, Late Attending Physician St. Mary's Free Hospital for Children, Out-door Department. Cloth. Pp. 169. Price $1.25. Philadelphia and London: J. B. Lippincott Co. 1900.

The author carries out well the promise made in the preface, that book is written from the point of view of the private practitioner and that the hospital idea has been eliminated. It deals with technical obstetrics, considers the care of the patient from early pregnancy until the end of the puerperium, and has in addition a chapter of abnormalities, on obstetrical operations, including symphyseotomy, and a separate and very useful chapter on the douche. The closing chapters deal briefly with the obstetrician himself and the obstetrical nurse. Added to the work are history blanks on the card index system, instructions to pregnant women and to the nurse. The manual will be of benefit to the younger members of the profession, who so often have received no practical training in the art of obstetrics with the exception of a limited number of deliveries which they have witnessed in a well-equipped maternity.

International Medical Annual: A Year-Book of Treatment and Practitioner's Index. 1901. Nineteenth Year. Cloth. Pp. 682. Price, $3.00. New York: E. B. Treat & Co.

The 1901 volume of the International Medical Annual contains the usual judicious selections and keeps up well the reputation of the series. The names of the contributors, including a large number of the leading medical writers in this country as well as abroad, more especially England, are in their way a guarantee of the value of the work. Among the new contributors to this volume is an Italian, Professor Ruata, of the University of Perugia, Italy, the only continental European contributor; he furnishes the article on tuberculosis. The editor remarks, in the preface, that it may be of interest to the readers to know that this article is published as furnished by the author, in the English language.

A Book of Detachable Diet Lists for Albuminuria, Anemia and Debility, Constipation, Diabetes, Diarrhea, Dyspepsia, Fevers, Gout or Uric Acid Diathesis, Obesity, Tuberculosis and a Sick-room Dietary. Compiled by Jerome B. Thomas, Jr., A.B., M.D., Instructor in Materia Medica, Long Island College Hospital. Second edition, revised. Cloth. Price, $1.25. Philadelphia: W. B. Saunders & Co. 1900.

This volume is a collection of diet lists for the sick and sick-room dietaries or recipes for preparing them. It has been before the public in an earlier edition, but the present one contains such improvements as have been suggested since the idea of the book is to have the pages torn out and left as practical instructions for the sick-room, and it will doubtless be found useful by the practitioner. Both the diet prescribed and the methods of preparing it can be left with the nurse or at the patient's house.

The Clipping-File for Classifying and Filing Newspaper Clippings, References to Books and Magazines, etc. Also a System of Classification, Consisting of Common Subjects and a Classified List of Topics. Price $1.00 per volume. The Clipping-File Company, Cleveland, Ohio.

The clipping-file consists of a case containing some ten envelopes with classification as to subjects, which are printed on

the outsides. For a limited number of clippings it may be found of some value. It is not, of course, necessary to follow the classification on the outside of the envelope, but this may be of convenience to some. Another edition is issued without this classification and may be adapted to anyone's ideas and uses.

A POCKET TEXT-BOOK OF CHEMISTRY AND PHYSICS. By Walton Martin, M.D., and William H. Rockwell, Jr., A.B., M.D., of the College of Physicians and Surgeons, New York. In one 12mo. volume of 366 pages, with 137 illustrations. Cloth, $1.50, net. Flexible red leather, $2.00, net. Philadelphia and New York: Lea Brothers & Co. 1900.

This work is another of Lea's series of pocket text-books and, while written especially for medical students, will be found of reference value to practitioners. In the section on physics a consideration of wireless telegraphy has been introduced, and the authors have given especial attention to details, notably in the consideration of organic chemistry, concerning those compounds which are "of medical interest not only medicinally, but in physiological chemistry."

AN INDEX OF SYMPTOMS AS A CLEW TO DIAGNOSIS. By Ralph Winnington Leftwich, M.D., Late Assistant-Physician to the East London Children's Hospital. Second Edition. Cloth. Pp. 267. Price, $2.00. New York: Wm. Wood & Co. 1901.

The first edition of this book was received with favor by the profession, and found to be a convenient reference work for the practitioner. The chapter on the methods of diagnosis, including the various urinary tests, though brief and elementary, adds to the value of the work.

## Deaths and Obituaries.

**James T. Stewart, M.D.**, University of Pennsylvania, Philadelphia, 1850, who had practiced in Peoria, Ill., for more than fifty years, died at his home in that city, April 12, aged 76. He was noted as a botanist, was one of the founders of the Peoria Scientific Association, and was a member of THE AMERICAN MEDICAL ASSOCIATION.

**William H. Davies, M.D.**, Jefferson Medical College, Philadelphia, 1861, died suddenly from heart disease, at San Bernardino, Cal., April 10, aged 60. He had formerly practiced in Maquoketa, Iowa, but moved to California in 1897, on account of bronchial trouble, locating at Rialto.

**John B. O. Landrum, M.D.**, who practiced for twenty-four years in Campobello, S. C., but who for the past few years had been devoting his attention to historical study and writing, died from blood poisoning, at his home in Campobello, April 13, after an illness of several weeks, aged 70.

**Reuben B. Nisbet, M.D.**, University of Georgia, Augusta, 1850, of Eatonton, Ga., where he had practiced for half a century, a Confederate veteran, for many years chairman of the board of education, died at his home in Eatonton, April 10, after a short illness from pneumonia, aged 70.

**Thomas Phillips Graham, M.D.**, Albany Medical College, Albany, N. Y., 1866, one of the first members of Council and of the Central Board of Education from the Thirty-sixth ward, Pittsburg, died at his home in that city after an illness of six months, on April 14, aged 61.

**Frank Wayland Abbott, M.D.**, University of Buffalo, N. Y., 1866, died at his home, Buffalo, April 9, after a protracted illness, aged 59. He was oculist to the Buffalo General Hospital and the Charity Eye, Ear and Throat Hospital.

**A. H. Robbins, M.D.**, Medical College of South Carolina, Charleston, who had practiced for many years in Northwest Township, Brunswick county, North Carolina, died at his home in Wilmington, April 13, aged 70.

**John W. Charles, M.D.**, Washington University, St. Louis, 1865, died at Bethany Hospital, Kansas City, Kans., April 9, after an illness of two weeks. He was one of the oldest practicing physicians of Armourdale.

**Cephas G. Adams, M.D.**, University of Vermont, Burlington, 1855, died at his residence in Portland, Me., April 13, as the result of injuries received in a carriage accident two years ago, aged 70.

**J. Archer Watson, M.D.**, Trinity University, Toronto, 1885, was struck by a locomotive and killed instantly, while riding near Toronto, April 11. He was 45 years of age and had a wide practice.

**Nelson D. Gaddy, M.D.**, Medical College of Ohio, Cincinnati, 1858, who practiced for nearly forty years in Weston, Ind., died at his home in Seymour, April 12, from heart disease, aged 72.

**Frederick Koeberlin, M.D.**, who had practiced for more than forty years in Freeburg, Ill, died at his home in that city after a short illness, from heart disease, April 8, aged 69.

**George W. Shilling, M.D.**, University of Pennsylvania, Philadelphia, 1875, of Sharon, Pa., died at Cambridge Springs, Pa., April 12, from kidney disease of long standing, aged 58.

**Wyllis F. Wood, M.D.**, Albany Medical College, Albany, N. Y., 1874, died at his home in Rensselaer, N. Y., from lung disease after a long illness, April 11, aged 50.

**Thomas A. O'Callaghan, M.D.**, McGill University, Montreal, 1880, died at his home in Worchester, Mass., April 13, after an illness of two years, aged 45.

**Ellis Jennings, M.D.**, Medical College of Ohio, Cincinnati, 1862, died at his home in Dayton, Ohio, after an illness of several years, April 10, aged 67.

**Harris S. Scruggs, M.D.**, Memphis Hospital Medical College, 1885, of Memphis, Tenn., was assassinated April 16, near his home, by persons unknown.

**Peter O. Dillard, M.D.**, College of Physicians and Surgeons, Baltimore, 1893, died from consumption at his home in Martinsville, Va., April 9.

**Abner E. Gore, M.D.**, University of Louisville, Ky., 1858, died at his home in Paris, Mo., from pneumonia, after an illness of one week, aged 78.

**Merritt E. Williams, M.D.**, Louisville Medical College, 1875, died at his home in Antigo, Wis., April 14, from la grippe, aged 59.

**George Kernahan, M.D.**, Rush Medical College, Chicago, 1880, died at his home in Chicago from interstitial nephritis, April 17.

**Henry Kemp Yeakley, M.D.**, Baltimore University School of Medicine, 1891, died at Fort Terry, Plum Island, March 27, aged 30.

**Oliver H. Sullivan, M.D.**, Medical College of Indiana, Indianapolis, 1872, died at his home in Alexandria, Ind., April 12.

**Louis Rademacher, M.D.**, Miami Medical College, Cincinnati, 1880, died at his home in Newport, Ky., April 7.

**Arthur E. Herbert, M.D.**, Laval University, Quebec, 1882, died after a short illness at his home in Quebec, April 12.

**Sylvanus C. Griswold, M.D.**, Missouri Medical College, St Louis, 1860, died at his home in New Haven, Mo., April 6.

## Miscellany.

**Early Difficulty of Postmortems.**—The *Journal de Med. de Paris* quotes the documents in a suit against a surgeon named Froment, in 1726, who was imprisoned because he had held an autopsy on the corpse of his own son and mounted the skeleton for preservation. The love of his art, he confessed, had overcome the tenderness of the parent. He was arrested on the complaint of his neighbors, but was soon released.

**Modification of Murphy Button to Dispense with Sutures.**—Jaboulay describes, in the *Archives Provinciales de Chirurgie*, ix, 10, a modification of the Murphy button. It consists in slitting each half of the button from the outer edge down to the shank. One lip of the intestine is worked into this slit, and then the other lip. The other part of the button is treated in the same way, and a little plate fits over the slit. The opening in the intestine can thus be extremely small.

**Polyarthritis Anginosa.**—This is the term proposed and advocated by Schurig in an article in the *Deutsche Militärärzt. Ztft.*, No. 3, for acute articular rheumatism, which he claims is usually preceded by tonsillitis. The throat and tonsils should have particular attention paid to them in all cases of articular rheumatism, and every simple tonsillitis should be vigorously treated to prevent the development of articular rheumatism. The regiments which suffer most from tonsillitis, he has noticed, are nearly always those that have most cases of articular rheumatism. The few exceptions demonstrate that the latter disease is influenced also by other factors.

## Report of Special Commission on the Plague in San Francisco.

*(Concluded from page 1132.)*

From February 5 to February 16, thirteen dead Chinese were inspected as follows:

DEATH 1.—(Inspected February 5.) Chun Ah Chou, aged 44, actor; died this morning in Washington Street Theater; body well nourished; two or three dark bluish spots on legs—possible hemorrhages. On palpation of the neck, axillæ and groins, some enlargement of the lymphatic glands of the left groin was made out, though nothing corresponding to an outspoken bubo was visible. The inspecting commissioner advised a pathological and bacteriological examination in order to remove all doubt as to the nature of the case. The results proved the case to be one of infection with plague (*vide infra*, laboratory case 1).

DEATH 2.—(Inspected February 5.) Wong Koong Chin, elderly Chinese male; died at 6 Waverly Place; history of dyspnea and cyanosis for a long time before death. There is marked edema of legs; no enlargement of lymphatic glands ascertainable on palpation. Death certificate signed by city physician as due to valvular disease of the heart. Case not regarded as suspicious and no pathological or bacteriological examination was insisted on.

DEATH 3.—(Inspected February 5.) Lee Kee, middle-aged Chinaman, found dead at 917½ Stockton Street. This man had been visited by members of the Commission two nights before, the case having been reported to them as one suspected of being plague. Neither when seen during life nor on inspection after death was anything seen which pointed to infection with plague. No enlargement of lymphatic glands could be made out. A pathological and bacteriological examination was, however, deemed advisable for purposes of exclusion. The results as regards plague were negative (*vide infra*, laboratory case 2.) The assistant city physician attributed the death to intestinal obstruction.

DEATH 4.—(Inspected February 6.) Foog Sha Song, coolie, aged 56, found dead in "hall of tranquility" at rear of 1111 Stockton St. No available history of condition *intra vitam*; body filthy; edema of legs; no enlarged lymphatic glands; no visible hemorrhages; pathological and bacteriological examination advised for purposes of exclusion. Results negative as regards plague (*vide infra*, laboratory case 4). Death attributed by city physician to interstitial nephritis.

DEATH 5.—(Inspected February 6.) Lum Hong Yuen, died in room 15, third floor at 28 Ross Alley. Body found at Main Fook's undertaking establishment at 748 Pacific St. Through Mr. Wong Chung, the secretary of the Six Companies, a school teacher who knew deceased, stated that the man had been ill about three weeks, that he had been a cook and waiter in the Chinese Theater up to three weeks ago, when he quit work on account of "chancre and bubo," that since then he has been in his own room in Ross Alley, that four or five days before his death he was given medicine by a Chinese doctor, for a chill, that said medicine was too strong for the patient and that "his breathing stopped and he died."

On inspection of the body no evidence of "chancre" could be found; in the right inguino-femoral region a large mass of swollen conglomerated lymphatic glands could be felt. The swelling was so like similar swellings previously observed in cases of plague in Hongkong and in India that the case was regarded as almost certainly one of plague. Pathological and bacteriological examinations were made at once; the results proved correctness of the impression gained from inspection (*vide infra*, laboratory case 3).

DEATH 6.—(Inspected February 7.) Wong Chi Lui, aged 45, cigar-maker, who had worked at 418 Battery St. Found dead at 18½ (21½) Waverly Place. Through Mr. Wong Chung it was ascertained that the man had been ill for about two weeks, complaining of fever, loss of appetite and general uneasiness. He had had pains in the groins and lower abdomen to which region a Chinese doctor had applied honey and salve. No history of venereal disease. For three or four days prior to death, the man was unconscious. When ridded by Mr. Wong Chung for not having reported the case earlier to the Six Companies, the brother of the deceased said he had not made a report because he had believed the patient would soon be well.

On inspection and palpation a large mass of swollen glands was discovered in the left inguino-femoral region. It seemed likely that the case was one of plague and the friends of the deceased were notified that an examination of the body would be made immediately. The pathological and bacteriological examination established the death as one due to infection with bacillus pestis (*vide infra*, laboratory case 5).

DEATH 7.—(Inspected Feb. 11) Tom Shom, male, aged 51; actor in Chinese theater; room above theater at 814 Washington St., near room of late Chun Ah Chou (See Death 1). This man was reported as ill to the Six Companies and was examined clinically on Friday, February 8, by Dr. Barker, who obtained the following history. The man had been acting in the theater about two weeks before, although it had been stated that he had not been very well for from six to seven months previously. On February 4 he became seriously ill with fever and delirium. There had been some vomiting. The urine as observed by the attendant was described as brandy colored. He had a Chinese doctor in attendance and his friends had not considered him ill enough to make a report to the Six Companies worth while. The man smoked about 50 cents worth of opium daily. On clinical examination the patient was found lying upon his back in bed with legs drawn up; he was in a state of semistupor. His pulse was 108, quick, rather full but of low tension. The skin was hot and dry; respiration 20 to the minute. The face had an anxious expression; the tongue was coated in the middle. There was no palpable enlargement of the glands of the neck or axillæ, but in the right groin several slightly enlarged glands could be distinctly felt, and the patient, though his mind was partially clouded, winced decidedly when either groin was palpated. It was evident that the glands were quite tender. In the absence of urethral discharge, chancre or evidence of local irritation in the lower extremities, the case was, on account of the local and general phenomena, regarded as one of plague. The skin was cleansed and a sterilized hypodermic needle introduced into the groin. A few drops of bloody fluid were withdrawn, presumably from one of the enlarged glands. It was difficult to be sure of this, however, as the patient could not be kept quiet while the needle was being inserted. No colonies of plague bacilli developed in the inoculated tube. The autopsy subsequently made indicated that the needle had failed to enter an enlarged gland.

The patient was seen on the following day when his conditions showed no change for the better. The pulse was 136 and feebler; the patient seemed in general weaker and an unfavorable prognosis was made. The patient's friends were told that an injection of Yersin's serum offered the best chances for recovery, though they were also told that not much could be hoped from any treatment in the stage of the disease in which the patient then was. The offer was refused. The man died on February 10, the next day.

The dead body was inspected on the morning of February 11. The body was in a state of firm rigor mortis, the limbs being strongly flexed. On breaking down the rigor mortis and palpating the glands in the groin, it was difficult to say positively that there was any enlargement of the lymphatic glands. In view of the enlargement distinctly made out during life and the clinical picture which had been observed, the death was believed to be due to plague and a pathological and bacteriological examination undertaken. The results indicated clearly the existence of infection with B. pestis (*vide infra*, laboratory case 6).

DEATH 8.—(Inspected February 11) Chung Moon Woo She, wife of Chung Toy Ding, living in a cellar at 27½ Waverly Place. She had been seen clinically by inspecting Commissioner ou February 6 and also on February 8. When first seen clinically, it was learned that she had been ill for three or four days, complaining of aching pains in the ribs and other bones, headache and loss of appetite. She had no cough. Two days before she had felt very chilly. On examination she was found to have slight fever: pulse 100; tongue slightly coated; examination of thorax and abdomen negative; careful palpation of cervical, axillary, cubital, inguino-femoral and popliteal lymph glands revealed no enlargement or tenderness. When seen on February 9 the patient was found to have grown much worse; the pulse was 132 and quick; the temperature was higher, the tongue was dry, sordes were appearing upon the lips and the woman was semistupid and moaning in bed. The next day, February 10, the patient died and the body was inspected on the following morning. The house in which the body lay was filled with men, women and children, friends of the deceased, all of whom objected strenuously to any examination of the body whatever. It was insisted upon, however, and finally by promising that only one small incision would be made, permission for examination was granted. Amid an appalling outbreak of grief on the part of the friends, an incision was made in one groin and as the glands imbedded in the fat there showed no hemorrhages or enlargement, no further examination was made. It is to be regretted in this case where only one slight incision was allowable that the spleen was not bacteriologically examined as the case may have been one of general infection with B. pestis. At the time, however, in face of the strong protest made by the friends, it seemed wise, in order not to antagonize the Chinese too much and so perhaps interfere with progress of the whole investigation, not to go further. The body was surrounded by quicklime and sublimate sheet and burial was permitted by the Board of Health.

DEATH 9.—(Inspected February 12) Foong Ah Fong, female, aged 12, found dead at 747 Sacramento St.; room 12, fourth floor. This little girl had been observed clinically on February 6, the first day of systematic clinical inspection. She gave a history of having caught a cold, followed by a headache and lack of appetite. She had complained of no chill or vomiting. Her pulse was 84 and her temperature only slightly above normal. She did not look very ill; the tongue was slightly coated; there was no palpable enlargement of lymphatic glands. As the splenic dulness was only slightly increased, and the mother of the child stated that the patient had been ill for fully two weeks, plague was not suspected. The case was looked upon as possibly a mild case of typhoid, and instructions given to report to the Six Companies in case she got worse. She was not visited again during life. It was a surprise to hear of her death, and on inspecting the body, though no external signs of plague were visible, it was deemed advisable to make at least a bacteriological examination of the spleen. This was done, but under marked protest from the child's relatives. The result showed that the child was actually infected with B. pestis (*vide infra*, laboratory case 7).

DEATH 10.—(Inspected Tuesday, February 12) Ung Ah Buck, aged 42, found dead at Wing Hair's undertaking establishment on Sacramento St. This man had been seen alive and examined by Dr. Barker on the previous day, who diagnosed the case *in vitam*, as one of cervical bubonic plague. When seen alive he was in a room upstairs in the rear of 921½ Dupont St., opposite St. Louis Alley. The man was sitting up, but looked extremely ill. His face was pale, cyanotic and anxious looking. His voice was very feeble, but his intelligence seemed almost unclouded, and he was able to carry on a conversation though with difficulty with the interpreter. The friends stated that he had at times wandered in his talk. He was under the care of Dr. Mather. The patient stated that he had been ill for two weeks. His neck had been swollen for one week and he regarded the condition as quinsy. With the aid of a tongue-depressor the throat was examined. The fauces were swollen and reddened, the swelling being very marked in the left side. The left palatine tonsil was much enlarged and showed on its surface a grayish-white patch the size of a dime. The reddening in the throat was general and there was less local infection than one ordinarily sees in diphtheria. The left side of the neck was brownish-yellow, having been painted over with a solution of iodin. On inspection and palpation marked bulging was found; this seemed to be due to enlargement of the cervical lymphatic glands. The

case was diagnosed as one of plague with cervical bubo. The man died next day and a complete autopsy was made by Dr. Flexner. The pathological examination showed typical lesions of plague and the bacteriological examination made by Dr. Novy demonstrated the presence of B. pestis (*vide infra*, laboratory case 8).

DEATH 11.—(Inspected February 14) Baby 7 days old, found in undertaker's establishment on Clay St., having died at 717 Sacramento St. Advised making of cover-slip and cultures from umbilical stump and from spleen; reported negative as regards B. pestis.

DEATH 12.—(Inspected February 15) Ow Ah Lane, male, aged 55, coolie, who had worked at San Jose Junction, died at Kwong Chow "hospital," February 14, at 6 a. m. He had been ill for from six to seven months. No enlargement of lymph glands. Advised bacteriological examination of spleen. Reported negative as regards B. pestis.

DEATH 13.—(Inspected February 16) A male body was found at Quong Fook's undertaking establishment, with slight swelling in the right groin. Pathological examination negative as regards plague. No bacteriological examination made.

It will be noticed that of the thirteen deaths, which came to our attention, occurring from February 5 to February 16 inclusive, six were undoubtedly due to infection with plague. A seventh (Death No. 8) may have been a case of plague which went unrecognized. The six undoubted deaths from plague occurred during the eight days from February 5 to February 12 inclusive. During the days February 13 to February 16 inclusive, no new cases of plague or deaths therefrom were encountered.

Two of the deaths from plague occurred in the Chinese Theater on Washington Street. The other four cases occurred singly in different parts of Chinatown.

The study of cases during life and the inspection of bodies after death proves that it is often difficult and under certain circumstances impossible to make a diagnosis of plague even postmortem without bacteriological examination. In outspoken bubonic cases there will be but little if any difficulty in diagnosis, either intra vitam or postmortem provided the observer has had sufficient experience with the disease, but in the absence of primary buboes, the unskilled observer will miss practically every case and even the practitioner who has had much experience with plague may be deceived. Your Commissioners feel sure from experience with plague in Hongkong, India and San Francisco that once it is established that plague exists among the Asiatics of a town, every Asiatic who has fever should be suspected as a case of infection with plague until the disease is proved to be other than plague and every dead body should be treated as a plague cadaver until bacteriological examination of glands, lungs and spleen (including animal inoculation) has proved the absence from the body of the B. pestis. Only by such caution will it be possible to avoid missing actual plague cases.

In the following table are given the deaths per month occurring from all cases among the Chinese during the past four years as recorded by the City Board of Health. As data regarding the exact population of Chinatown at different times are not obtainable it is difficult to institute comparisons of the mortality among the Chinese with that among whites. It is obvious, however, that at no time during the past four years has the mortality rate among the Chinese increased to such an extent as to, in itself, cause alarm.

MORTALITY AMONG CHINESE OF SAN FRANCISCO, 1897-1901.

| Months. | 1897 | 1898 | 1899 | 1900 | 1901 |
|---|---|---|---|---|---|
| January | 37 | 35 | 46 | 64 | 45 |
| February | 46 | 36 | 39 | 48 | |
| March | 38 | 46 | 37 | 47 | |
| April | 35 | 41 | 33 | 30 | |
| May | 27 | 34 | 36 | 42 | |
| June | 30 | 21 | 46 | 25 | |
| July | 39 | 25 | 34 | 38 | |
| August | 35 | 47 | 43 | 19 | |
| September | 45 | 37 | 35 | 27 | |
| October | 36 | 53 | 41 | 32 | |
| November | 39 | 66 | 37 | 34 | |
| December | 23 | 46 | 48 | 32 | |
| Total | 430 | 477 | 478 | 438 | |

THE PATHOLOGICAL ANATOMY OF THE CASES OF BUBONIC PLAGUE MET WITH IN SAN FRANCISCO.

1. Human cases.
2. Experimental inoculations.

In the study of the pathology of the cases of plague met with among the Chinese in San Francisco, a number of disadvantageous circumstances were contended with. In the first place, owing to the peculiar prejudices of this people, prejudices born especially of their religious beliefs and practices, permission for postmortem examination is given with great reluctance. The opposition to all mutilation of the bodies of the dead is so great that consent for autopsies was obtained only after assurances that the examinations would be limited strictly to the actual necessities for the establishment of the diagnosis of the disease.

In the next place, there is no public mortuary in San Francisco to which the dead bodies were or could be carried. Such examinations as were made were conducted in the narrow limits of a dimly-lighted alcove in an undertaker's shop or in the even worse habitations where the dead were found.

Under these circumstances, the postmortm examinations left something to be desired on the score of completeness, although in every instance the important question whether death was caused by plague was answered definitely.

The majority of the dead did not exhibit well-marked buboes. Careful palpation usually was required in order to discover swellings and edema of the groin. In all cases in which inguinal buboes were suspected or discovered, incision was performed and the diseased glands and periglandular tissue, if present, removed.

With one exception (Case 8) complete autopsies were not made. In all cases, however, the spleen was exposed and examined and parts removed. The tissues removed at autopsy were examined in three different ways: 1. Cultures upon agar agar and cover slips were made at once after removal. 2. The tissues were taken to the laboratory where additional cultures and cover-slips were prepared and examined. 3. Guinea-pigs were inoculated with portions of the tissues. Finally, portions of the tissue were placed in alcohol for future study.

HUMAN CASES.

CASE 1.—Chom Ah Chou, autopsy February 5, 8 p. m. Examination was made in the presence of one of us (Flexner) by Dr. Kellogg. The examination consisted in exposing and removing the inguinal and femoral glands on both sides. Incisions were made deep into the subcutaneous tissue, extending from Poupart's ligament about one-third the length of the thigh. The tissues on the left side were swollen and edematous: the edema was sero-hemorrhagic in character and the lymphatic glands were hemorrhagic and greatly swollen. On the right side, the edema was less marked and the glands, while distinctly enlarged and reddened, were less altered than those of the left side. Sections of these glands showed them to be uniformly hemorrhagic and swollen and to contain frequently necroses visible to the naked eye.

The spleen was fully twice the normal size. It was softer than normal, the capsule was wrinkled and the color deepened.

The further examination of these tissues was made after removal to the laboratory and participated in by Drs. Barker and Novy. The examination consisted in: 1. Study of cover-slips stained in anilin dyes and treated by Gram's method. 2. Preparation of cultures upon agar agar separately by each member of the Commission. 3. Inoculation of guinea-pigs with portion of tissue from the glands and spleen. 4. Preservation of tissues in alcohol for future study.

The examination of the cover-slips from the glands, periglandular tissue, and spleen showed large numbers of bacilli decolorizing by Gram's method and presenting the morphology of the B. pestis.

CASE 2.—Lee Kee, autopsy Feb. 5, 9 p. m., in the presence of Dr. Flexner, performed by Dr. Kellogg; no evidence of plague.

CASE 3.—February 6, Lum Hong Xuen, autopsy made in Main Fook's undertaker shop, Drs. Kellogg, Novy and Flexner present. Upon incising the right groin from Poupart's ligament to the beginning of the middle third of the thigh, serohemorrhagic periglandular edema and uniformly enlarged and reddened glands were found. The amount of fluid was considerable; although there was enlargement of all the glands, some of them reached to the size of a horse-chestnut. On section these were of deep red color and soft consistence. Necroses were present.

The spleen was enlarged to fully double the normal size; it was softened and of a deep bluish-red color.

Cultures and cover-slips were made at once by Dr. Novy and the excised tissues taken at once to the laborntory where additional cultures were made, cover-slips examined and animals inoculated.

The cover-slips showed large numbers of bacilli, having the morphology and staining properties of B. pestis.

CASE 4.—Feb. 6, Fong Sha Shong, autopsy by Dr. Kellogg in the presence of Drs. Novy and Flexner. No evidence of plague.

CASE 5.—Wong Chi Lui, February 7, autopsy by Dr. Barker, 6 p. m., Drs. Novy and Kellogg present.

On inspection, there was a swelling in the left luguino-femoral region, which on incision revealed enlarged glands about the sapheuous opening and in the groin. The largest gland had the size of an English walnut and was of a dark reddish-brown color, it was soft and juicy in consistence and mottled with hemorrhages and grayish-white patches of necrosis. The less swollen glands were markedly infected and contained hemorrhages. Periglandular tissue was very edematous, the fluid running freely from the incision. The spleen was about twice the normal size; soft and friable.

Cultures were made at once by Dr. Novy and cover-slips about one hour later at the laboratory, where at the same time animals were inoculated with portions of the tissue. The cover-slips from the spleen and the glands showed bacilli, presenting all the properties of B. pestis.

CASE 6.—Tom Shom, February 10, autopsy by Dr. Kellogg, Drs. Barker and Novy being present.

There was a slight swelling in the right inguino-femoral region which on incision revealed slightly edematous subcutaneous tissue, with slight enlargement of the glands. The largest gland was the size of a filbert, and its surface was dark mud hemorrhagic. On section, it presented distinct hemorrhages; other glands were swollen, soft, juicy and hemorrhagic. The spleen was enlarged, soft and friable. The examination of the groin showed that the hypodermic puncture made for the withdrawal of fluid for diagnostic purposes during life had failed to enter a lymph gland.

Cover-slips from the spleen and glands showed large numbers of bacilli having the characteristic properties of the B. pestis.

CASE 7.—Foong Ah Fong, Feb. 12, autopsy by Dr. Flexner, Dr. Barker Present. The spleen only was examined: the organ was en-

larged to about twice the normal size and was diminished in consistence. Cover-slips showed a very small number of bacilli of the size of B. pestis, although the characteristic polar staining was not observed. Cultures were made and a portion of the spleen was introduced subcutaneously into the guinea-pig.

Case 8.—Ung Ah Buck, autopsy Feb. 12, at noon at the undertaking shop of Wing Hai, by Dr. Flexner, Drs. Novy, Barker, Kellogg and Wilson being present. The left side of the face and neck presented a marked diffuse swelling, extending from the angle of the jaw backward to the sterno-cleido-mastoid muscle and below, almost reaching the clavicle.

On incising this region the parotid gland was first reached; this organ presented a normal appearance. After dissecting away the parotid gland a group of greatly enlarged deep glands surrounding the carotid artery and jugular vein came into view. The periglandular tissue was infiltrated with bloody fluid and presented a sodden appearance. The enlarged glands and portions of the surrounding tissue were excised; the former were found to be swollen—several reaching the size of an English walnut—and to be wholly altered in appearance and consistence. In color they were deep purplish and on incision a hemorrhagic fluid exuded. Opaque points of necrosis were also present.

The general subcutaneous fat was well developed; there was no general edema. The peritoneum appeared smooth and glistning; there was no excess of fluid in the abdominal cavity and the abdominal glands were not noticeably swollen. The spleen was enlarged to fully twice its normal size; it presented a purplish color and its consistence was diminished. The pleural cavities were dry. The lungs retracted moderately upon removal of the sternum. The lower lobes of the lungs were congested, but no consolidation was made out; no other abnormality was observed in the body.

The organs and tissues removed at this autopsy, consisting of the enlarged cervical glands and spleen, were taken to the laboratory where cover-slips, cultures and animal inoculations were made.

The cover-slips from the spleen showed large numbers of a bacillus having the morphology and staining properties of the B. pestis. The cover-slips from the glands differed in their appearance. In some instances there were present large numbers of bacilli similar to those in the spleen, together with a few diplococci or short chains of cocci. Other cover-slips showed, besides the organisms mentioned, a bacillus having the morphology of the B. diphtheriæ.

### EXPERIMENTAL INOCULATIONS.

The animals used for experimental inoculations were half-grown and grown guinea-pigs. In order to guard against accidental infection of the locality, the animals were placed in glass jars, which in turn were placed in large crocks, the latter having been covered with wire-netting covers upon which the earthenware covers were placed. When an animal succumbed to the inoculation it was carefully removed from the jar and immersed for some time in 1 to 1000 sublimate solution. The jar itself was filled with a similar sublimate solution and the two left in contact for several days.

After subjecting the animals to autopsy, they were placed in the steamer and thoroughly steamed, after which the body was incinerated. Such portions of the tissue as were preserved for microscopical study were placed at once in 95 per cent. alcohol.

Inoculations were made subcutaneously with bits of tissue from the tissue from the human cases and pure cultures of bacilli obtained from these sources. The usual procedure was to inoculate at least two animals from each human case; one with portions of the spleen and another with portions of the lymph gland. The cultures used were derived indifferently from the spleen and from the glands.

The inoculated animals can be separated into groups, depending upon the results of the inoculation. These results in turn depended upon the virulence of the material—tissue or culture—inoculated, upon which also depended the duration of life following inoculation.

It is *important* to state that characteristic lesions were obtained from inoculated material derived from every case in which bacilli were found in cover-slips, including Case 7 in which very small numbers of bacilli were detected in the spleen.

*Types of Infection.*—The animals inoculated early in the course of the investigations died at periods varying from forty hours to eight days. Those inoculated later, and one or two inoculated with cultures early in the studies, but which had not succumbed, were etherized at the close of the work and subjected to postmortem examination. According to the period of survival and virulence of the inoculated material, the appearances observed denoted: 1, bacteremia without microscopical localization in the organs, and 2, focal, nodular, localizations in the internal organs. In all cases marked local lesions at the site of inoculation and in the adjoining tissues occurred.

*Local Lesion.*—At the point of inoculation, the tissues—skin, subcutaneous tissue and sometimes muscles—were infiltrated with pus cells and presented a yellowish focus of necrosis. From this area as a center, the subcutaneous tissue, sometimes of one side, but frequently of both sides, were occupied by gelatinous hemorrhagic infiltration.

The lymphatic glands of the inguinal and axillary regions were distinctly enlarged even in the acute cases. In those animals which died after a longer period or were killed from six to seven days after inoculation, the regional lymphatic glands were much enlarged, hemorrhagic and even necrotic. The inguinal glands were, as a rule, more swollen than the axillary.

Cover-slip preparations from the local lesion—necrotic area, subcutaneous edema, swollen lymph glands—showed large numbers of bacilli, having the characteristic morphology, staining and reaction to Gram's method of the B. pestis. Cultures from these sources gave positive results.

In one animal in which the inoculation was made with a culture, the animal being etherized on the third day, there was slight local reaction only, no involvement of the regional lymph glands and no visible lesions in the internal organs having been observed. A small number of characteristic bacilli were found in cover-slips made from the site of inoculation.

*The Spleen and Liver.*—In the instances of rapid death (bacteremia) the spleen was moderately large, its color was deepened, its consistence decreased, but no focal lesions were visible to the naked eye. Cover-slips and cultures showed numerous bacilli agreeing in characteristics with those of B. pestis.

In this class of cases, the other organs failed to show focal lesions. The lungs appeared mottled only and a few small necroses existed in the liver; numbers of bacilli were contained in all the viscera and in the heart's blood.

The focal lesions in the spleen consist of grayish-white nodules, larger than a millet seed in size, covering the surface (within the capsule) and occupying the substance of the organ; when the nodules are numerous, as e. g., in animals succumbing from the sixth to the eighth day, or after etherization at that period, when there has been a marked local reaction, the spleen is greatly enlarged, perhaps five to six times its normal size and its color is pale. Cover-slips and cultures show a very large number of characteristic bacilli if the animal has died spontaneously, while if killed the number of bacilli upon cover-slips and cultures is far less.

The liver invariably showed lesions when death had been delayed a few days. The common ones were focal necroses of varying size; these were yellow in color and in size ranged from that of a pin's point to linear and wedge-shaped areas 3 to 4 mm. in length. Only rarely did whitish nodules similar to but smaller than those occurring in the spleen occur. The best example of nodular lesions in the liver was observed in an animal inoculated with a culture derived from Case No. 1, the guinea-pig having been etherized on the eighth day after inoculation.

*The Lungs.*—The lungs presented a variety of appearances, only one of which was characteristic. Some times they showed no macroscopical lesions; not uncommonly, they were mottled and presented small ecchymoses beneath the pleura; rarely they contained scattered whitish nodules resembling those of the spleen, except that they were smaller and surrounded with a zone of recent hemorrhage. No effusion into the pleuræ were noted.

*Subserous Hemorrhages.*—These were common, especially in the peritoneum, where they occurred beneath and within the serosa of the large intestine, and in the pleura covering the lungs. They were usually small in size, although at times through confluence they reached larger dimensions. They did not give rise to an exudate or effusion into the serous cavities.

The other organs, except the adrenal glands, showed no especial changes to the naked eye. The adrenals were uniformly congested and often very dark in color and hemorrhagic.

The central nervous system was not examined.

### BACTERIOLOGICAL EXAMINATIONS.

Case 1.—Chun Ah Chou, 814 Washington St., autopsy February 5. The spleen and left femoral glands were examined. These organs were found to contain enormous numbers of bacilli, having the morphological and tinctorial properties of bacillus pestis; thus the short thick oval rods gave a bi-polar stain with Loeffler's methylene blue or with carbolic thionin and were decolorized by Gram's method. Their pathogenicity was determined by inoculation of portions of the spleen and of a pure culture, subcutaneously, into guinea-pigs.

Agar streaks made from the perfectly fresh organs showed many small white, moist, isolated colonies, having all the appearance of those of bacillus pestis. This was further confirmed by microscopic examination of living and stained preparations of such cultures. A few rapid-growing colonies due to other forms of bacteria were present. Subcultures were made in glucose gelatin, bouillon, agar, salt agar and milk. On agar in Petri dishes in twenty-four to forty-eight hours in the incubator, small white or grayish, moist colonies developed. These had a finely granular center with a smooth, sharply defined border.

The stab culture in glucose gelatin developed a slight growth along the line of inoculation. On the surface, the growth spread slightly, was grayish, moist in appearance and had a slightly wavy, raised border. No gas was formed.

In bouillon, in twenty-four hours, a diffuse cloudiness was produced. The sediment was very slight, scarcely appreciable. Subsequently, a faint stringy deposit formed. The surface remained perfectly clear with a trace of a ring or collarette.

The streak cultures on nutrient agar presented a moderate grayish-white, moist growth which, when touched with a platinum wire, could be drawn out into strings.

On 5 per cent. salt agar, the growth is very slight, scarcely visible, and shows the peculiar roundish or pyriform involution forms of the pest bacillus.

In milk the organism grows without producing any visible change in the medium.

The absence of gas-production and of coagulation of milk, together with the macroscopic and microscopic characteristics, agreed fully with the characters of bacillus pestis. The effects on animals have been described in a preceeding part of the report.

Guinea pig No. 1 was inoculated under the skin with a portion of the spleen from the above case. It died in thirty-six to forty hours. Cultures on agar made from the spleen and heart blood gave almost pure growths of the pest bacillus. Direct examination of the organs showed enormous numbers of typical plague bacilli.

Guinea-pig No. 2 was inoculated subcutaneously with a pure culture obtained from the gland of the above case. The animal died in three days. Plague bacilli were very numerous in the spleen and inguinal glands and were also present in the heart's blood.

CASE 3.—Lum Hong Huen, 28 Ross Alley, autopsy February 6. Smear preparations from the spleen showed large numbers of short thick rods, chiefly single; some oval or roundish-forms were also present. The organisms stained readily with Loeffler's methylene blue or with carbolic thionin. In the latter case the bi-polar staining was excellent. The orgauisms were completely decolorized by Gram. Cover-glass preparations from the gland likewise showed very numerous bacilli, occurring singly, taking the bi-polar stain, but not that of Gram. Agar cultures were made at the time of the autopsy in the undertaker's shop of Main Fook. The cultural and morphological characteristics were the same as those observed in Case 1.

Guinea-pig No. 3 received, subcutaneously, a portion of the spleen from the above case, and died in 5½ days. On autopsy the spleen was found markedly enlarged, full of white nodules which were also present in the liver and in the lungs. Cover-glass preparations from the spleen showed enormous numbers of bacilli, having all the characteristics of bacillus pestis. Agar slants were inoculated with the heart's blood and spleen of this animal. The former yielded a slightly contaminated growth but the culture from the latter was pure.

CASE 5.—Wong Chi Lui, 21½ Waverly Place, autopsy February 7. Streak preparations from the spleen showed very numerous pest bacilli apparently in pure culture; the predominating form was the short thick rod, although some oval or roundish forms were present. Loeffler's methylene blue and carbolic thionin stained the bacilli readily, demonstrating the characteristic bi-polar form. The organisms were completely decolorized by Gram's method. Similar preparations made from one of the left femoral glands show fewer organisms but these in form, size and staining reactions are identical with those found in the spleen. Cultures made on agar developed very slowly; on subsequent transplantation, however, the growth was more rapid, more abundant and typical of that of bacillus pestis.

Guinea-pig No. 4 was inoculated subcutaneously with a portion of the gland from the above case. Death resulted in 3½ days. Bacilli were numerous in the spleen and corresponded in characteristics to those of the plague bacilli.

Guinea-pig No. 5 was inoculated subcutaneously with a portion of the spleen; it was found dead 3½ days later. Numerous plague bacilli were found in the spleen, heart's blood and glands. Agar streaks from the heart's blood gave numerous small colonies of pest bacilli with a few larger colonies due to foreign organisms. The spleen gave numerous isolated small moist colonies, apparently a perfectly pure culture of the plague bacillus. Agar streak plates were made at the same time and gave in twenty-four hours numerous minute colonies.

Guinea-pig No. 6: A portion of the spleen from this case was introduced into the peritoneal cavity. Death resulted in 4½ days. Pest bacilli were abundant in the internal organs and in the glands. Agar streaks from the heart's blood gave a very limited growth, while those from the spleen were scarcely visible. In this and several other instances, difficulty was experienced in starting the growth of the organism directly from the tissues. Once started, however, with subsequent transplantations, better results were obtained.

Guinea-pig No. 7 was inoculated subcutaneously with a loopful of pure culture obtained from guinea-pig No. 5. It died in 2½ days. Autopsy revealed a hemorrhagic edema and cover-glass preparations of this showed pest bacilli mixed with numerous minute diplococci and streptococci. The spleen was large and soft, contained nodules and, on staining cover-slips therefrom, enormous numbers of typical plague bacilli, apparently perfectly pure, were found. No diplococci were present.

CASE 6.—Tom Shom, 814 Washington St., autopsy February 11. During life some fluid was aspirated by means of a sterile syringe, from the swelling in the right femoral region, and transferred to nutrient agar. Blood was also drawn from the lobe of the ear and planted on agar. Stained preparations made from these specimens failed to demonstrate the presence of any organism. Cultures developed pyogenic cocci, but failed to give any indication of pest bacilli. On autopsy the femoral glands, though characteristic of plague, were found not markedly enlarged. It was evident that the aspirating needle when introduced had missed the gland proper, and the failure to isolate the pest bacillus during life in this case can thus be explained. It should be noted that the peri-glandular tissue was but very slightly involved. Streak preparations made from the hemorrhagic gland showed relatively few typical plague bacilli. A long thick bacillus was present in small numbers. Gram's stain was negative. Streak preparations from the spleen showed the pest bacillus to be present in large numbers and apparently pure. The organisms occurred singly, gave the bi polar stain and were decolorized by Gram.

Guinea-pig No. 6 was inoculated subcutaneously with a portion of the spleen from this case. Six and a half days later, though healthy in appearance, it was killed. A circumscribed caseous local lesion was found; there was a slight glandular enlargement on the same side. The spleen was slightly enlarged and showed white nodules; pest bacilli having the short-rod and oval form were present in small numbers.

CASE 7.—Fong Ah Fong, 747 Sacramento St., autopsy Feb. 12. Streak preparations from the spleen revealed the presence of pest bacilli, although these were not very abundant; indeed, they were difficult to find in the cover-slips. Typical bi-polar staining rods and oval roundish forms were, however, found. Gram's stain was negative.

Streak cultures were made with the fresh spleen on agar slants and at the same time agar plates were made. The agar streaks failed to give an appreciable growth, but on the plate a colony was found which corresponded to that of the plague bacillus. On microscopic examination it was observed to consist of small, short, oval, non-motile rods, which decolorized by Gram. The colony transplanted to agar gave a typical growth of pest bacilli, and this culture was used to inoculate guinea-pig No. 10.

Guinea-pig No. 9 received a portion of the spleen of Fong Ah Fong, subcutaneously. It died in 4½ days. The spleen contained enormous numbers of pest bacilli which stained in the usual bi-polar manner and were decolorized by Gram. The heart's blood likewise contained the organism. Cultures were made on agar from the spleen and heart's blood of this animal; both gave numerous small moist colonies of bacillus pestis.

Guinea-pig No. 10 was inoculated subcutaneously with the agar culture mentioned above. It was killed 2½ days later. The spleen showed only a few but characteristic pest bacilli; under the skin there was but slight local change and a few typical bacilli were found.

CASE 8.—Ung Ah Buck, St. Louis Alley, autopsy February 12. Cover-slip preparations from the cervical lymph glands showed the presence of several distinct organisms. The short, thick oval forms of the pest bacillus were present in small numbers; with them was associated a large thick bacillus; there were also bacilli present resembling the bacillus diphtheriæ and a diplococcus closely resembling that of Fränkel. The pest bacilli gave the usual bi-polar stain with methylene blue and with carbolic thionin. Specimens stained by Gram's method showed deeply stained diplococci, the other forms being decolorized. Smear preparations from the spleen showed many organisms resembling the bacillus pestis morphologically.

Agar streaks from the fresh spleen gave a number of discrete moist colonies which consisted of large oval non-motile bacilli, occurring singly and only occasionally in pairs; the streak cultures from the cervical gland also gave numerous isolated colonies. In both cases the cultures obtained were apparently perfectly pure and agreed in every respect with those of plague bacilli. The other bacteria seen in cover-slips did not grow. Agar plates yielded the same result.

Guinea-pig No. 11 was inoculated subcutaneously with a small portion of the spleen from the above case. In about three days the animal was very sick and was finally killed 5½ days after inoculation. Bacillus pestis was found in the spleen and to a less extent in the blood.

The bacteriological examination of the foregoing six cases has therefore demonstrated the presence of the bacillus pestis in each.

(Signed.) SIMON FLEXNER, M.D.
F. G. NOVY, M.D.,
LEWELLYS F. BARKER, M.D.

San Francisco, Cal., Feb. 26, 1901.

# Societies.

## COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.
American Gastro-Enterological Association, Washington, D. C., May 1, 1901.
Kansas Medical Society, Pittsburg, May 1-3, 1901.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-22, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynæcological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.

American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 18-20.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

**Roentgen Society of the United States.**—The next meeting of this Society will be held at the University of Buffalo, N. Y., September 10 and 11.

**Southwestern Medical Association of Kentucky.**—The thirteenth annual meeting of this organization will be held in Paducah, May 14 and 15.

**Onachita County (Ark.) Medical Association.**—This Association was recently organized at Camden, and elected Dr. James T. Henry, Eagle Mills, president.

**Southern Railway Surgeons.**—The sixth annual meeting of the Surgeons of the Southern Railway will be held at Mobile, Ala., May 7, 8, and 9. Dr. Samuel R. Miller, Knoxville, Tenn., will preside.

**Southeast Missouri Medical Association.**—The twenty-sixth annual meeting of this Association will be held at Charleston, May 7, 8 and 9, under the presidency of Dr. Moses Rosenthal, Kennett.

**Bradford County (Pa.) Medical Society.**—At the meeting of this Society, in Burlington, April 16, delegates were selected to the State Medical Society and to the American Medical Association.

**Cumberland County (Pa.) Medical Society.**—At the meeting of this Society, at Mechanicsburg, April 10, delegates to the State Medical Society and to the American Medical Association were elected.

**St. Louis (Mo.) District Medical Society.**—The fifth semi-annual meeting of this Society occurred April 11, at St. Louis. Dr. Frank J. Tainter, Warrenton, was re-elected president, and Dr. John C. Murphy, St. Louis, elected permanent secretary. The next meeting will be held in St. Charles.

**Pike County (Ohio) Medical Society.**—The annual meeting of this Society was held at Flat, April 8, and the following officers elected: Dr. E. M. Dixon, Flat, president; Dr. J. S. Wiseman, Beaver, vice-president; Dr. Charles H. Willson, Idabo, secretary, and Dr. Orrin C. Andre, Waverly, treasurer.

**Northwestern Wisconsin Medical Association.**—At the annual meeting of this Society, held at Stevens Point, April 9, the following officers were re-elected: Dr. Carl Von Neupert, Jr., Stevens Point, president; Dr. Viola M. French, Neillsville, vice president, and Dr. Daniel R. Freeman, Colby, secretary and treasurer.

**DeWitt County (Ill.) Medical Society.**—This Society met at Clinton, April 9, for its annual session, and elected the following officers: Dr. Albert E. Campbell, Clinton, president; Dr. Curtis C. McMackin, Wapella, vice-president, and Dr. John H. Tyler, Clinton, secretary and treasurer.

**Hill County (Texas) Medical and Surgical Association.**—At its meeting in Hillsboro, April 11, this Association elected the following officers: Dr. Edwin L. Sessions, Hillsboro, president; Dr. George W. Benton, Woodbury, vice-president; Dr. Allen J. Gilbert, Hillsboro, secretary, and Dr. Benjamin F. Smith, Hillsboro, treasurer.

**Marshall County (Ala.) Medical Society.**—At the annual meeting of this Society, held at Guntersville, Dr. Thaddeus A. Casey, Albertville, was elected president; Dr. Peter M. Baker, Snead, vice-president; Dr. Miles B. Stephens, Whitesville, secretary and treasurer, and Dr. P. B. Lusk, Guntersville, county health officer.

**Hampden District (Mass.) Medical Society.**—This Society held its annual meeting at Springfield, April 16, elected delegates to the American Medical Association, and also the following officers: Dr. Lawton S. Brooks, Springfield, president; Dr. Stephen A. Mahoney, Holyoke, vice-president, and Dr. Harry C. Martin, Springfield, secretary and treasurer.

**Shelby County (Ind.) Medical Society.**—This Society has elected the following officers: Dr. Morris Drake, Shelbyville, president; Dr. Henry E. Phares, Morristown, vice-president; Dr. Frank Campbell, Shelbyville, secretary, and Dr. Joseph Bowlby, Shelbyville, treasurer. Delegates were also elected to the state society and to the American Medical Association.

**Fairfield County (Conn.) Medical Association.**—The one hundred and ninth annual meeting of this Society was held at Bridgeport, April 8, and the following officers were elected: Dr. Franklin P. Clark, Danbury, president; Dr. Nathaniel E. Wordin, Bridgeport, vice-president, and Dr. J. Murray Johnson, Bridgeport, reporter. Delegates to the American Medical Association were also chosen.

**Medical Association of Dutchess County (N. Y.).**—This branch of the New York State Medical Association was organized at Poughkeepsie, April 11, and elected the following officers: Dr. Irving D. LeRoy, Pleasant Valley, president; Dr. Edwin Barnes, Pleasant Plains, vice-president; Dr. John W. Atwood, Fishkill-on-Hudson, secretary, and Dr. Monroe T. Pultz, Stanfordville, treasurer.

**Windham County (Conn.) Medical Association.**—The one hundred and eighth annual meeting of this Association was held April 11, at Putnam. Dr. Laura H. Hills, Willimantic, was elected president; Dr. Frank H. Coops, Danielson, vice-president, and Dr. James L. Gardner, Central Village, clerk and treasurer. The Association will hold its next annual meeting at Willimantic, in April, 1902.

**Missouri State Medical Association.**—The preliminary program, just issued, for this Association's meeting at Jefferson City, May 21, 22 and 23, indicates that the sessions will be interesting and profitable. The meetings will be held in Representative Hall, the headquarters will be at the Madison Hotel, and Dr. Robert E. Young is chairman of the committee of arrangements.

**Plymouth County (Mass.) Medical Society.**—This Society met at Brockton, April 17, and elected the following officers: Dr. Alfred A. Mackeen, Whitman, president; Dr. Jesse H. Averill, Campello, vice-president; Dr. Frank H. Burnett, Brockton, secretary, treasurer and reporter, and Dr. Charles E. Lovell, Whitman, librarian. Delegates to the American Medical Association were also chosen.

**Lebanon County (Pa.) Medical Society.**—At the annual meeting of this Society, April 10, the following officers were elected: Dr. John J. Light, Schaefferstown, president; Drs. William R. Roedel, Lebanon, and H. W. Goss, Mount Aetna, vice-presidents; Dr. Charles M. Strickler, Lebanon, secretary; Dr. Charles L. Miller, Lebanon, treasurer; Dr. Henry H. Roedel, Lebanon, censor, and Dr. Samuel P. Heilman, Heilmandale, medical and surgical reporter.

**Cumberland County (N. J.) Medical Society.**—At the meeting of this Society, at Bridgeton, April 9, delegates to the State Medical Society and the American Medical Association were named, and the following officers elected: Dr. Leslie L. Hand, Leesburg, president; Dr. Grafton E. Day, Millville, vice-president; Dr. John C. Applegate, Bridgeton, secretary, and Dr. Joseph Tomlinson, Bridgeton, treasurer.

**Triple State Medical Association.**—This Society met for organization at Ashland, Ky., April 18. The following officers were elected: Dr. Lester Keller, Ironton, Ohio, president; Drs. John H. Wade, Ashland, Ky., and Wmiam F. Sturgill, Ceredo, W. Va., vice-presidents; Dr. James W. Kincaid, Catlettsburg, Ky., secretary, and Dr. J. M. Salmon, Ashland, Ky., treasurer. The Society adjourned to meet at Huntington, W. Va., July 18.

**New York County Medical Association.**—The annual election of officers of this Association, April 15, resulted as follows: Dr. Parker Syms, president; Drs. Alexander Lambert and Francis W. Murray, vice-presidents; Dr. Ogden C. Ludlow, recording secretary; Dr. Montefiore L. Maduro, corresponding secretary, and Dr. Charles E. Denison, treasurer. Dr. E. Eliot Harris, on behalf of the Association, presented a bronze statuette to James Taylor Lewis, counsel to the Association, in appreciation of the work done by him in regard to fixing the legal status of the Association, etc.

**Western Ophthalmologic and Oto-Laryngologic Association.**—The sixth annual meeting, held at Cincinnati, April 11 and 12, was the most successful in the history of the Association. The following officers were elected: Dr. Christian R. Holmes, Cincinnati, president; Drs. William L. Dayton, Lincoln, Neb., Joseph O. Stillson, Indianapolis, and Hanau W. Loeb, St. Louis, vice-presidents; Dr. William L. Ballenger, Chicago, secretary, and Dr. Otto J. Stein, Chicago, treasurer. The next annual meeting will be held in Chicago, in April, 1902.

**International Congress of Physiologists.**—It is announced that the sessions of the Congress from September 17 to 20, inclusive, will be occupied by demonstrations and communications, and that the sessions of September 21 and 23 will be supplementary and devoted chiefly to the reports of the International commission dealing with the standardization

of recording apparatus, calorimetric methods, etc. Dr. Z. Treves, local secretary, Corso Raffaelo, Turin, requests that all titles of communications or experiments be sent him not later than August 1. Prof. Frederic S. Lee, Columbia University, New York City, is acting secretary for America.

**Louisville Pathologic Society.**—This Society was formally organized April 15, with the following officers: Dr. Thomas C. Evans, president; Dr. James B. Bullitt, vice-president; Dr. James K. Freeman, secretary; Dr. Rowan Morrison, treasurer, and Dr. James Vance, curator. The Society has upwards of forty members and the membership and the roll is increasing each day. Meetings will be held on the third Monday of each month except in July and August. There is to be no social feature of the meetings, as is the custom with those in existence at present.

**Florida State Medical Association.**—The twenty-eighth annual session of this body was held at Jacksonville, April 10 and 11, under the presidency of Dr. William L. Hughlett, Cocoa, who in his address announced that he had been made a member of the committee on organization of the AMERICAN MEDICAL ASSOCIATION, and urged on the Association the need for closer relations between the state and national associations, for a national board of health, for a national medical university and for uniform laws to govern the practice of medicine. The following officers were elected: Dr. A. Judson Wakefield, Jacksonville, president; Drs. Louis DeM. Bloeker, Chattahoochee, and George E. Welch, Palatka, vice-presidents; Dr. J. D. Fernandez, Jacksonville, secretary, and Dr. Edward N. Liell, Jacksonville, librarian. The association will meet in 1902 at Tampa.

## CALIFORNIA ACADEMY OF MEDICINE.

*Meeting held March 26.*

The President, Dr. D. W. Montgomery, presiding.

### Modified Procedure for Uterine Carcinoma.

DR. HENRY KREUTZMANN read a paper on "Suggestion for a Modified Procedure in Performing Hysterectomy for Cancer of the Uterus." He reviewed the history of the operation, and called attention to the frequent fluctuations between the abdominal and vaginal methods, going back to the time of the first vaginal hysterectomy, performed in 1822, by Dr. Sauter, in Constanz, Germany. The author favors the vaginal operation. He has the greatest respect for the experience to be gained from the hundreds of cases gathered from the enormous material of the big clinics of this country and abroad, but the deductions are not always unbiasedly derived from an accumulation of operations, and sometimes operations are performed with the intention of proving a point. He has had an opportunity of seeing his patients for a long period of time, and has observed that there are cases of vaginal hysterectomy where the uterus is removed for carcinoma, where the malignant growth was proved to exist by competent pathologists, and where the woman remained free from relapse for years. Time and again clinical histories of cases have induced him to consider a neoplasm of recent origin; examination showed apparently a slight affection only; but after hysterectomy, the inspection of the divided uterus demonstrated a great encroachment of the disease.

Considering the decided possibility of permanently curing certain forms of carcinoma of the uterus by vaginal hysterectomy, on one side, and on the other, the impossibility of exactly diagnosing the extent of the disease before the organ is cut open, the idea suggested itself to him to remove the uterus through the vagina, to cut open and to inspect the uterus, and then decide on further procedure. If he found that the vaginal portion only was invaded, or that it was a circumscribed carcinoma of the fundus, and that he could expect with reasonable surety that relapse would not occur, then he could be satisfied with a vaginal operation. If, on the contrary, he found that the disease had progressed farther than was expected, that relapse would surely follow vaginal hysterectomy, then he would open the abdomen and remove all the tissue that it was proposed to remove by the abdominal operation.

DR. JAMES F. MCCONE said that he was not quite decided regarding the method of operation in carcinoma of the uterus. In that involving the fundus, where the surrounding tissue was not affected, the removal is easy by the vagina, but in those cases involving the cervix, where the tissue extends to, and involves, the rectum and vagina, operation by either method is apt to be disappointing. In these latter cases the radical abdominal operation is certainly the best method, and it should be thorough, care being taken to remove all infected structures surrounding the uterus.

DR. J. HENRY BARBAT said that if tissue is removed simply to temporarily relieve, the vaginal operation is a good one, but if an attempt is made to eradicate the disease, then the abdominal operation gives better results. One can not always tell by physical examination how far the disease has extended, or how much the surrounding structures have been involved. He doubts very much the ability of any operator to remove as much tissue below as can be removed through an abdominal incision. Then, again, the abdominal operation allows of the specimen being removed in one piece, without a great amount of bruising, tearing and squeezing, all of which are factors in recurrence.

DR. G. CAGLIERI said that during the last two or three years he had followed carefully the arguments of the advocates of the two methods of operation. In the beginning of a case of cervical carcinoma, vaginal operation certainly seems simple. A woman 45 years of age came to him some time ago, with a carcinoma of the cervix. As this had been treated by her family physician for some months with no results, and as some of her symptoms made him suspicions that it was carcinoma, he removed it per vaginam. A pathologist, to whom he submitted the specimen, said it was not an epithelioma. One and one-half months later, however, a hard fungoid mass developed in the vagina, which certainly was an epithelioma. He is satisfied that she had a recurrence.

DR. KREUTZMANN, in closing, said that this same dispute had been going on for one hundred years. At present he is in doubt as to what should be done, for these patients seldom remain well permanently. To get the case early is most important. He has concluded that certain men, having a favorite method of operation, use that method merely in their endeavor to prove it the correct one.

### Cartilage in the Knee-Joint.

DR. J. HENRY BARBAT exhibited pathologic specimens. The first was a triangular piece of cartilage, 3x2 centimeters in size, which he had removed from the left knee-joint of a man 29 years of age, who gave a history of having sprained his knee five years previously. He complained of considerable pain, and physical examination revealed considerable thickening of the joint, while at the inner side of the ligamentum patellæ the edge of the hard body could be pushed in under the ligament with ease. Operation was done under local anesthesia, and the hard body dislodged with considerable difficulty, and removed with strong mouse-toothed forceps. The wound was closed and dressed dry. After forty-eight hours great pain developed, his pulse rose to 120, and his temperature to 101. The knee was much swollen and tender. He removed one of the skin sutures and passed a probe down into the joint, allowing two ounces of slightly bloody serum to escape, which proved to be perfectly sterile on culture-media. Two days following more serum was removed. By the twelfth day his condition became normal, the pain disappeared, and he was able to walk on the fourteenth day, after operation. He reported this case to show how much disturbance might be caused by invading a large joint even when no sepsis was present. The specimen looked as though it might have been a portion of one of the semilunar cartilages, which had been broken off at the time the patient sprained his knee.

### Adherent Appendix and Ovarian Cyst.

This specimen was from Miss H., who had been treated for two weeks previous to his seeing her, for some pelvic disturbance, without any relief. He found a tender fluctuating mass in Douglas' cul-de-sac, in which a vaginal incision was made and pus liberated. A drainage-tube was inserted and remained for one week, when the discharge had practically ceased. The patient was able to go to his office two weeks from the date of operation. There was still a mass on the right side of the uterus, but otherwise the patient felt perfectly well. Four weeks from the date of the first operation she was taken suddenly with severe pain over McBurney's point, felt nauseated,

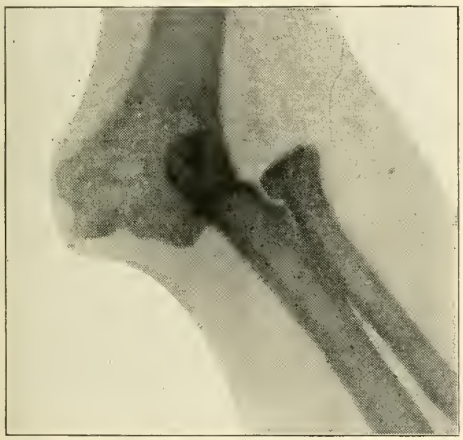
and the appendix was found extremely tender. Immediate operation was consented to and the appendix found passing directly down into the pelvis, and the tip adherent to a mass in the right broad ligament. The adhesion was separated and the appendix removed. This mass proved to be an intraligamentous cyst, which was removed with the tube on that side. The left adnexa were in fair condition and were not disturbed.

This case illustrates the fact that pelvic peritonitis, from whatever cause, if followed by adhesions, is a causative factor in the production of ovarian cysts. The adhesions which surround the ovary prevent the proper rupture of the Graafian follicle, the secretion is retained, the ovum can not enter the Fallopian tube, and an ovarian cyst is born, which may subsequently rupture and be absorbed, or which may keep on growing until it causes grave disorder, and requires removal.

Dr. Caglieri asked if the introduction of olive oil into the abdomen was of more use in the prevention of adhesions than that of normal salt solution.

Dr. Barbat replied that he had used it on several occasions, and had sometimes seen good results.

Dr. Kreutzmann said that he did not agree with Dr. Barbat when he called these specimens cysts of the ovaries. The ovaries presented were inflammatory; he had seen any number of them, always growing fast to the broad ligament. Cysts are nothing but enlargements of the Graafian follicles. He thinks it proper to be as conservative as possible in operating on these



cases, and that a piece of the ovary should be left in whenever possible. These women should keep on menstruating. If all ovarian tissue is taken out and woman ceases to menstruate, she usually suffers more than before. All we can do to prevent adhesions is to see that the bowels move soon after operation, and sew up all tears in the peritoneum.

Dr. Barbat, in reply, said that in these cases he invariably gives a rectal infusion of coffee and Epsom salts, before the patient leaves the table. The adhesions that are particularly hard to prevent are those where an ovary and tube, being bound down, are separated, leaving very raw surfaces. He draws these ovaries outside the abdomen, wipes them dry, removing as much as possible all little stringy adhesions, then with the introduction of sterile oil he has found that adhesions are less likely to form again.

### Dislocation of Elbow.

Dr. J. W. Shiels reported a case and exhibited a patient who had recently fallen, sustaining a lateral dislocation of the right elbow. Dr. F. B. Carpenter was called and suggested making a skiagraph before reduction. This was done. The skiagraph, shown here, was also presented to the Academy. The dislocation was reduced, the arm put in plaster for forty-eight hours, when it was removed, and passive motion carefully commenced.

# Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### A Precipitation.

A subscriber writes us concerning the following prescription which occurred in The Journal issue of March 31, 1900. He states that in compounding the prescription that a precipitation occurs and he inquires the reasons for such a reaction:

| | | | |
|---|---|---|---|
| ℞. | Ext. Jaborandi flu. | | |
| | Ext. belladonnæ flu., āā | ʒi | 4 |
| | Ext. tritici repentis fl | ʒss | 16 |
| | Ext. ergotæ flu. | | |
| | Ext. rhois arom., āā | ʒi | 32 |
| | Aquæ | ʒss | 16 |

M. Sig.: One teaspoonful three times a day.

We wish to state that the reaction of which our subscriber speaks is not due to any incompatibility of the drugs in the prescription but is due to the fact that some of these preparations have constituents which are insoluble in water and consequently are thrown down whenever water is used as the vehicle. It must be remembered that each of the above preparations are held in solution by alcohol, consequently some vehicle equal in strength to it should be used. Glycerin or alcohol substituted for the aqua will correct the trouble.

### Treatment of Scabies.

Eichhorst states that the simplest remedy for the cure of scabies consists in the following combination:

| | | | |
|---|---|---|---|
| ℞. | Balsami copaibæ | | |
| | Liq. styracis, āā | ʒi | 32 |

M. Sig. Rub the skin well morning and evening for two days, and on the third day take a hot bath and wash the skin with green soap.

It is further stated in his practice of medicine that the solution of Vlemingkx is used a great deal in treatment of scabies:

| | | | |
|---|---|---|---|
| ℞. | Calcii | ʒvi | 24 |
| | Sulphuris | ʒiss | 48 |
| | Digest with rain water | Oi | 500 |
| | And evaporate to | ʒixss | 300 |

Sig.: Use as an inunction. Avoid excessive friction of the skin.

### For Prostatorrhea.

| | | | |
|---|---|---|---|
| ℞. | Tinct. nucis vom. | m. x | 64 |
| | Tinct. cantharidis | m. v | 32 |
| | Liq. ferri et ammon. acetatis q. s. ad. | ʒvi | 192 |

M. Sig.: One tablespoonful three times a day after meals.

### Bronchopneumonia in Infants.

Carrière, in *Med. News*, says that when the disease has declared itself, keep the patient in bed in a well-ventilated room, wrap the limbs in cotton and change the position of the child frequently. Administer plenty of milk, bouillon and beef juice, and much water to drink. To lessen the congestion and increase the evacuation of the pathological products, give syrup of ipecac in teaspoonful doses every five minutes till vomiting supervenes, and follow by warm water. Then give the following:

| | | | |
|---|---|---|---|
| ℞. | Ergotin | gr. iii-viii | 20-50 |
| | Strych. sulphatis | gr. 1/150 | 0004 |
| | Syrupi simplicis | ʒvi | 24 |
| | Aquæ q. s. ad. | ʒiv | 128 |

M. Sig.: One tablespoonful every three hours.

Dry cupping, mustard plasters or poultices are of benefit. Stimulate the body with warm baths or mustard baths, and with a suppository at night as follows:

| | | | |
|---|---|---|---|
| ℞. | Quininæ hydrobromatis | gr. i-iv | 06-25 |
| | Cacao butter, q. s. | | |

M. Ft. suppos. No. i. Sig.: One such suppository night and morning.

Cleanse the nasal passages and the mouth with antiseptic solutions.

As a bronchial antiseptic the internal administration of eucalpytus, terpin hydrate, sodium benzoate in small doses are advisable. For the feeble heart give digitalis, spartein sulphate or caffein benzoate. For the dyspnea administer oxygen; for the collapse, friction with hot flannels wet with spirits of camphor. During convalescence give oleum morrhuæ or the following:

R. Calcii lactophos.
Calcii glycerophos. āā .....gr. iiss | 15
Aq. destil. q. s. ad.....℥iv 128

M. Sig.: One teaspoonful four times daily.

### Simple Catarrhal Conjunctivitis.

R. Acidi borici .....gr. xxx 2
Sodii chloridi .....gr. iii | 20
Aq. camphoræ .....℥i 32
Aq. destil. q. s. ad.....℥iii 96

M. Sig.: Apply to the eye every two or three hours; or

R. Zinci sulphatis .....gr. ss | 03
Sodii biboratis .....gr. iiss | 15
Aq. camphoræ .....℥ss 16
Aquæ q. s. ad .....℥i 32

M. Sig.: Two or three drops in the eyes twice or three times a day.

### Chronic Catarrhal Conjunctivitis.

Dr. Guttman, as noted in *Merck's Archives*, recommends the following:

R. Zinci sulphatis .....gr. viii | 50
Hydrarg. chloridi corros. .....gr. ss | 03
Aq. destillatæ .....℥iss 48

M. Sig.: Instill into the eye daily.

He states that in rebellious cases the lids should be touched once a day with crystallized alum; if this causes too much smarting, it may be preceded by the instillation of a few drops of a 2 per cent. solution of cocain. Should the case be very old the lids must be painted with a 2 per cent solution of zinc sulphate, followed by a good washing. In cases of marked hyperemia, eye douches are useful. The water should be at a temperature of 70 degrees F., and a little eau de Cologne added makes it more effective. The stream is directed on the closed lid two or three times daily for several minutes each time.

### Chronic Articular Rheumatism.

R. Liq. potassii arsenitis .....℥i 4
Potassii iodid .....℥iv 16
Sodii salicylatis .....℥v 20
Syrupi sarsap. compos. .....℥iss 48
Aq. menthæ pip. q. s. ad .....℥iv 128

M. Sig.: One teaspoonful in half glass of water after each meal; or:

R. Potassii iodidi .....℥ii 8
Vini colchici sem.
Tinct. opii camph. āā .....℥i 32
Tinct. stramonii .....℥iii 12
Tinct. cimicifugæ q. s. ad.....℥iv 128

M. Sig.: One teaspoonful three times a day in water.

### The Uses of Formalin.

A. C. Jordan, of London, states that the use of formalin has been abandoned to some extent on account of its irritating properties and the pain it may produce. He has found that this may be overcome to a great extent by using glycerin as a vehicle instead of water. He has used, with success, glycerin in strength of from 1 to 4 per cent. for the following conditions: 1, as an application to the throat; 2, as a mouth wash; 3, as an application to the skin; 4, as a urethral injection.

As an application to the throat in follicular tonsillitis he applies it locally with a brush, and finds that the glycerin spreads rapidly over the tonsil and into the crypts. He uses it in 2 per cent. to 4 per cent. strength as a specific in early stages of tonsillitis. The application may be attended by a little soreness lasting a few hours. In pharyngeal diphtheria he has met with good results by these applications. For the mouth a single application of a 2 per cent. solution followed by a good mouth wash is successful in stomatitis. In parasitic diseases of the skin as in tinea tonsurans (ringworm) he thoroughly cleanses the skin and carefully rubs in a 4 per cent. solution. One application is sufficient, followed by the application of zinc ointment.

### Furunculosis.

George T. Jackson, in *Med. News*, gives following treatment for boils: Attend to the general health, look for diabetes or other constitutional diseases, and give tonics. Among the remedies the following are recommended:

R. Calcii sulphidi .....gr. 1/10 | 006
Sacch. lactis q. s.

M. Sig.: One such capsule every two hours; and:

R. Syrupi hypophos. comp.....℥iii 96

Sig.: One to two teaspoonfuls three times a day.

Yeast is used a great deal in treatment of furunculosis. It can be used in doses of a wineglassful daily.

It is further stated that furuncles should never be poulticed nor squeezed. They are frequently aborted by injecting a drop or two of pure carbolic acid, applying an ointment of hydrarg. oxidum rubrum or painting with iodin. If the boil is mature thrust pure carbolic acid into its central opening with a sharp-pointed toothpick and dress with an antiseptic dressing of aristol or boric acid.

### Ichthyol in Erythema Nodosum.

A. Brownlie, in *New York Lancet*, states he has had success from the use of ichthyol in treatment of erythema nodosum, prepared as follows:

R. Ichthyoli ammon. .....3ii 8
Spts. vini rectif.
Aetheris, āā .....3iii 12

M. Sig.: Paint upon the affected part.

He states that by this application relief from the burning pain was quickly relieved. He further states that the method of preparing the paint is important. The last two preparations should first be mixed together, and then add the ichthyol.

### Treatment of Gonorrhea.

R. Hydrastinæ hydrochlor.
Zinci acetatis, āā....., gr. viii | 5
Glycerini .....℥iv 16
Aq. destil. q. s. ad.....℥iv 128

M. Sig.: Inject three or four times a day; or:

R. Ichthyoli .....℥iss 6
Glycerini .....℥i 32
Aq. destil. q. s. ad.....℥viii 256

M. Sig.: Inject four or five times a day and retain the fluid for several minutes.

### Treatment of Lupus.

Dr. L. Butte recommends that the entire field occupied be thoroughly cleansed with the following antiseptic solution:

R. Hydrarg. chloridi corros. .....gr. v | 30
Tinct. benzoini .....m. lxxv 5
Tinct. saponis .....℥iss 48
Aq. destil. .....℥vii 224

M. Sig.: Cleanse the parts thoroughly.

Then apply compresses saturated with a 2 per cent. solution of potassium permanganate for ten or twelve minutes. Repeat every day. He claims by this method to be able to effect a cure as a rule in two or three mouths. —*Merck's Archiv.*

### Removal of Powder Stains.

Dr. J. Neely Rhoads, of Philadelphia, states in *Amer. Medicine*, that he has removed with success, powder stains from the face due to firecrackers, etc., by means of the application of hydrogen peroxid. He applied it in full strength and gave it to the patient to apply at home. Within two days she called at his office with the powder marks all removed. So far, this is the only case in which he has had a chance to test the virtue of the treatment, but it behooves the general practitioner to carry this in mind until the fifth of July next, when he may have ample opportunity to test it.

# Medicolegal.

**Insanity, Commissioners of; Proof of; Charging.**—The Supreme Court of Nebraska holds, in the case of Biddle vs. Jenkins, that the commissioners of insanity of that state have cognizance not only of applications for admission to the hospital for the insane, but also for the safe-keeping otherwise of insane persons in their respective counties. An affidavit filed with the commissioners, alleging that a person resident of their county is insane, and his being at large is dangerous to the community, confers jurisdiction upon the board to act. But insanity, the court holds, can not be established by proof of the reputation of the person so charged. Moreover, in an action against the person making such an affidavit for false imprisonment and malicious prosecution, the court holds that the advice of counsel with regard to making the charge contained in the affidavit, to be of any avail as a defense, must have been given after a full and fair statement of all the facts within the knowledge of the person seeking the same and making the affidavit, and must have been relied upon in good faith.

**Commitment to Insane Asylum without Notice.**—Mr. Justice Marean holds, at a special term of the Supreme Court of New York, Kings County, in the habeas corpus case of People ex rel. Sullivan vs. Wendel, that a person finally adjudged insane, and committed to perpetual restraint, without notice or hearing, is deprived of his liberty without due process of law, and that the insanity law of that state, so far as it permits this, is in violation of the constitution. He says that when one has been duly adjudged insane—when his status as an insane person has been duly established—personal notice, or notice of proceedings affecting his interest, may be dispensed with, if it appears that such service would be prejudicial to his mental condition. But, for the protection of those who are sane, it ought not to be tolerated that any person should be adjudged insane, and finally committed, without either notice or actual hearing. It is doubtful, also, he holds, if the commitment of an alleged incompetent to the custody of her sister, even if it were valid, warranted her transfer to the hospital by the commission. The statute only permits transfers from one hospital to another.

**Use of Preservative in Butter.**—The first appellate division of the Supreme Court of New York holds unconstitutional, in the case of People vs. Biesecker, a statute of that state, which, without a suggestion, so far as the statute itself is concerned, either in the title or in the body of the act, that its purpose is to protect the health of the people or to prevent fraud being practiced upon them, prohibits the sale of any butter or other dairy products containing a preservative, except salt in butter and cheese, etc., and prohibits the sale or advertising for sale of any substance for use in violation of this provision. It says that if the legislature had the power to thus prohibit the use of a substance, no matter how valuable it might be, or the extent of its utility, then it could prohibit the use of any preservative in butter, milk, or cheese. It is thought by not a few people, it goes on to say, that salt not only preserves, but actually adds to the quality of, butter; and it may not be entirely optimistic to assert that, with our increased knowledge, another substance may yet be discovered which will preserve and add to the quality of butter even to a greater extent than salt does, and if such substance should be discovered, and it were not prejudicial to the public health, no one would seriously contend that the legislature could prohibit its sale or use.

**Theory of Dying Declarations.**—The Supreme Court of Florida says, in the case of Richard vs. State, that the dying declaration of a person mortally wounded in reference to the circumstances which caused death, in cases where the death of the declarant is the subject of investigation, are admissible in evidence when the declarant is in extremity, believes death is imminent, and he is without any hope of recovery. When the party is in extremity, all hope of this world gone, every motive of falsehood silenced, and the mind induced by the most powerful considerations to speak the truth, the situation is so solemn and so awful as to be considered by the law as creating an obligation equal to that of an oath administered in court. But the circumstances under which such statements are made must be shown, in order that the court may determine whether the declarations should be considered by the jury. The fact that dying declarations are made in response to questions asked the declarant is no ground for excluding them; nor is it material, as to their admissibility, that the questions are omitted, and the answers only given, when they are reduced to writing, read over, and signed by the declarant. Neither is it material that the attending physicians try to encourage him by telling him that his wounds are not serious, when his reply shows that he has no hope of recovery, as where one was so firm of the belief that he was going to die that he instantly told the doctor, who tried to encourage him, that he would die.

**Liability of County for Service in Smallpox Case.**—The Court of Chancery Appeals of Tennessee holds, in the case of Allen vs. Dekalb County, that the act of that state of 1885 does not restrict the county board of health to action only during the existence of an epidemic, but authorizes and requires it to act whenever cholera, yellow fever, or other contagious and epidemic diseases are either threatened or exist in its county. It does not wish to be understood as holding that the existence of a single case of smallpox in a county constitutes an epidemic in that county. But it is clear, it says, that smallpox is one of the diseases mentioned in the act as contagious or epidemic diseases. It belongs to that class of diseases which, unless restricted and prevented by vigorous measures, becomes epidemic, and it was to prevent the spread of just such diseases that the act of 1885 was passed. It considers, too, that it may take judicial knowledge of the fact that in cases of smallpox a strict and rigid quarantine of the persons affected or exposed is always required. Wherefore, although it does not find any power imposed upon the county judge by law to appoint a county health officer or jail physician during the temporary absence of that official, it holds that the employment at such a time by the county board of health of a physician to attend a suspected case of smallpox and take measures to prevent the spread of smallpox from the patient is both proper and necessary. Moreover, it being provided by the act that all necessary expenses incurred by the board of health in preventing or restricting such epidemic diseases shall be made a county charge, the county court being directed to order their payment, this, the court holds, fixes upon the county a liability for all reasonable expenses and charges incurred in such a case as that just stated, including liability for the services of the physician temporarily employed by the board of health. Nor does it consider that it would make any difference that he was a partner of the regular county health officer and had agreed with the latter to do the county business during the latter's absence. Private agreements, the court declares, can not be recognized as substituting one individual, who has not been duly elected and chosen for a public officer, for another, who has. Besides, even conceding—what it does not think can be—that the physician appointed in this emergency was either *de facto* or *de jure* at that time county jail physician or health officer, the court says that the law imposes no such duties upon that official as he was called upon to discharge in this case. So the court takes it that, if the county jail physician or health officer should be required to give his time and attention during an epidemic of yellow fever, cholera, smallpox, or the like, to the suppression of the disease, he would be entitled to compensation for such time and attention aside from his salary fixed by the county court as compensation to him for services rendered as county jail physician. Nor is the county court given any power to adjudicate or pass upon the merits and amount of any such claim in a final and conclusive way. Neither does the law require the exact amount of the physician's compensation in such a case as this shall be agreed upon beforehand. Last of all, the court holds $500 a low and reasonable charge for the services rendered in this case, the physician having given 30 days' time, and, besides treating the case of smallpox, rendered most efficient services in respect to quarantine and disinfection and lost at least $266 in his

practice, and some patients permanently, besides which nine reputable physicians fixed the compensation, on the facts presented, at $500.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## Boston Medical and Surgical Journal, April 11.

1 Review of the Literature of the Therapeutic Use of the X-rays. Harvey P. Towle.
2 *Pathology of the Newborn as Illustrated in the Practice of the Writer. Frederic W. Taylor.
3 *Oblique Subtrochanteric Osteotomy, for the Lengthening of the Femur, and Correction of the Deformity of Flexion Resulting from Hip-Joint Disease. E. G. Abbott.
4 A Case of Chin Left Posterior. H. G. Swain.

## New York Medical Journal, April 13.

5 *German Text-books Half a Century Ago; History and Reminiscences. A. Jacobi.
6 A Shielded Piston Syringe for Urethral and Vesical Irrigation. J. Riley Eastman.
7 *Correction of the Deviations of the Nasal Septum, with Special References to the Use of the Author's Fenestrated Comminuting Forceps. John O. Roe.
8 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.
9 *The Preponderance of Male Stammerers Over Females. David Greene.
10 Management of Gonorrhea. Boleslaw Lapowski.

## Philadelphia Medical Journal, April 13.

11 *Ligation of the Carotid Artery as an Operation Preliminary to Resection of the Superior Maxilla. Carl Schlatter.
12 *Thoughts on the Treatment of Diabetes Mellitus, being Part of a Clinical Lecture Delivered at the Philadelphia Hospital, March 13, 1901. James Tyson.
13 *Medical Relations of the Prevailing Forms of Food Adulteration. Henry Leffmann.
14 Ruptured Traumatic Aneurysm of the Femoral Artery Due to Gunshot Wound; with Report of a Case. Wallace Neff.
15 *Multiple Tumors of the Sciatic Nerve. John B. Roberts.
16 Venous Angioma of the Flexor Muscles of the Fingers. John B. Roberts.
17 Diabetes Mellitus as a Cellular Fault. Thomas C. Ely.

## Medical News (N. Y.), April 13.

18 *Immediate and Remote Results in One Hundred Conservative Operations on the Ovaries and Tubes; with Brief Reports of Four Cases. W. L. Burrage.
19 *Tropacocain Hydrochlorate—A Substitute for Cocain Hydrochlorate in Spinal Anesthesia. Willy Meyer.
20 *Study of Cases Presenting Symptoms of Astheuopia and Anomalies of the Ocular Muscles in Which Ablation of the Middle Turbinal Was Effective Treatment. Heber Nelson Hoople.
21 *Acute Traumatic Malignancy. William B. Coley.
22 The Akouphone and Its Limitations. J. A. Kenefick.
23 Perforating Gunshot Wound of the Chest with Fracture of Both Bones of the Left Leg and Lacerated Wound of the Right Thigh: Recovery. Victor Cox Pedersen.

## Medical Record (N. Y.), April13.

24 *Remarks on Enteroptosis. Max Einhorn.
25 Small Hospitals and their Administration. Louis N. Lanehart.
26 *X-Ray Photography. Eugene R. Corson.
27 Some Facts of Responsibility in Spirit and Drug Takers. T. D. Crothers.
28 An Unusual Case of Partial Recovery from Embolism of the Arteria Centralis Retinæ. Edgar S. Thompson.

## Cincinnati Lancet-Clinic, April 13.

29 *Acute Lobar Pneumonia. Charles F. Hope.
30 Tobacco and Tobacco Amaurosis. A. N. Ellis.

## St. Louis Medical Review, April 13.

31 *Gonococci in Gonorrheal Secretions. A. Ravogli.
32 Gonococcus Infection in an Infant: Metastatic Joint Abscesses. W. L. Johnson.
33 Review of MacNaughton-Jones' Practical Manual of Diseases of Women and Uterine Therapeutics for Students and Practitioners. Mary Dixon-Jones.

## American Medicine (Philadelphia), April 13.

34 *The Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. (Concluded.) Wm. Osler.
35 *Gastrojejunostomy in Gastrectasis. A. H. Cordier.
36 *The Mortality of Operations for Obstructive Jaundice. John B. Deaver. (Concluded.)
37 *Phelps Operation for Club-foot, with a Report of 1650 Operations. (Concluded.) A. M. Phelps.
38 An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. H. A. Hare.
39 *Indications and Limitations of the Vaginal Operation in Pelvic Diseases in Woman. J. Riddle Goffe.
40 Deep Breathing as a Curative and Preventive Measure. John H. Pryor.
41 "The Most Useful Citizen": A Study of Human Dynamics. F. W. Langdon.
42 Dust as a Factor in Diseases of the Upper Respiratory Passages. W. Scheppegrell.
43 Duty of the Public to the Medical Profession. Andrew H. Smith.

## Medical Age (Detroit, Mich.), March 25.

44 Diseases in Schools, and Medical Inspection. E. V. Silver.
45 *Municipal Prevention of Disease. Heman Spalding.
46 *Immunity as a Factor in Prevention of Disease. Adolph Gehrmann.

## Medical Fortnightly (St. Louis), April 10.

47 Urine Semeiology. Dr. Charrin.
48 *Insanity of Puberty. Frank Parsons Norbury.

## Pediatrics (N. Y.), April 1.

49 *The Value of Alcohol in the Acute Infectious Diseases of Children. Augustus E. Bieser.
50 *Acute Articular Rheumatism in Children. Frank C. Simpson.

## New York State Journal of Medicine (N. Y.), April.

51 *Surgical Management of Umbilical Hernia with Large Ring. E. D. Ferguson.
52 *On the Analogy Between Nervous Conductibility and Electric Conductibility, and their Relation to the Functional Neuroses. A. D. Rockwell.
53 *Management of Normal Labor, Including the Use of Forceps. Austin Flint, Jr.
54 What Determines the Real Value of Medical Papers? Louis C. Agar.

## Ophthalmic Record (Chicago), March.

55 A Contribution to the Study of Injuries to the Eye. A. Levy.
56 A Case of Subacute Retro-bulbar Optic Neuritis First in the Left Eye, Later in the Right Eye. Edward Swasey.
57 A Case of Inflammatory Glaucoma Presenting Unusual Features. S. D. Risley.
58 Jeweler's Loupe for Examining the Eye—Mirror Monocle. Geo. F. Keiper.
59 A Case of Left Homonymous Hemianopsia, Probably Hysterical. M. W. Zimmerman.

## Bulletin of the Johns Hopkins Hospital (Baltimore), March.

60 The Genesis of Carcinoma of the Fallopian Tube in Hyperplastic Salpingitis, with Report of a Case and a Table of Twenty-one Reported Cases. E. R. LeCount.
61 Report upon a Case of Gonorrheal Endocarditis in a Patient Dying in the Puerperium, with Reference to Two Recent Suspected Cases. Norman MacLeod Harris.
62 *An Experimental Study Concerning the Relation Which the Prostate Gland Bears to the Fecundative Power of the Spermatic Fluid. George Walker.
63 Further Observations on Epinephrin. John J. Abel.

## Physician and Surgeon (Detroit and Ann Arbor), February.

64 A Half Century's Progress in Medical Jurisprudence. Frank T. Lodge.
65 The Etiologic Factor. Charles G. Jennings.

SYMPOSIUM ON PNEUMONIA.

66 Symptomatology and Diagnosis. George E. McKean.
67 The Morbid Anatomy. Edmund A. Chapoton.
68 The Treatment. Ernest L. Shurly.
69 Full-Term Ectopic Pregnancy, with Reports of Two Cases. James G. Lynds.
70 Antiseptic and Antipyretic Treatment of Typhoid Fever. Fred Grover.
71 Goiter and its Treatment. H. Wellington Yates.
72 Relation of Municipal Laboratories to the Control of Tuberculosis. Augustus W. Crane.
73 The Detroit Academy of Medicine. Albert B. Lyon.
74 Some Views of Curettement of the Uterus from the Standpoint of a General Practitioner. Elmer D. Gardner.

## Annals of Gynecology and Pediatry (Boston), April.

75 *Fibroid Tumors of the Uterus, Their Relation to Diseased Adnexa. Origin of Fibroid Tumors. When is the Proper Time for their Removal? Mary Dixon Jones.
76 *Facts and Suggestions Pertaining to Diphtheria. James H. Taylor.
77 *Suppurative Mastitis in the Newly-Born. Emery Marvel.
78 Etiology of Uterine Hemorrhage. George W. Kaan.
79 Treatment of Uterine Hemorrhage. Francis H. Davenport.
80 *A Case of Septic Rheumatism of Tonsilar Origin. Carolus M. Cobb.
81 *Two Cases of Jacksonian Epilepsy. John D. Target.

## Medical Bulletin (Philadelphia), April.

82 Scabies—Tinea Versicolor—Impetigo Contagiosa. J. V. Shoemaker.
83 Caroid in Maldigestion of Infants. Arthur W. Condict.

84 A Case of Sneezing. Dr. Masse.
85 Hemorrhagic Affections of the Skin. George A. Hewitt.

Toledo Medical and Surgical Reporter, April.

86 Report of Surgical Cases (Excision of Elbow, etc.). W. H. Fisher.
87 Value of X-Ray to the General Practitioner. S. W. Beckwith.
88 Pathological Examination of the Eye. Frank Jacobi.

Fort Wayne Medical Journal-Magazine, March.

89 *The Role of the Kidney in the Production of the Toxemias of Pregnancy. B. Van Sweringen.

International Journal of Surgery (N. Y.), April.

90 Regional Minor Surgery. George G. Van Schaick.
91 Traumatic Gangrene. J. B. Murfree.
92 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
93 Practical Suggestions upon the Treatment of Rectal Diseases. (Continued.) James P. Tuttle.
94 Details in the Preparation of Patients for Operation Outside of Hospitals. Lewis W. Rose.
95 Complete Sloughing of Both Nipples. J. A. Wessinger.
96 Diabetes, Why it May Follow Head Injuries. A Successful Method of Treatment. John B. Hawes.
97 Local Anesthesia Without Risk of Danger. E. R. Rasely.
98 A New Operation for Anal Fistula. R. D. Fairex.
99 Acute Tetanus. W. R. Cummings.

Oklahoma Medical Journal (Guthrie), March.

100 Epileptic Convulsions. H. M. Fagaines.
101 Neurasthenia. A. DeBord Young.

American Gynecological and Obstetrical Journal (N. Y.), March.

102 *Pus in the Peritoneal Cavity. Robert T. Morris.
103 *The Complications of Gonorrhea in Women and their Prophylactic Treatment. Joseph Taber Johnson.
104 *Organotherapy in Gynecology. Wilmer Krusen.
105 Pregnancy in Uterus Bicornis. George H. Noble.
106 *Operative Treatment of Cancer of the Uterus. E. E. Montgomery.
107 Anne Murray, the First Trained Nurse. Ely Van De Warker.

Columbus Medical Journal, March.

108 Points in Cellular Pathology. D. N. Kinsman.
109 Bronchitis and Broncho-pneumonia; Pathological Anatomy. D. N. Kinsman.
110 Bronchitis and Broncho-pneumonia. Diagnosis and Symptomatology. John L. Gordon, Jr.
111 Bronchitis and Broncho-pneumonia. Treatment. M. T. Dixon.
112 Bronchitis and Broncho-pneumonia. Treatment in Children. J. C. Lawrence.
113 Bronchitis and Broncho-pneumonia Complicating Surgical Operations. F. F. Lawrence.
114 Report of a Case of Ischio-scrotal Eczema Madidans Rubrum. N. E. Aronstam.
115 Heredity. L. Woodruff.

Laryngoscope (St. Louis), March.

116 *Papilloma of the Larynx. Francis J. Quinlan.
117 *On Nasal Suppuration. Z. L. Leonard.
118 Case of Congenital Web in Larynx. Albert B. McKee.
119 *Observations on the Pathology of the Pharyngeal Tonsil and its Operative Removal. H. Gradle.
120 Resorcin as a Preservative for Suprarenal Extract Solution. Seymour Oppenheimer.

Medical Standard (Chicago), April.

121 Drug Habits and their Treatment. T. D. Crothers.
122 A Surgical Ear and Nose Clinic. Wm. L. Ballenger.
123 The Etiology of Appendicitis. A. J. Ochsner.
124 Administration of Anesthetics. A. A. Kerr.
125 Typhoid Fever; its Complications and Sequelæ. J. T. Moore.
126 Tinea Versicolor. N. E. Aronstam.
127 Typhoid Fever, Complicated by Suppurating Ovarian Dermoid Cyst. E. J. Kemp.

Kansas City Medical Index-Lancet, April.

128 Gunshot Wounds of the Chest, with Report of a Case. J. Herbert Austin.
129 Cerebrospinal Meningitis. John Punton.
130 Fibroma Molluscum. Wilmot C. Willets.

Hot Springs Medical Journal, March.

131 Autointoxication from Renal Insufficiency With and Without Diseased Kidneys: with Report of Some Remarkable Cases. James T. Jelks.

Medical Times (N. Y.), April.

132 Treatment of Urethritis in the Male. James Pedersen.
133 Five Years' Experience with the Antiseptic Treatment of Typhoid Fever. J. A. Crook.
134 Nasal Diseases and their Differential Diagnosis. David H. Stevenson.
135 Case of Choledochotomy of Impacted Stones. Howard Lilienthal.

Atlanta Journal-Record of Medicine, April.

136 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.
137 Saline Transfusion, Hemorrhage and Shock. J. L. Campbell.

## AMERICAN.

2. **Pathology of New-Born.**—Taylor makes a general statement of the pathologic conditions observed in an experience of 654 births, there were 23 still-births, 22 cases in which death occurred shortly after birth, and 10 where respiration was delayed. Besides these there were two cases of deformity, 3 of ophthalmia, 2 of melena, 2 of fractured clavicle—1 also included under melena—1 of depressed skull and 1 of facial paralysis, making a total of 64 or about 10 per cent. abnormalities at birth or during the first few weeks of life. The details are given at length. Of the children born alive, who died, 8 showed no cause of death except a lack of vitality, 6 were premature, and in 1 case the cause of death was difficult to explain, excepting the suggestion that it was smothered accidentally three days after birth.

3. **Oblique Subtrochanteric Osteotomy.**—The author thinks his method has an advantage in obviating the use of such powerful force and the destruction of so much soft tissue as is done in the method employed by German surgeons, Hoffa, Lauenstein and others, which they consider is an advantage over Gant's operation. In the patient whose case is reported the site of the operation was prepared in the usual manner and the patient placed on the side with large sand bags between the thighs, against the perineum. The osteotome, which was of the same width as the bone, was entered through the skin and underlying tissue upon the femur, about 4 in. below the upper border of the trochanter major, where it was firmly held at an angle of 30 degrees. It was then driven in the bone as far as the inner compact tissue, when it was exchanged for a narrower one and the division continued well into this, then withdrawn and the section completed by fracture. The leg was placed in the corrected position and dressed. After the patient was put back in bed a Buck's extension was applied with side plasters reaching to the fracture. A side splint from the axilla to the foot was loosely bandaged to the body, and weights applied on the end of the extension and gradually increased. The muscles relaxed in thirty-six hours, when the length and position were regulated and the splint firmly applied, retaining the leg in the corrected position. Measurements were frequently made to ascertain the condition, and at the end of the eighth week the apparatus was removed and the patient allowed to move around in bed. At the beginning of the tenth week crutches were given and free exercises permitted. The femur was lengthened 1.5 inches by actual measurement and the flexion was completely corrected as the adhesions were broken up by the operation, allowing movements of 15 degrees. Recovery was uninterrupted, union being firm in eighth week. The patient now walks easily with the heel of the shoe raised three-quarters of an inch on the inside. The points which Abbott considers of special importance are the making of a radiograph to determine the size of the femur, the exact location of the osteotome, the width of the osteotome and the angle at which it has been held, both to be governed by the size of the femur. The amount of weight required with different patients varies and must be gradually increased until results are obtained, when it may be lessened and held by side splints.

5. **German Text-Books.**—Jacobi's article is an interesting series of reminiscences of German teachers and German medical instructions fifty or sixty years back.

7. **Septal Deviations.**—The conditions of septal deviations are described as to their frequency, and the author's method given, with a description of his instruments, consisting of forceps with one blade fenestrated, the other fitting in the opening, by which a portion of the septum is crushed and thereby straightened. Roe claims that it gives a special facility for fracturing the osseous and osseocartilaginous portions without incising or even lacerating the soft parts, and that wrinkles and curves can be readily removed without other operative measures excepting the removal of spurs and ridges.

Dislocation of cartilage or bones can be reduced, and it avoids producing strain on the other portions of the septum than those immediately operated on, thus avoiding the danger of disturbing its upper attachments, and by complete removal of the elasticity of the attachments of deflected parts, it facilitates more ready adjustment of the septum to its normal position and diminishes the length of time that the support is required.

9. **Stammering.**—Greene shows the predominance of males over females with this infirmity and believes that the cause of this diversity is largely in faulty inspiration. The tendency to misdirected effort in the diaphragm is the most prolific cause of stammering among men, but is rarely found among women. In males quiet respiration is effected almost exclusively by the activity of the diaphragm, but in speaking some considerable emptying of the air in the lungs must take place, and this can only be affected by combined diaphragmatic and costal breathing. In females he says costal breathing is the habitual mode of respiration, hence, their lungs are generally well supplied with the amount of air necessary. The number of cases in his table in which stammering was caused by mismanagement of the voice in males was 82 or 35.8 per cent., while in the females it was 24 or 88 per cent. of the total number of cases. Instead of setting the vocal cords into vibratory motion by means of the expiratory current, the stammerer of this class makes a futile attempt to produce these vibrations by the muscles of the larynx, and every time the attempt is made to pronounce a word beginning with a vowel or vocal consonant, a noise is produced much like the bleating of a sheep. It is natural that this tendency to throw too much energy into the muscles of the larynx as a substitute for expiratory force should be more common among females than among males. The average respiratory force of the female is considerably lower than that of the male. As regards the treatment, he thinks the cases due to faulty inspiration are much more hopeful. The patient can be taught to educate his breathing and control his costal muscles by gymnastics. The organ of voice, however, is not so easily brought into control. Hence the stammering of females showing itself in spasms of the vocal cords usually proves very obstinate.

11. **Carotid Ligation in Section of the Superior Maxilla.**—From a general consideration of the subject, his own experience and the facts as given in the literature, Schlatter summarizes, in substance, as follows: 1. Preliminary ligature markedly diminishes the hemorrhage as well as danger from blood aspiration. 2. It is highly recommendable in all anemic individuals, those of lowered vitality from cachexia and hemorrhages, provided there is no vascular disease, especially arteriosclerosis. Exposing the bifurcation of the carotid in advanced cases is itself indicated for the purpose of extirpating the lymphatic glands which are generally the first attacked by the metastasis. 3. In by far the most cases of ligation of the external carotid it should be a permanent ligation. Conducted antiseptically the operation is not dangerous. The ligature can be applied by enlarging above the incision which has been made for exposing the bifurcation. 4. In exceptional cases it becomes imperative to ligate the common carotid, which if done temporarily seems to be less dangerous than a permanent ligation. He reports three cases in detail and remarks in conclusion in regard to the prosthetic dentistry in his case of double resection of the upper jaw.

12. **Diabetes Mellitus.**—Tyson thinks the prominence assigned to excessive glucose formation in this disease has been too great. The presumption is, he thinks, not that it is produced in greater quantity but that its metabolism is in some way diminished. He asks, should we not direct our therapeutics to measures to aid in this metabolism and give remedies that will increase the oxidation of glucose thrown into the blood from the liver. Of such he mentions arsenic, which he thinks is useful at least in the mild cases. The dose should not exceed 3 drops three times a day, of Fowler's solution, or 1/30 grain as often of arsenious acid. Other remedies mentioned are iron, massage and exercise. The close connection between this disorder of metabolism and the nervous system is also mentioned, and he suggests that the effects of opium derivatives and coal-tar products may be due to their influence on the nervous mechanism of metabolism of glucose in the dorsal capillaries. Pancreatic diabetes, he thinks, is also a condition which can be reconciled with this theory. There is a possibility that the pancreas gives out a secretion under normal conditions, the presence of which is necessary for the proper metabolism of glucose.

13. **Food Adulteration.**—Several criticisms are made by Leffmann, of the common statements in regard to food adulteration, especially some that have been recently given out in a prominent newspaper. He thinks that Congress would never have taken the trouble to look after some of these adulterations if it had not been necessitated for war tax purposes. Among the criticisms he makes are those on the statement that glucose is a harmless food. He asks what we know about the commercial glucose. There is certainly 15 per cent. of unfermentable material which is very little understood either chemically or physiologically. The recent experience of England with invert-sugar in the manufacture of beer is noted as illustrating the point and showing that glucose is not necessarily a wholesome product. Butter substitutes are also mentioned, and he thinks that the benefit derived from these do not reach the poor man as he gets oleomargarin at about the same prices as the pure article. In regard to baking-powders, he says there is no satisfactory proof brought forward to show why alum is any more injurious than cream of tartar. The probability is that both are injurious. The legislation in regard to butter coloring has also its surprising features. Experiments have been made to show that colorings are injurious, but the tests are of no special value. To give a person in one dose as much coloring matter as would be sufficient to color all the butter he eats in six months is about as scientific as would be the same experiment with tea, coffee or pepper. It is worth noting, he also remarks, that farmers' influence in many states has managed to secure the prohibition of coloring oleomargarin while not interfering with butter coloring.

15.—See abstract in THE JOURNAL of March 23, p. 835.

18. **Conservative Operations on the Ovaries and Tubes.**—Burrage's experience covers 156 cases, 100 of which have been under observation for at least one year after operation: 3 patients died from the operation, which were accountable for by special conditions. The greatest interest is in the late results of the preservation of ovaries and tubal tissue. In a few instances, while he has left the ovary or part of an ovary in cases of hysterectomy, the symptoms of an artificially induced menopause seem to be lessened. In about 73 per cent. of his cases there was symptomatic cure. The anatomical cure, that is ovaries and tubes normal and well placed, was noted in 44 out of 69 cases, or 64 per cent. Some enlargement or prolapse of ovaries was found in the remaining 25 cases. Pregnancy followed operation in 19 cases, in none, however, after resection of a closed tube, the tubes being closed at the time of operation. As bearing on the question of resected ovary becoming diseased at some future time, he refers to a former article in which out of 85 cases in only one was another operation necessary. Four cases are reported. In one pregnancy occurred twice after removal of both tubes and one ovary for tubal mole, chronic salpingitis, and cyst of the ovary. We have to assume in this case that an opening became established on one side or the other between the catgut stitches so that the uterine cavity was connected with the peritoneal cavity, where the remaining ovary was located, and without intervention of the tubes.

19. **Tropacocain Hydrochlorate.**—Meyer reports his experience with this drug, which he finds is less than one-half as toxic as cocain, in producing spinal analgesia. It has a less distressing action on the heart and recovery from its effects is much more rapid. It has also a further advantage of being far more stable in solution than cocain hydrochlorate. He will hereafter, he says, have the solution made as follows:

| | | |
|---|---|---|
| R. | Tropacocain hydrochlorate ..... gr. ¼ | .015 |
| | Sodium chlorid ..... gr. i | .06 |
| | Distilled water ..... grs. cix | 10 |

Each ten minims of this solution contains 1 centigram (1/6 gr. of the salt); fifty minims, therefore, contain 0.05, the generally required dose. He is so satisfied with the results that he shall continue to use spinal anesthesia in urinary surgery and in fact wherever the indication is present.

20. **Asthenopia from Nasal Disease.**—Hoople reports cases of ablation of the middle turbinal for ocular anomalies, asthenopia and muscle defects, and he thinks a larger proportion of such cases are due to nasal disturbances than has generally been supposed.

21. **Acute Traumatic Malignancy.**—In an earlier article Coley had called attention to the fact that in many cases with sarcoma there was a history of anteeedent injury, and had endeavored to show the important etiologic relationship between it and the disease. Further study has confirmed his decision and he deduces the following main conclusions: 1. Trauma is a very important factor in the causation of malignant tumors. 2. This relationship between injury and malignant tumors furnishes additional and by no means unimportant evidence in support of the infectious origin of such tumors. The paper reports a number of cases.

24. **Enteroptosis.**—After defining the disease, Einhorn discusses its etiology. The corset and the weakened condition of the abdominal wall appear to be the most important primary factors. Although in many cases this last condition is congenital, there are some in which this is not the case; enteroptosis may develop, for instance, after sudden or great loss of flesh and after abrupt changes in the volume of the abdominal cavity. Movable kidney is usually present and may be taken as an index of the occurrence of the condition. Einhorn corroborates Glenard's statements as to the frequency of enteroptosis. Of 1912 cases of gastric diseases during the year 1900, 347 were of abdominal ptosis, 70 in men, 277 in women; 240 of these were cases of enteroptosis, 20 in men, and 220 in women, and 212 of the 240 were accompanied by movable kidney. The symptoms are reviewed and discussed. He considers the splashing sound the easiest and best method of determining gastric ptosis; owing to the area over which it can be produced, it will indicate the position of the organ. He mentions, among other things, Glenard's belt test: The physician, standing behind the patient, encircles the lower part of the abdomen of the latter with both of his hands, supporting and partially lifting it. If this gives relief it speaks in favor of the presence of enteroptosis. Treatment in most cases consists in the employment of a well fitting abdominal support, together with ample nutrition and exercise. Massage is of value only in mild cases or in very anemic patients, not in the advanced stage of the condition. Intragastric application of electricity is useful in functional disturbances of the stomach. Among the drugs, iron and arsenic are often indicated in anemic conditions, while the bromids may be given to allay great nervousness. The digestive disturbances and constipation must be looked after.

26. **X-Ray Photography.**—Corson gives his experience with this method. He finds that a spark alone is no index of x-ray efficiency. In the coil manufacture, after a certain length of spark has been obtained every effort should be toward increasing the amperage to the limits of the tubes; a ten or twelve inch spark is quite enough if a fat or multiplied one. He does not have much faith in the static machine, because it gives a thin spark, all tension, no quantity. The effects are very much inferior to those of a good coil. A change from a coil giving a thin ten-inch spark to a coil giving a very fat and multiplied spark of ten inches produces startling differences in photographic results, giving a negative of brilliant and fine detail. The difference is the amount of current going through the tube. The time of exposure and developing were both shortened. In his work he has endeavored to bring out the bones on a white background, taking out the flesh and superficial details. If there is anything to be left to the imagination let it be the superficial and not the bony parts; it is the bones we are after. He secures absolute immobility by binding the part firmly to the plate and by placing a heavy weight on the limb to prevent any movement even from the arterial pulsation. This can be done in a way as comfortable as possible to the patient. The article contains also details as to exposure, developers, etc.

29. **Pneumonia.**—The various methods of the treatment of pneumonia in the past, the etiology, symptoms, and prognosis are discussed by Hope, who points out its increasing fatality in recent times. He advises the use of guaiacol carbonate and creosotal free, and as an auxiliary or substitute treatment, large doses of sodium salicylate and large doses of strychnia especially where exhaustion of cardiac weakness exists. Alcoholic stimulants are often of the greatest importance and in the pneumonia of drunkards, a *sine qua non*. Give as little medicine as will meet the indications so as to avoid gastric trouble. Hot applications are usually better than cold, but wet or dry heat, hot-water packs, sinapisms, or turpentine stupes are all available measures. In some cases tincture of iodin painting of the chest may be done and dry cupping relieves the obstinate pleuritic pains. The nourishment should be bland, digestible and mainly fluid. The patient should be kept at rest in bed until there is resolution of the stomach. Perfect ventilation is necessary. Convalescence should be carefully guarded and tonic medication given as needed.

31. **Gonococcus.**—Ravogli describes the gonococcus as it is found in pathologic conditions. He thinks that marriage should never be permitted or advised while the gonococcus is present, nor even after it has disappeared, unless we are fully satisfied that there are no more pus corpuseles in the secretion and in the shreds.

34. **Carcinoma of the Breast.**—Osler describes and discusses causes of mammary carcinoma according to the associated manifestations, cerebrospinal, thoracic and abdominal. Fourteen cases altogether are reported. He points out the importance of looking for carcinoma in cases of painful paraplegia and nerve-root pains. In two of the cases reported, with cerebrospinal symptoms, spontaneous disappearance or improvement of symptoms, and in one of them, of growths took place. Reference is made to other similar cases in the literature.

35. **Gastrojejunostomy in Gastrectasis.**—Two cases are reported by Cordier, who offers the following conclusions: 1. Carcinoma of the pylorus, even though removed, returns quickly and always kills. Pylorectomy is attended by a high mortality and is not justified in advanced cases. Gastrectasis due to malignant closure of the pylorus is best treated by a gastrojejunostomy. Wolfler's or Von Hacker's methods meet indications best. 2. It is not necessary to twist the bowel in making the anastomosis, to prevent bile entering the stomach. 3. The anastomotic opening in the stomach should be at the most dependent point. The mortality of the operation is low. In all cases with marked gastric dilatation, with pain, emaciation and invalidity, gastrojejunostomy is indicated. The relief of pain due to efforts of the stomach to empty itself is immediate. The patient gains in weight and if the disease is non malignant he is restored to health. Tabulated statements of results of American and European operators are given.

36.—See abstract in The Journal of March 23, p. 836.

37. **Club-Foot.**—The conclusions of Phelps' very fully illustrated article are, in substance: All feet with shortened skin and ligaments, at any age after the fourth month, should be operated on; very prolonged medical treatment for months or years in any case is wrong. While he admits that many cases can be benefited or cured, the best and easiest way is to operate. The operation is not complete until the foot is placed in the supercorrected position flexed upon the leg and the heel prominent so that it strikes the ground, in walking, before the anterior segment of the foot. Then it takes the weight of the body so as to turn itself still further outward and thus prevent relapsing. Club-foot shoes he discards. By manipulation the foot is carried to the proper position and flexed there by plasters or plaster cast. The treatment just begins after the

operation is complete. Osteoclasis should be performed in all cases of inward twist of the tibia, or a relapse may be looked for. Bone operations should never be performed primarily. Open incision should supplement all cases of subcutaneous tenotomy when it fails to correct. Short tendons should be cut, not stretched, for prolonged stretching deforms the entire tarsus. Cure occurs only when the heel strikes first in walking and when new facets are formed on tarsal bones. Pirogoff's operation was required in one-fourth of 1 per cent. of his cases. Open incision should never be made unless the skin resists and will not stretch enough to allow supercorrection and proper unfolding of the foot. The weight of the body falling upon any club-foot shoe or brace nullifies the action of the apparatus. For this reason Adams treated one foot at a time with his apparatus, using crutches till the foot was cured.

39. **The Vaginal Operation.**—Goffe considers the vaginal operation preferable in uterine cancer, in fibroids not so large as to simulate the fourth or fifth month of pregnancy and in salpingitis and ovarian abscess. He uses the angiotribe exclusively in these cases. It is, he thinks, the ideal route in operating for uterine displacements by opening through the anterior fornix, breaking up adhesions, delivering first the uterus and then the appendages into the vagina, performing such conservative work as is required to preserve the function of the ovaries or ovary, and finally curing the displacement by shortening the round ligaments. He has treated some seventy cases this way and pronounces it the ideal operation, doing all the good that the Alexander operation or abdominal suspension can do, and free from their objections.

45.—See abstract in THE JOURNAL of March 16, p. 757.

46.—Ibid.

48. **Pubescent Insanity.**—The points made by Norbury are that hereditary taint in these cases should always be looked for and should include a search for not merely insanity but any other nervous disease or neurotic condition. He calls attention to the special problems which occur during the developmental period in youth, and remarks that in the average cases of insanity of puberty nutrition is at fault and the strain on the system increases in consequence. In most of these cases there is anemia. A study of the blood, estimation of hemoglobinuria and counting of red cells is important, and the nutrition can not be too carefully watched. The diet should be such as is given in neurasthenic cases, and the bowels carefully regulated to prevent autointoxication. Tonics are of more value than sedatives.

49. **Alcohol.**—Bieser thinks that in certain conditions alcohol in called for, as in diseases of children with persistence of high temperature, rapid irregular dicrotic pulse, and marked prostration. He thinks there is hardly any single drug which so well meets the demands of nutrition where tissue makers must be excluded from the dietary. As a saver of nitrogenous waste its effects are of the most benefit. It also reduces fever and keeps the vital function of animal heat production at its proper place, thus aiding Nature, especially the infectious diseases where it is due to diminished elimination of heat rather than to increased production. It also correlates energy by keeping the pulse and respiration ratio normal and assisting the vital functions. In diphtheria, especially in septic nasopharyngeal cases, he thinks it is especially valuable in conjunction with iron and mercury, sepsis and bronchial pneumonia being the diseases which more than any others give evidence of symptoms which demand not merely an alcoholic stimulant but an alcoholic support.

50. **Rheumatism in Children.**—Rheumatism, according to Simpson, is an infectious disease. He has never seen a case in children that did not begin with an attack of indigestion. Heredity, he finds, is one of the most certain predisposing causes. In children the salicylates have to be used sparingly on account of the depression they produce. He is a great believer in the alkaline treatment following the use of the salicylates. It assists in controlling pain and fever, and never affects the stomach. Rest in bed is the only safeguard against endocarditis. When this has occurred he thinks opium useful in small doses. For the extreme emaciation often present he thinks peptomangan one of the best tonics and advises being in the open air as much as possible.

51.—See abstract in THE JOURNAL, XXXV, p. 1171.

52.—Ibid., p. 1104.

53.—Ibid.

62. **Prostatic Secretions.**—Walker has experimented to find the relation which the prostatic gland secretion bears to the fecundative power of the spermatic fluid. He operated on rats, in which the gland can be easily removed without causing other damage, in several series, in some of which the anterior lobes alone were excised and effects noted, and in others the whole glands. In the first series of seven pairs the anterior lobes were excised, 2 bred normally, 2 had small litters, and 2 were negative. In the second series of 15 pairs, where the anterior lobes were removed, 9 bred normally, 5 proved negative, and 1 escaped. In the third series of 3 pairs, after removal of the anterior lobes, 4 out of five bred normally and 1 was negative; after the second operation, where complete removal was done, 1 bred normally, and 4 were negative. In the fourth series, with complete removal of the glands, 8 out of 11 pairs were negative and 3 had small litters. In the fifth series, in which the prostatic gland was removed in early life, it did not have any subsequent effect on the development of the testes. From experiments he deduces the following conclusions: 1. That a removal of the anterior lobes of the prostate gland in rats has no effect on breeding; but in a certain number it diminshes the fecundating power; and in a few it is destroyed entirely. 2. Complete excision has a very marked effect on fecundity, reducing it to almost nil when the gland is entirely removed. 3. Partial or complete removal of the prostate has no effect upon sexual desire and capacity. 4. Complete removal of the gland in the adult animal has no effect on the histological structure of the testicles. Complete removal of the prostate in the young animal has no effect upon the subsequent development of the testes.

75. **Uterine Fibroids.**—Jones advises early removal of fibroids and insists on their pathologic importance, even when small. Early operations are in most cases desirable; delay only increases the trouble and suffering.

76. **Diphtheria.**—Taylor insists on giving the benefit of the doubt to diphtheria where it can possibly be suspected, and the necessity of bacteriologic examination in every case. In dubious cases he always isolates for the protection of others, and only when the membrane brushes off and other and bacteriologic symptoms of diphtheria are absent does he diagnose follicular tonsillitis. A thin, serous, acrid nasal discharge which excoriates the lips, and frequent epistaxis accompanying constitutional symptoms indicate diphtheria, usually of a grave nature. He admits the existence of non-diphtheritic membranous laryngitis which may at times render the diagnosis difficult, but in any case give the benefit of the doubt in all cases of inflammation with pseudo-membrane in the larynx to diphtheria. The severity of post-diphtheritic paralysis appears to be altogether out of relation to the original condition. The paper concludes with elaborate instructions for antiseptic methods of treatment, etc.

77.—See abstract in THE JOURNAL of March 3, p. 593.

80. **Tonsillar Rheumatism.**—The close relation between certain forms of tonsillitis and acute rheumatism is well recognized, and Cobb considers it due to migration to the joints, synovial cavities, and endocardium by micro-organisms from the tonsils. He reports a case in which there was a latent or concealed tonsillar abscess which he thinks is not an at all rare condition, and often it assumes the form of a mild general sepsis or enlarged cervical glands.

81.—See abstract in THE JOURNAL of March 2, p. 592.

89. **The Toxemias of Pregnancy.**—The case reported, in the author's opinion shows that these toxemias may occur without diminution either in the amount of urine or urea, and that the ordinary examinaton of the urine, except for the presence of albumin which indicates of itself nothing imme-

diate or serious, does not disclose in all cases the existence or approach of a very serious malady which may terminate life.

102. **Pus in the Peritoneal Cavity.**—The method of treating suppurative diseases in the abdomen is discussed by Morris, who remarks on gauze packing, which he thinks poisons the patient, and the closing up of the incision. He says that after long-continued operations with large incision, free handling of the bowel and large drainage apparatus, patients are commonly very much depressed and some depression exists for several days. When the abdomen is closed completely he finds altogether another condition. The peritoneum takes care of all but the large collections of pus, and he has confined himself to disposing of these, leaving the rest for the so-called phagocytes, and closing the incision completely in most cases. In a small proportion of cases drainage may be necessary, but in most it is employed because the surgeon assumes a responsibility that really belongs to the leukocytes and for which they are well equipped, if the surgeon does not interfere.

103. **Gonorrhea in Women.**—The importance of gonorrhea as a cause of female disease forms the principal motive of Johnson's article.

104. **Organotherapy in Gynecology.**—The different organic extracts that have been employed in gynecology are reviewed by Krusen who summarizes the literature of the subject. He says, notwithstanding many brilliant results referred to, experience leads him to the following conclusions as regards the ovarian extract: 1. The employment of ovarian extract is practically harmless, as no untoward effects beyond slight nausea have been noted even when full doses have been administered. 2. In the treatment of amenorrhea and dysmenorrhea no good results were secured. (Although in some cases of amenorrhea of obesity, remarkable results have been obtained by the use of the thyroid extract.) 3. The best results were seen in the second class of cases, for the relief of symptoms of artificial menopause, when in a few instances the congestive and nervous symptoms were apparently ameliorated. 4. No appreciable result was noticed in the use of ovarin in the natural menopause. 5. No definite or exact reliance can be placed on the drug, as it often proves absolutely valueless where most positively indicated. 6. It is extremely problematic whether, in those cases in which relief was noted, the effect was not due to mental suggestion rather than to any physiologic action of the drug. The neurotic individual demanding this treatment will often be relieved by any simple remedy. 7. In those instances in which effects were noted, increase in dosage seemed to have little influence in maintaining the effect or preventing th patient from becoming accustomed to its use. 8. In conclusion, the theory which suggests the use of this extract seems to be at fault, and the administration of ovarin, or ovarian extract, is based upon a wrong assumption as to the function of the ovary. In organotherapy, the best results have been obtained from the use of the thyroid and adrenal glands, and the ovary in function is in no sense analogous to these organs. Its principal function is ovulation, and if any peculiar product is coincidently manufactured the isolation of this product has not yet been accomplished.

106. **Uterine Carcinoma.**—The radical treatment of carcinoma is here alone considered. Montgomery discusses the methods of hysterectomy and calls attention to the following special points: 1. An operation to afford hope of escape from relapse should be early. 2. The vaginal operation should have the preference wherever the conditions will permit of its performance. 3. Every precaution should be exercised to operate in healthy tissue and avoid the possibility of reimplantation. 4. The prognosis is much less favorable in women under 35, quite favorable in women over 50, if an operation is done early.

116. **Laryngeal Papillomata.**—The frequency of symptoms, classification, etc., of laryngeal papilloma are discussed in detail. It seems to be more frequent in males, and one of the most important factors in its causation is the so called warty diathesis. Vocal strain has been considered a cause and syphilis is mentioned, also scrofula, tuberculosis, etc. The method of examination is given. The symptoms largely depend on the site occupied. The prognosis is usually good, although the point of attachment must be regarded. Every laryngeal growth should be removed if possible by the natural route. Some conservatism is still somewhat advocated and inhalation of formalin, alcohol and so on have been reported as giving good results. Fowler's solution seems to act well in some cases. The galvanocautery is neither scientific nor surgical, according to Quinlan, and its use should be limited. Major surgery of the part has its perils and may cause serious impairment of speech, but conditions may be promoted which may in every sense be palliative and at the same time insure radical means when the conditions are imperative. In conclusion, he mentions the possibility of change from benign to malignant growths and reports cases.

117. **Nasal Suppuration.**—In the majority of cases of nasal suppuration the presence of carious bone is the result of suppurative process and not its cause; the inflammation has extended from the superficial to the deeper-lying parts. The diseased bone may exist and there be no polypi. The variations in the anatomy of the parts may be a source of considerable perplexity, which is especially true as regards the frontal sinus. The author accepts Grünwald's theories of ozena as nearer the true solution than anything so far advanced. The focal point of suppuration in some one of the accessory cavities is the cause, and when this local disease is cured the attending symptoms also disappear. He has proved this to his own satisfaction in the cases he has observed. In attempting to relieve or cure the patient it seems best to take up each cavity separately, beginning with the antrum, which until recently has been the objective point of most of the surgical treatment. He thinks it is allowable to make an exploratory puncture through the inferior meatus for the detection of pus if transillumination and other methods fail. He would open both above and below in the canine fossæ and the inferior meatus, curetting granulations and washing out the cavity below. As regards the anterior ethmoidal cells he says these parts may be approached safely with the curette and forceps and unhealthy tissue cleared away. The use of the trephine or drill is not without danger even in expert hands. We may be obliged to remove the middle turbinate and other obstruction. The intimate associations with the frontal sinus often compel free exposure and breaking down intervening obstacles to secure good drainage through the whole extent. In the posterior ethmoidal cells and sphenoidal sinus more caution is to be observed. These may be opened by a strong curette and subsequent treatment by washing pursued. Considerable difficulty may be met with in advance upon the sphenoidal sinus, though patient probing will solve the problem. Careful scraping of the anterior wall and floor often produces decidedly beneficial results and Leonard quotes Myles who says he does not consider it safe to curette the upper and external walls of these sinuses.

119. **Adenoids.**—Gradle describes the method and a special instrument, a modification of Schuetz's adenotome, contrived by himself, which presses upward and backward and takes away the entire growth in one piece. He believes that this gives much more satisfactory results and can be employed without anesthesia, which he condemns in these methods excepting under unusual conditions.

## FOREIGN.

### British Medical Journal, April 6.

**A Uterus which Contained One Hundred and Twenty Fibroids.** J. Bland Sutton.—The writer reports the case of a woman, 34 years of age, who suffered from diffuse bleeding due to fibroids. The uterus was removed by laparotomy and the appendages left. It had a peculiar oval shape and he found four sessile fibroids in its cavity, as large as pigeon's eggs. The surface of the uterine wall was very thickly dotted over with small rounded fibroids, 120 altogether. In all that were examined the structure was similar. These could be described as bundles of plain muscle fibers twined around and immediately associated with the walls of the capillaries, giving the suggestion of the muscle coats of the

vessels as the source of growth. These minute fibroids were similar in structure with the large fully-developed growth. Each was globular and, on section, quite white, and was sharply differentiated from uterine tissue by a thin capsule from which it could be enucleated; this capsule was seen to be sharply differentiated in the stained sections when microscopically examined. Although he has examined carefully many hundred of uteri in the last sixteen years, he has never seen one similar to the specimen described, nor has he read an account of one in any way resembling it.

**Placenta Previa.** R. P. RANKEN LYLE.—The treatment recommended by Lyle, for placenta previa, is as follows: In cases of central or complete placenta previa the placenta is perforated with the fingers, version (if necessary) is performed, and a foot brought down, a tight abdominal binder applied, and the subsequent delivery left to Nature, unless the continuance of hemorrhage should necessitate slight traction on the foot. In cases of incomplete placenta previa, the treatment, with the exception of rupture of the membranes instead of perforation of the placenta, is identical. The advantages of version and bringing down the foot are: 1. It does away with the tampon and consequent danger of infection. 2. It allows early operation. 3. It arrests the hemorrhage with great certainty. 4. It gives time for the patient to rally. 5. It gives time for labor pains to set in and consequent natural dilatation of the cervix 6. There is less danger of post-partum hemorrhage. In cases of placenta previa where the os is not sufficiently dilated to admit two fingers these should be converted into cases of the first or second class as described, and the vagina tightly plugged with boiled cotton wool and a tight abdominal binder applied until labor has advanced sufficiently to dilate the cervix and then to treat accordingly. No time should be lost in the treatment as soon as the diagnosis is made, as at any time severe and sudden hemorrhage may occur.

**Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life.** J. MITCHELL BRUCE.—The third lecture on disorders and diseases of the heart and arteries takes up the subject of prognosis and treatment. It is always well to inquire after any family history of gout, rheumatism, or heart disease, and all the acute diseases should be looked after as well as the habits as to alcohol, tobacco, etc. The characters of the precordial impulse especially the seat of the apex beat and its strength are to be closely investigated. Weakness or absence of the impulse must never be disregarded. The precordial dulness must be mapped out and auscultation be employed to estimate the murmur, etc. The principal signs and symptoms are reviewed by the author. In the first place the mitral presystolic murmur is never significant of senile lesion. The arterial diastolic murmur, whether alone or combined with systolic murmur, shows that we have something more than atheroma, cardiovascular disease, or nervous disturbance and alcoholism and tobacco heart, even if one or more of these is present. Arterial incompetence developing in later life is the result of syphilis or acute and chronic valvular strain, though many instances met with after the age of 40 can be traced to juvenile endocarditis of rheumatic or other origin. While always serious it is especially so when due to syphilis or syphilis and strain. Fully developed basic systolic murmur, audible over the arterial area and manubrium and along the carotid, is a very common sign of atheroma of the aortic arch and valves and great vessels and also of syphilitic and traumatic affections of these organs, and should raise the suspicion of some degeneration in the coronary arteries and myocardial degeneration. An ill-developed basic systolic murmur is not uncommon in alcoholism, Bright's disease and nervous disorders, but it is difficult to disassociate it from anemia. The full-developed and audible systolic murmur in the mitral area, independently of leakage in cardiac failure, is usually traceable to rheumatic endocarditis, rarely to injury. Sometimes it may be due to valvular atheroma and attending sclerosis caused by gout, etc., and we must not overlook in these cases the possible association of coronary disease and fatty degeneration. If systolic mitral murmur is somewhat indefinitely affected by compensation and disappears under treatment, it is of no special value other than signifying relaxation and weakness and of disorderly action of the left ventricle consequent on any of the recognized causes of failure or disorder of the heart, including cardiac poisoning, acute disease, etc., and this, whether in a heart previously sound, or enlarged, or the seat of valvular disease. Accentuated ringing second sound in the aortic area or more extensively is of great value in the diagnosis of arterial tension and aortic atheroma, or both, but has too many other associations to be of much use in differential diagnosis. It should suggest careful research for Bright's disease. Slight reduplication of the first sound is common over a senile heart, strained in youth, and hearts degenerated by alcoholism, etc., but it is not unusual in other conditions. On the other hand, galloping rhythm, dennite doubling of the first sound, followed by slight accentuated ringing of the second sound, is practically pathognomonic of Bright's disease and one of the most valuable and ominous of physical signs. A normal-sized heart with irregular increased frequency and a variable systolic murmur in the mitral area is characteristic of tobacco poisoning. A heart enlarged on both sides and acting irregularly without murmur is, apart from cardiac failure, suggestive of strain in early life. The cardiac symptoms taken individually are of less value than the physical signs. No one symptom is pathognomonic. Palpitation is a nearly universal phenomenon of cardiac disease; faintness and fainting are not uncommon in cardiac strain, gouty heart and nervous disturbances; angina is met with in gout, tobacco heart, strain, especially after 40, syphilis, and alcohol, while pseudo-angina is extremely common in nervous women. The high tension pulse is most often met with in juvenile strain and nervous cardiac affections, while low tension pulse is connected with alcoholism and tobacco poisoning and senile strain. The prognosis of the different etiologic forms of heart trouble is noticed. In tobacco heart the prognosis is generally good. With alcoholism, however, the condition is much less favorable. If the disease be of recent development, and the condition uncomplicated and the treatment carried out faithfully, recovery may occur, but such cases are rare. Chronic Bright's disease, acute cirrhosis, etc., are common causes of death. Occasionally the end comes suddenly from fatty degeneration. The prognosis of gouty heart is rather difficult. Improvement under treatment may occur, but the condition of arrest can not go on indefinitely. In addition to the danger from Bright's disease, cerebral thrombosis, hemorrhage, bronchitis, and sudden failure of the heart from coronary degeneration are to be feared. Sudden death may occur in old gouty patients, not from the lesions of which a basic or systolic murmur is the evidence, but from associated coronary atheroma which probably was never suspected. In syphilitic lesions the prognosis is still more unfavorable. The condition of the heart from muscle strain is not, however, so serious. It is continuously liable to embarrassment during exertion, but old people often recover from conditions of distress from over-exertion. Cardiovascular disorder and disease from nervous strain pure and simple is amenable to treatment by complete and prolonged rest in the majority of cases, though death may sometimes occur. In any case of the presence of murmur in advanced life, together with cardiovascular degeneration, we must not forget the possibility of intercurrence of acute diseases, such as pneumonia, the prognosis of which is seriously modified by these conditions. In treatment one of the principal things is to correct the habits of the patient, discourage habitual drinking, and heart disease is an admirable argument to employ with some people for this purpose. Reference is also made to the prevention of cardiac strain. As regards the atheromatous process which depends upon toxemia and anemia, the obvious indication is to purify and enrich the blood and, besides personal hygiene, Bruce suggests arsenic and moderate doses of iodids combined with an excess of alkalies. The establishment and maintenance of compensation is, however, the great indication for treatment. Nutrition and activity of the myocardium are to be increased and sustained by specific cardiac stimulants and tonics of which strychnin, ammonia, and the digitalis group of drugs, with the blood remedies, are mentioned, also control of the nervous system and the employment of non-medicinal measures, such as active and passive

exercise and baths. He remarks that in many cases where the symptoms are alarming to the patient, such as depression, pain, small, irregular pulse, etc., there may be no failure of the myocardium, but only temporary embarrassment. The condition, however, is not to be neglected, but rest in bed, a carminative draught, calomel and saline purgatives, a digestible diet, and a little time are all the treatment required. When true failure occurs a different set of measures are demanded. The three great therapeutic indications are to reduce the peripheral resistance, increase the vigor of ventricular contraction, and rehabilitate hypertrophy, and remove arrears of work in the form of residual blood in the cardiac chambers, mechanical congestion of the veins and viscera and dropsy of the integuments and serous sacs. Bodily rest, a light solid diet, definite allowance of alcohol, if required, active purgation and sufficiently large doses of digitalis together with saline and other diuretics are the means calculated to obtain the best results. We must not be afraid to purge the patient, if necessary every morning. When the appetite flags or flatulence occurs a blue pill or a dose of calomel should be given and light solid foods instead of slops. Nocturnal restlessness and sleeplessness are to be met unhesitatingly, with permission to spend the night in an easy chair by the bedside; according to the author's experience, acupuncture and drainage succeed perfectly in these senile cases, as much as ten pints or more of serum escaping in the course of twenty-four hours, to the complete and often lasting relief of the circulation.

**The New Type of Scarlet Fever from a Public Health Point of View.** Wm. Robertson.—An epidemic of scarlet fever at Paisley has been traced by Robertson to the playgrounds, which have been taken advantage of by the children, and the swings and simple gymnastic appliances are credited by him with disseminating the disorder. While there is nothing better, if open-air spaces were more common their frequency would prevent very large collections of children, which has a direct effect in spreading contagious diseases.

The Lancet, April 6.

**Existence of Immunity after Enteric Fever.** Burton A. Nicol.—Nicol attacks the idea that enteric fever produces immunity, and gives cases which bear out his opinion. He does not deny it, but holds that it is more doubtful than that produced by febrile disorders, such as smallpox, scarlet fever, etc. His experience in South Africa has led him to these conclusions.

**Pathology and Treatment of Rheumatoid Arthritis.** P. W. Latham.—Latham argues for the nervous origin of rheumatoid arthritis, and he finds no evidence in the post-mortem records that the spinal cord or ganglia have been thoroughly examined so as to justify the statement that these parts are healthy and free from organic change. He points to the neurotic character of the antecedents and accompaniments of arthritic trouble, the neurotic pain, weariness, numbness and tingling, and the migraine which Trousseau and Remak say often precedes the disorder, and the worry, anxiety and shock which are well-known antecedents. The atrophy of the muscles often develops more quickly than could be attributed to mere disuse. He quotes cases to show that injuries to the spine and brain, or any lesion of the nerves, are capable of developing similar symptoms. From all the data it is not unreasonable to assume that rheumatoid arthritis is due to spinal congestion or chronic myelitis chiefly affecting the ganglion cells of the anterior horns, but extending also, when the disease is associated with "glossy skin," to the ganglion cells in the posterior horns of the cord. Two cases are reported in full, and he suggests, in accordance with these views, that a continuous counter-irritation, employed in these cases, is a useful therapeutic measure.

Bulletin de l'Academie de Medecine (Paris), March 26.

**Physiologic Aspect of Spinal Cocainization.** J. V. Laborde.—Several years ago Laborde published a monograph reporting extensive experimental research in regard to the toxic and physiologic action of cocain and its salts. He found one of the first effects to be a neuromuscular or motor hyperstimulation, keeping the animals tested in incessant, irresistible and uncontrollable motion—which explains the trembling and convulsive phenomena sometimes noted in man after its use. The analgesia following the administration of the cocain is localized at first, but spreads with the intravascular absorption, and induces marked vasoconstriction in addition to its specific action on the nervous elements by direct contact. This vasoconstriction is succeeded by vasodilation. The cardiorespiratory function becomes profoundly altered, passing from acceleration and irregularity to asphyxia complicated by convulsions in the fatal intoxications. These phenomena indicate that the cocain acts principally on the bulbar centers and that variations in the blood pressure co-operate in the functional disturbances. Other constant symptoms were vomiting and phenomena which could be explained only by assuming the existence of headache, from the extension of the action of the cocain to the cerebral centers. Injected under the arachnoid, the cocain moves with the cerebrospinal fluid at every movement of the patient, and finds its way to the medulla oblongata and even to the encephalon. This is demonstrated by the functional disturbances which result from its action on the medulla and brain, the vomiting, headache, tremor, cardiorespiratory syncope, etc., similar to the sequence observed in the experimental research. They render possible the gravest accidents and may terminate in death. Laborde concluded by protesting against Tuffier's assertion that heart disease and arteriosclerosis do not contraindicate spinal cocainization. The hypodermic method of cocainization which Reclus has used with success on 7000 patients without a single serious complication, and of which spinal cocainization is merely an offshoot, might be extended to the intramuscular or even the intra-abdominal injection of cocain, which would enlarge the field for operations, while avoiding the perils of the intraspinal route.

Echo Medical du Nord (Lille), March 31.

**The Exclusive Milk Diet.** Surmont.—French physicians have unbounded confidence in the "absolute lacteal régime" and prescribe it in all cases in which the patient requires an easily digested food, substantial and yet not burdening nor irritating the alimentary canal; also in cases in which the intestinal fermentation must be reduced in order to diminish to the minimum this important source of organic autointoxication, and also when it is necessary to promote the urinary excretions and the elimination of toxins. Surmont states that the amount of milk should be about four liters a day for an adult, in conditions of repose or doing light work. The milk should be boiled, unless it is known to come from a cow which has passed the tuberculin test and is kept in disinfected quarters. It should be taken quite warm, at intervals of two hours, and sipped slowly, during ten or fifteen minutes. In case of marked gastric excitement, with a tendency to vomiting, the milk should be cold. An important precaution is to keep the mouth scrupulously disinfected. After each one of the eight meals of milk, the toilet of the mouth should be made with some alkaline solution such as sodium borate, to cleanse the mouth of all traces of the milk, which otherwise ferment and impair the appetite, while the noxious products are ingested with the next meal. The taste of the milk can be disguised with tea, coffee, chocolate, peppermint, chamomile, sage, sugar, salt or seltzer water, or it can be rendered effervescent, or be flavored with vanilla, orange-flower water, brandy, rum or other liquor when they are not contraindicated. By varying these flavors the patient can finally be induced to take the milk without addition. In certain cases of dyspepsia with abnormal fermentation, there is absolute intolerance for the milk at first, and the cream and upper part of the milk should be rejected and the balance mixed with 25 to 50 per cent. of an alkaline mineral water. In such cases Surmont begins with an energetic purge followed by plenty of water but no food for twenty-four hours, commencing then cautiously with the milk as above. The constipation that sometimes accompanies the milk diet can be combatted by a rectal injection of cold water once or, better still, twice a day, supplemented by a tablespoonful of linseed three times a day or other appropriate measures. Kefir sometimes substitutes milk to advantage or leads up to it.

La Gynecologie (Paris), January-February.

**Non-Infectious Congestion and Sclerosis of Uterus.** L. G. Richelot.—In the gouty or neuro-arthritic diathesis the connective tissue is the tissue of least resistance, and this tendency induces sclerosis in all the organs. The ovaries and uterus suffer with the others from this trophic lesion. The process is first a primary congestion followed by sclerosis and the final transformation of the uterus into a very large fibrous organ without fibromata. The process is not infection, and yet it is usually diagnosed and treated as metritis, the only effect being to aggravate the symptoms. The first stage is what has been erroneously called "virginal metritis," but in reality there is no infection nor inflammation, but always a history of delayed, difficult and irregular menstruation, with more or less backache, neuralgia, migraine, eczema, pains in the joints and a catarrhal discharge, apparently to compensate the inadequate flow of blood. In the next phase of the process the pains are more constant, the menses recur with abnormal frequency, and the losses of blood may entail anemia. But it is absurd to attribute the trouble to anemia and treat it accordingly, as iron and tonics merely exaggerate the evil. The pains are at times to be relieved only by reclining. The exacerbations of the congestion usually coincide with the menses, but frequently appear during the intervals, and are sometimes periodical, with or without a discharge of blood or mucus. This pseudo-menstruation betrays the influence of the nervous system. There is usually constipation, cystalgia and rectalgia. In the confirmed stage of this pseudo-metritis the uterus and its cavity are enlarged, the walls thick, but the mucosa is smooth, with no muco-pus. Curetting is worse than useless, except when the uterus contains fungous growths or mucous polypi. The process may have long periods of latency, but there is usually an exacerbation at about 40 years of age, in which the loss of blood and severe pains justify the most radical measures. At any stage of the process an infectious metritis may be superposed and its treatment is of course indicated, but the neuro-arthritic soil should never be forgotten. The latter is responsible for the relaxation of the fibrous tissue which may induce displacements of the uterus or prolapse, intestinal hernia, sinking of the kidney or other ptoses. It is also a favorable soil for the development of carcinoma in the sclerous uterus. The treatment in the first stage of this primary congestion is rest in bed. The young girl should stay in bed from the first day of the molimen until twenty-four hours after the last trace of blood has disappeared from the discharge. In the intermenstrual periods violent exercise, bicycling, horse-back riding and the abuse of dancing should be forbidden. Hydrastis, viburnum and piscidia erythrina are useful adjuvants, but are not equal to quinin sulphate, in the dose of 1 to 1.5 gm. Ergot has little value outside of the puerperium. In case of young married women, rest in bed is equally imperative, but it should be supplemented by vaginal injections of boiled water at 50 C., twice a day, taken in bed; five to ten liters, injected slowly, will arrest the congestion, hemorrhage and pain. Enemata with laudanum or antipyrin are also useful. The constipation should be relieved. Glycerin tampons applied to the cervix induce a serous secretion and relieve the congestion of the tissues. Massage is an illusion and is actually injurious in genuine metritis, but is extremely beneficial in these cases of congestion and pseudo-metritis. When done with skill and tact it proves a most beneficent measure in many cases. If hemorrhagic sclerosis requires cauterization, injections of zinc chlorid rank first. Hydrotherapy and water cures are beneficial with hot springs for cases with much pain. The seashore aggravates the tendency to congestion. Patients unable to leave home should take alkaline baths and dry frictions, and avoid tonics, especially iron, which ruins the stomach, favors constipation and overstimulates the nerves. In extreme sclerosis the dilatation of the cervix with laminaria tents will often prove effective, and in some cases will arrest serious hemorrhages. Supravaginal amputation may be required in certain cases and even vaginal hysterectomy, and it is better, Richelot thinks, to apply it at an early stage rather than to perform a series of less extensive operations.

Nouv. Iconographie de la Salpetriere (Paris), February.

**Echinococcus Cysts in the Brain.**—There are three separate illustrated articles on this subject. One case, reported from Gilles de la Tourette's service, was a man of 69, a day laborer, brought to the hospital in coma, his face congested, respiration stertorous, no hemiplegia, temperature 39.5 C. Death occurred in a few hours. He had occasionally had similar attacks, sometimes with convulsions, but had always apparently recovered in a few days; the attacks had always been attributed to drink. A hydatid cyst the size of an egg was found entirely included in the right hemisphere, which appeared normal in color and consistency. Auvray has collected 7 patients cured or improved in 16 similar cases operated on. In another, a girl of 17, who worked in the fields, suffered from headache and somnolence and at the autopsy nearly four hundred cysticerci of the tenia solium were found scattered through the encephalon, all in the gray matter. The patient had a history of a severe, almost fatal illness a year before, followed by comparative health. This illness may have coincided with the invasion of the centers by the parasite. No tenia was found in the intestines, but quantities of ascarides. The principal features of the third case, reported by Scrieux, were cortical deafness, absence of paraphasia in spontaneous speech, paralexia, loss of comprehension of words read, impossibility to write, hallucinations in hearing and seeing, and epileptiform attacks. The patient was a man of 75, a forester. The autopsy showed a number of hydatid cysts disseminated superficially and with a certain symmetry in the temporal lobes, the Rolandic region and frontal lobes, all small. A fourth of the parasites were dead. The brain was the only organ affected by the echinococci.

Presse Medicale (Paris), March 30.

**The Blastomycetes in Human Pathology and Serum Treatment.** G. Wlaeff.—The virulence of blastomycetes can be enhanced by passage through animals the same as in the case of bacteria. They then appear under variable aspects, changing their size materially under the influence of certain media. They may induce in the animals septicemia, abscess, pneumonia, nephritis, pyelitis, cysts, carcinoma—in short, all the various pathologic processes from which they have been derived and isolated in man. With these blastomycetes Wlaeff found that it was possible to immunize birds and mammals and to obtain a serum possessing a specific action on malignant tumors in man. Numbers of writers have published instances demonstrating the large share of the blastomycetes in human pathology. Wlaeff conducted experiments on 510 animals with cultures of blastomycetes obtained from the Paris Pasteur Institute and the institute at Prague, and a culture isolated by Plimmer from a carcinoma of the mamma. He treated 40 cases of malignant neoplasm with the serum thus derived—his anticellular serum, as he calls it—from geese and asses immunized in the course of a year with pathogenic blastomycetes. There was an appreciable reaction, both local and general, to the injections of the serum in nearly every case. The intensity of the reaction and, in fact, the different clinical pictures induced by the blastomycetes, depend on the condition of the organs in each individual. Experimental research corroborates clinical experience that with virulent blastomycetes it is possible to induce all kinds of pathologic processes by modifying their virulence and by modifying at the same time the conditions of resistance of the subject or of various organs. The supposed coccidia observed by certain scientists are probably blastomycetes—this identity seems probable on comparison of the numerous cuts appended.

**Congenital Alcoholism.** Nicloux.—This report of extensive personal research states that 10 per cent. of the alcohol ingested in the form of alcohol passes into the blood. Intoxication follows when 1 to 2 c.c. are ingested per kilogram, increasing to profound intoxication with 4 to 6 per cent., corresponding to 4 to 6 c.c. for each kilogram of weight. The alcohol also passes into the lymph, saliva, bile, urine and cerebrospinal, amniotic and pancreatic fluids and also into the milk. It is found in the latter in about the same proportion as in the blood. The blood of the fetus also contains the same or nearly the same

proportion as that of the mother. If the male organism is under the influence of alcohol, the semen is also impregnated with it, and in the female, the ovary and consequently the ovule.

April 3.

**Physiology of Kernig's Sign.** A. Chauffard.—In the defective muscle-tone of tabes dorsalis there is no flexion of the knee. In normal conditions the knees are in slight, natural semiflexion, easily reducible. In the exaggerated muscle-tone of meningitis the flexion is exaggerated and not reducible without pain. The last, most pronounced stage of the flexion is the generalized contraction of tetanus. Kernig's sign can therefore be defined as a uni- or multi-regional contraction, affecting the predominating groups of muscles and occuring in the course of assuming a position which normally calls for this predominance, but in meningitis it is pathologically fixed in a painful and irreducible attitude. The sign is always a morbid phenomenon, but it is not necessarily localized exclusively in the knees. It is liable to be noted in the arms and to it is also due the rigidity of the back of the neck and the spine.

Semaine Medicale (Paris), April 3.

**Alimentary Levulosuria in Connection with Liver Affections.** R. Lépine.—Minkowski's experimental research on dogs, after ablation of the pancreas, and the work of others, have demonstrated that levulose is assimilated only when the liver is intact. This explains why it is tolerated only in certain cases of diabetes. A patient recently observed by Lépine, a woman in advanced cachexia, with complete impermeability of the common duct and consequent impairment of liver functions, was able to assimilate 150 grams of glucose without glycosuria, while 80 grams of levulose induced levulosuria. According to von Noorden and Strauss, icterus and other affections of the liver do not afford favorable conditions for the production of alimentary glycosuria. These facts also harmonize with the experimental observation that the tolerance for glucose is diminished very little in frogs that have had the liver removed. Our ideas in regard to alimentary glycosuria are becoming modified. It is no longer universally accepted as an indication of hepatic insufficiency, and the German writers mentioned above even deny it any value in the semeiology of the liver. It is possible that in some of the tests that have been reported, saccharose—a mixture of glucose and levulose—may have been used. In future, pure levulose should be used as a diagnostic measure for hepatic insufficiency.

Centralblatt f. Allgem. Pathologie (Jena), March 5.

**Metastasis of Normal Thyroid Gland.** H. Oberfeld.—A supposed sarcoma was removed from the forehead of a man 58 years of age. The tumor had developed in the course of three months and had attained the size of an egg. It was in the bone and the histologic structure was identical with that of the normal thyroid gland. No other pathologic manifestations could be discovered. In the only similar case on record, reported by Riedel, the tumor was in the lower jaw. Becker's case of a similar tumor in the supraclavicular fossa was probably an accessory thyroid gland.

Centralblatt f. Bakteriologie u. Infekt. (Jena), February 21.

**Length of Life of the Plague Bacillus.** N. K. Schultz.—Some specimens of the plague bacillus sealed in tubes, protected from the sunlight, and kept in a cool place, had lost none of their virulence when the tubes were opened after four years. The preservation of the vitality seems to be favored by the contraction, shriveling and thickening of the protoplasm.

**Artificial Immunity to Malaria with Euchinin.** A. Celli.—During the last four years Celli has been interested in nine persons living on the Pontine Marshes who were reputed to have a natural immunity to malaria, as none had ever contracted it. In 1900 one of these persons had a slight attack and another, a man of 34, had severe estivo-autumnal fever. Celli's experience in regard to natural immunity does not confirm that of Koch, as he knows of many regions where the people, either from poverty or prejudice, never take quinin, and yet the children do not acquire immunity in time, but suffer repeatedly from malaria in after years. The maximum mortality from malaria in Italy is between the ages of 5 and 20. He has been conducting extensive research on the hemolysins and antihemolysins in malarial blood, but it has proved practically useless. He anticipates better results from the use of certain drugs as a prophylactic measure against malaria. Quinin is not practicable for the purpose, he states, as few persons can tolerate the amounts required for effective prophylaxis. With euchinin, however, it is possible to accomplish the purpose without any inconvenience. In his extensive tests of the drug he found the effectual dose for adults to be .5 gram, and for children .25 gram, taken at one dose in the morning. The laborers on the Pontine Marshes, the Maremma and the plain of Catania took the euchinin for one to five months and experienced no gastric disturbances, ear symptoms nor disturbances of any kind from its use. Only 12 out of 116 thus treated, who had never had malaria, contracted it, while 172 of the 271 laborers who did not take it, became affected. Only 1 of 11 railroad employes treated with the euchinin showed any symptoms of malaria.

Centralblatt f. Gynekologie, March 9.

**Spontaneous Hematoma During Pregnancy.** W. Stoeckel.—In one of the two cases of spontaneous hematoma in the abdominal wall, which are described, the patient was in the ninth, in the other in the sixth, month of pregnancy. The hematoma developed suddenly while the patient was coughing, and caused violent pain at first. No similar case is recorded in the accessible literature, but the possibility of such an occurrence should not be forgotten in forensic cases.

Deutsche Med. Wochenschrift (Berlin and Leipsic), March 28.

**Cholesterin the Vulnerable Substance in Red Corpuscles for Saponin.** F. Ransom.—Saponin will dissolve the corpuscles in dog's blood so that the solution remains perfectly clear and no precipitate is deposited in twenty-four hours. Ransom reports experiments which show that cholesterin is the substance in the corpuscles which is affected by the saponin. Further research showed that cholesterin binds the saponin and will annul the toxicity of the latter. The same substance, therefore, which attracts the saponin to the red corpuscles and thus induces their destruction, when free in the serum, binds and annuls its toxic action. This research is the first successful attempt to isolate from a tissue the vulnerable substance, and demonstrate that the same substance can and does serve as an antitoxin under other circumstances.

**Stenosis of the Pylorus in Infants.** Huebner.—Stenosis of the pylorus may appear so early that it is liable to be diagnosed as congenital. The symptoms are incessant vomiting, almost complete constipation and scanty urinary secretion. Peristaltic waves can be observed in the moderately dilated stomach. Huebner has observed eleven such cases. The infants fall into inanition, but in spite of the threatening symptoms he does not advise operating for this spastic stenosis. When the child was well tended and no hospital infection intervened, all recovered after two months or thereabouts, sometimes longer. The infant is fed as usual, only at longer intervals, and the parents are told that the vomiting and emaciation will probably continue for a long time but will then gradually subside. The little that is retained by the child is digested. He applies warm cataplasms to the stomach several times a day, irrigates the intestines and sometimes supplements these measures with small doses of opium. He has never observed any benefit from lavage of the stomach in these cases.

**Operation for Hemorrhage from Gastric Ulcer.** Strauss.—Examination of six cases of fatal hemorrhage from the stomach showed that in none of them could operative measures have had a chance of success. In case of suspected transformation of an ulcer into a carcinoma, an important differentiating point is the determination of metastatic nodules in Douglas's pouch, palpated through the rectum, or of similar nodules in the thorax by radiography. These measures should never be neglected in dubious cases. An ulcer is seldom cured; it merely enters on a phase of latency in the apparently cured cases. By the abundant use of the fats of milk the tendency to hyperacidity can be combatted. This is especially useful in

cases of motor insufficiency, to substitute the readily fermenting carbohydrates. In a recent case of motor insufficiency with a history of gastric ulcer and hemorrhage at one time, the acute hypersecretion had dried out the tissues and induced such weakness of the heart's action that salt solution was injected to enable the patient to live until the next morning when the operation was planned to relieve the motor insufficiency. But the next morning the entire syndrome of stenosis of the pylorus had vanished. Stranss can explain this phenomenon only by the assumption that the obstruction had been due to some adhesion, cicatricial fibers or kinking, which had become broken or straightened during the ride to the hospital. During the two years that have elapsed since, the patient has returned twice with symptoms of motor insufficiency, cured each time by several weeks of a diet of albumin and fats.

**Stain for Elastic Fibers in Sputa.** L. Michaelis.—Weigert's stain for elastic fibers consists of fuchsin, resorcin and ferric chlorid. Michaelis has found that a number of other stains are equally effective, although the color varies when fuchsin, thionin or cresyl violet RR or safranin or methyl violet is combined with the resorcin. With fuchsin and resorcin for instance, the elastic fibers are stained a dark violet while all other fibers are colorless. The thick, suspicious portion of the sputum is spread evenly between two object glasses and dried in the air. They are then placed in a cylindrical vessel containing the stain, which can be used again and again. After one half-hour the specimen is rinsed with water and treated with 3 per cent. hydrochloric alcohol until the stain has almost entirely disappeared. A drop of cedar oil is then spread over the entire object glass. By this simple technique it is possible to determine the presence of elastic fibers in the sputum in the incipient stages of tuberculosis. In bronchitis there is no element in the sputum which reacts like this to the stain. This technique has given great satisfaction wherever used; it absolutely differentiates the elastic from all other fibers, and has afforded interesting information in regard to the arrangement of the elastic fibers in the lungs in advanced cases of phthisis.

April 4.

**Galvanocaustic Occlusion of Vessels in Intranasal Operations.** Ortmann.—For several years Ortmann has made a practice of galvanocaustic occlusion of the vessels supplying the parts, as a measure preliminary to certain operations on the nose. By this means the operation can be performed without the loss of a drop of blood to obscure the field. It is especially useful in the removal of portions of the inferior turbinate, and of the horizontal margins of the bone or cartilage, and also in case of hemorrhage from the septum.

**Acute Yellow Atrophy of the Liver Terminating in Recovery.** Albu.—In 1892 Wirsing was able to collect only 15 cases of acute yellow atrophy of the liver in which there was no history of syphilis and the patients recovered, and only two have been reported since. Albu reports another case free from syphilitic antecedents. The patient was a young man on his wedding trip, previously robust, but three weeks before his marriage symptoms of icterus had appeared after a series of violent emotions. The fever continued for nearly two months, with five apparent crises, when the patient perspired and the temperature dropped. The symptoms presented the classic picture of yellow atrophy of the liver, but the patient gradually recovered, except for slight icterus, in the course of three months, and the icterus also disappeared in another month, with complete return of strength. Examination of the metabolism on the fifth day of the disease showed that the nitrogen in the urea formed 75 per cent. of the total of 8.109 grams of nitrogen in 890 c.c. of urine one day, and the next, 85 per cent. of the total of 6.692 gm. of nitrogen in 980 c.c. of urine.

Jahrbuch f. Kinderheilkunde (Berlin), March 1.

**Wandering Kidney in Infancy.** W. Knoepfelmacher.—Hollederer has stated that he found a wandering kidney in five out of a hundred children he examined, and each of the five was more than 12 years of age. In this article it is asserted that the kidneys of infants only 2 or 3 months old can be easily palpated through the rectum; at least the lower third or half can be thus palpated. The right kidney is more accessible than the left. The kidney is larger in nurslings in proportion to the length of the trunk, and they extend farther down than in adults. The hilus of the kidney in the adult is on a line with the first to the second lumbar vertebra, but in the newly-born, with the second vertebra. These organs are more movable than in the adult and there is some respiratory mobility. In two cases, one an infant 9 and the other 4 months old, unilateral wandering kidney was noted and the liver and spleen were also abnormally movable. The latter, however, should not be regarded as a sign of congenitally misplaced kidney.

**Affections of Spinal Cord in Inherited Syphilis in Nurslings.** R. Peters.—In 11 cases Peters has observed a sudden paralysis appear in infants of 2 to 3 months, indicating a lesion in the spinal cord with the brain intact. The paralysis affected the upper or lower limbs, or both, and was usually accompanied by a characteristic attitude of the hands resembling the position of the flippers of a seal, only more extreme. The forearm was in marked pronation, the back of the hands turned inward and the palms outward, the joint flexed and adducted to the body. He calls this the "Flossenstellung," or flipper position, and observes that it was prominent in 9 of his 11 cases. In 4 there were other manifestations of inherited syphilis and in 5 the parental history was suspicious, but in 2 there was absolutely nothing in either parents or children to suggest syphilis, and yet all recovered almost immediately after the institution of specific treatment. All the symptoms indicated the peripheral nature of the affection, and he suggests, as a plausible assumption, the possibility of a syphilitic arterial affection with disseminated foci of softening and eventual induration, a condition analogous to that described by Charcot, in adults, as *état tigré*. Inunctions of gray ointment were borne well by the children and the cure was complete with ten on an average, although a few required as many as thirty. Calomel and potassium iodid were administered to the mother at the same time. The daily dose of .5 gram of gray ointment for ten days was rubbed into one child in one day by a mistake, but he experienced no ill effects and recovered with unusual rapidity. Improvement was usually marked after three inunctions.

Muenchener Med. Wochenschrift, March 26.

**Experimental Production of Cirrhosis of the Liver.** Marckwald.—Frequent injections of small amounts of antipyrin in frogs, rabbits, etc., induced cirrhosis of the liver as the reaction of the organism to a primary destruction of the liver cells. Injections of large amounts caused acute destruction of the organ. Comparing this action of antipyrin with that of other agents which we know cause cirrhosis of the liver, and comparing the anatomic findings with those observed in the human cirrhotic liver, it seems reasonable to assume that alcohol or any agent capable of causing the destruction of the liver cells, induces cirrhosis of the organ in case of chronic action unless the latter is prevented by some obstacle outside of the liver.

**Natural Immunization of Tuberculous Families.** A. Reibmayr.—Bacterial and malarial diseases confer in time more or less immunity which is not restricted to one generation but may be inherited by succeeding generations. This law applies also to chronic affections like tuberculosis, and the genealogic study of tuberculosis is, Reibmayr thinks, the surest way to throw light on obscure problems. He points out the changes in the constitution observed in families who have struggled with tuberculosis for generations, and states that the prophylaxis of the disease should be sought in the maintenance of the fund of immunity derived by inheritance from preceding generations and the increase of this resistance by hygienic and other measures.

April 2.

**Childbirth with Deformed Pelvis.** W. Albert.—The principles of the treatment of childbirth in a narrow pelvis are summarized by Albert as follows: In case of primiparæ with a conjugata vera of 7 to 9.5 cm., a spontaneous birth should be anticipated and promoted; with multiparæ, version should be done, bearing in mind the possibility of a spontaneous

birth. The colpeurynter is especially valuable in this group of cases, and with the bag of waters intact, affords the most favorable conditions for success. If the waters have escaped, the colpeurynter can be introduced inside the uterus and its tube used for traction. As soon as the fingers can reach the fetal mouth, the position of the woman is changed from the dorsal with flexed limbs, to the Walcher position with limbs pendent. One writer claims that the results for the children have proved successful in 20 per cent. more cases than before the introduction of the Walcher position into practice. Multiparæ are treated the same, unless the head refuses to come down after the cervix is fully dilated, in which case version and immediate extraction follow. These principles have been the guide at the Dresden clinics and 81.3 per cent. of the children were dismissed living; only 1 of the 60 patients treated with version and extraction according to these rules died. There was a rupture of the uterus in this fatal case. Chrobak has reported 6 deaths in 133 women treated by version and extraction, with only 48.9 per cent. living children. Braun-Herzfeld reports 2 deaths in 89 patients thus treated, with 70.7 per cent. living children. Leopold and Rosenthal report 2 deaths in 102 cases, with 68.4 living children, and Leopold and Loehmann, 3 deaths in 70 cases, with 64 per cent. living children. The statistics at Dresden are therefore more favorable than any of the others in respect to both mothers and children. The colpeurynter protects or after rupture substitutes the bag of waters.

**Manipulative Treatment of Congenital Luxation of the Hip-Joint.** C. Ghillini.—The aim sought is to bring the head of the femur into the spot where the socket ought to and would be in normal conditions. If the head is pushed up beyond it, the femur is twisted into exaggerated abduction. If it is below the proper point, it is twisted in adduction; if pushed forward, it is twisted inward, and outward if pushed backward. In more than a hundred cases thus treated, many of them bilateral, the results have been very satisfactory. The head of the femur is maintained for six months to a year in contact with the spot where the normal acetabulum should be, and the result is the formation of a new joint. It does not anatomically resemble a normal joint but has the same functions.

# Queries and Minor Notes.

## SECRETARY OF OREGON BOARD.

Detroit, Mich., April 9, 1901.

*To the Editor:*—Please give me the name and address of the Secretary of the State Board of Medical Examiners of Oregon.

R. P.

Ans.—Dr. Byron E. Miller, 401 Dekum Bldg., Portland, Ore.

## STATES NOT REQUIRING EXAMINATIONS.

Utica, N. Y., April 14, 1901.

*To the Editor:*—Will you kindly inform me what states do not require examination for practicing medicine, simply registering a diploma from a recognized school in good standing. "M. D."

Ans.—This question was answered in The Journal of April 13, p. 1081.

## U. S. MEDICAL SCHOOLS.

Pine Bluff, Ark., April 2, 1901.

*To the Editor:*—Will you kindly inform me where I can procure a list of recognized, reputable medical schools in the United States?

A. C. J.

Ans.—Write to Dr. Bayard Holmes, of this city, Secretary of the Association of American Medical Colleges, 103 State St., Chicago, and to Dr. Chr. Tompkins, Richmond, Va., Secretary of the Southern Medical College Association, for the information required.

## SCHOOLS FOR THE FEEBLE-MINDED.

Evanston, Ill., April 19, 1901.

*To the Editor:*—Will you kindly give me information as to, or recommend, some school for the care of the feeble-minded, not necessarily in, but easily accessible to Chicago? N. J.

Ans.—See The Journal of April 13, p. 1081. There is such a school at Kalamazoo, Mich., under the management of Dr. C. T. Wilbur, formerly superintendent of the Illinois State Asylum for the Feeble-Minded; also one at Godfrey, Ill., known as the "Beverly Farm" Home and School for the Feeble-Minded. Dr. W. H. C. Smith, superintendent.

## PHYSICIANS AND THE AUTOMOBILE.

Philadelphia, April 8, 1901.

*To the Editor:*—I began to use the automobile in June last, and from the very beginning of my experience have employed it in my daily work. I estimate a mileage of 5000 to 6000 on this my original carriage. It is of the hydrocarbon or gasolin type. I am more strongly convinced than ever that this is *the* system. A few of its advantages over steam may be incidentally noticed. It may be started at an instant's notice—a turn of the crank and you are off. Having reached your destination the current is turned off. You may stop an instant or you may stop indefinitely. A turn of the crank and you are ready to start again. Incidentally that means saving of fuel. Economy of fuel is another thing. At a liberal estimate steam uses twice as much. The system is safe, simple and reliable. It can be operated at all seasons, while steam is not suited to zero weather, for some of the pipes will freeze up. I am convinced that the immense superiority of the hydrocarbon system will be fully demonstrated in the near future.

A word regarding difficulties I have experienced: 1. Bad wiring gave me much annoyance at the start. A liquid battery was dirty and sloppy. The dry cell has been found reliable. 2. Pneumatic tires. The heavy machines are equipped with single-tube tires. Repair in case of puncture is difficult, sometimes impossible, and punctures will sooner or later occur. My first set of tires gave out after three months of use, and they were replaced by the maker. The second set gave better results; both rear tires have recently been punctured. Removal from the rims is necessary in order to have a repair made. This involves expense of time and money and occasionally failure to effect a repair. The seriousness of this failure must be evident when it is remembered that the outlay for a single tire is a little over $40. The use of double-tube or clincher tires on the lighter and medium weight wagons promises a solution of the trouble. Experience demonstrates that punctures occur more than twice as often on the front wheel as on the rear wheel. A puncture in a double tube can be repaired in a few minutes, while the repairmen want two or three days, sometimes longer, to repair a single tube. In case of a cut the process of vulcanizing a single tube may be impossible; if a double tube, no matter how extensive the cut, it can always be vulcanized.

Aside from a few defects of material and poor assembling my other troubles were the result of my own inexperience.

That the automobile is capable of taking the place of the horse for our daily use, I fully believe; indeed, it is able to fill the place of three horses. It may be kept on one's own premises, and gotten under way in as short a time as is required to mount a bicycle. The advantages of this must be at once manifest.

As to the amount of attention required, a man or an intelligent boy is quite necessary. In addition to the attention he may give I would urge a personal supervision of all the details of the machinery, lubrication, etc. One should have everything in perfect order by attending to the little things, e. g., tightening loose bolts and nuts, and, finally, operating one's own machine. The chances are you will then get home every time. Nor will you be compelled to make wayside demonstrations to idle, curious and sometimes impertinent onlookers. One of my friends in this city has driven one of these same wagons over 13,000 miles in the last two years, and to the complete exclusion of horses. His repair bills have not amounted to a hundred dollars in the last year. I am told by his repairman that "Dr. —— never breaks anything." The doctor who has some mechanical taste and who likes such things may safely buy an automobile now. Let it be a hydrocarbon or gasolin machine and, preferably, unless he has money to burn, a second-hand one.

Daniel Longaker, M.D.

## A NEW CURE AND A COMMENT.

We recently received a piece of medical literature in the shape of a little pamphlet in which is reported "A Case of Gastric Carcinoma," successfully treated by a certain drug, let us call it sodium chlorid. The pamphlet in question, as the man said about the play, is so shockingly bad that it is good. There is a frankness about the writer that is refreshing. Without any preamble he tells us, in a plain straightforward manner, why he reports the case: the first reason being that gastric cancer is not a disease of frequent occurrence, and that possibly he would never see another case. The second is that he had such good results that he wanted others to know of his method of treating this generally supposed to-be-fatal disease. So, too, in his clinical history of the case the author goes directly to the point and asserts boldly that this was a case of carcinoma of the stomach. He wastes no time in useless inquiry into the family history, previous illness of a similar or different character, nor does he annoy the reader with any question about differential diagnosis, whether jaundice, for instance, might have indicated gall-stones or whether the swelling might possibly have been a distended gall-bladder.

The patient, an adult male, had symptoms of gastric catarrh, for which the Doctor had been treating him for a few weeks, when one day the appearance and expression of the face suggested malignant disease, and it occurred to the physician that an examination would be in order, and, as a result of this examination, a smooth, hard, round tumor was felt "in the position occupied by the pylorus." We are told there was some vomiting and some blood found in the vomitus and stools, and hence the diagnosis, cancer of the pylorus. The patient refused consultation. Under the use of the drug in question the vomiting ceased, also the yellow tint of the eye and skin disappeared, etc. We might think the Doctor a little rash in his diagnosis, or hasty in arriving at conclusions, but we are distinctly told that this is not his characteristic manner of doing things. Thus on a certain day he reduced the dose to

4 minims and combined with it tincture of chlorid or iron, his only reason for reducing the dose being "to take time to deliberate as to the further course I should pursue in the case." We are told that there was a gradual gain in the patient's weight and strength and a diminution in the size of the tumor. In the end this tumor could not be felt and the writer, after speculating as to the manner in which the drug had caused the cancer to disappear, concluded that the action of the remedy is not only local but constitutional, and "it will prove efficacious in all cases of carcinoma wherever situated."

We laugh at the absurdity of the whole thing. We condescendingly pity the credulity, if nothing more, of the author; we are indignant that such stuff could even pretend to pass as medical literature; in disgust we toss this travesty on science into the waste-basket. And then as we pick up an article recently received for publication, and as we read it it dawns upon us that even in this paper before us are examples of conclusions based on a limited experience, of bold statements made with no consulting of authorities, of superficial observations, of misrepresentation of facts, of sweeping generalizations utterly unwarranted by the phenomena described, of strangely illogical processes of reasoning, and yet we find that the author of this article is not an obscure, humble country practitioner, but a man well known, a voluminous writer who appends titles to his name and assumes to be a leader of youug physicians, for he is a professor in a medical college. With a more tender charity we pick the pamphlet from the waste-basket and place it on the shelf of curiosities to repose side by side with the one which tells of the condurango cure for cancer, of Bergeon's, and hundreds of other cures for tuberculosis, of the cure of all chronic ailments by operation on the rectum, of elaborate descriptions of microbes which turned out to be something else or nothing at all, merely artefacts, of the multitudinous operations on women for the relief of fancied or real aches and pains, and we say to ourselves as we squeeze the little booklet in between two ponderous volumes each with a well-known name upon its back: No, rural colleague, your sin is as much less than theirs, as your volume is smaller, your influence less far-reaching and your faults more glaringly manifest."

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 4 to 10, 1901, inclusive:

Charles B. Ewing, captain and asst.-surgeon, U. S. A., now ou duty at the Santa Mesa Hospital, Manila, P. I., is detailed as a member of the board to investigate tropical diseases.

Charles W. Farr, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Elmira, N. Y., to Fort Reno, Okla., for post duty.

Francis M. McCallum, captain and asst.-surgeon, Vols., from Fort Reno, Okla., to San Francisco, Cal., en route for service in the Division of the Philippines.

George J. Newgarden, captain and asst.-surgeon, U. S. A., on the expiration of his present leave of absence, will proceed to Fort Mason, Cal., for post duty.

## Navy Changes.

Changes in Medical Corps of the Navy for the week ending April 13, 1901:

Medical Director W. K. Scofield, detached from special duty at Philadelphia, April 27, and ordered home to wait orders.

Medical Director W. G. Farwell, detached from the Philadelphia Navy Yard, and ordered to duty in Philadelphia, special.

Surgeon C. Biddle, ordered to the Philadelphia Navy Yard, April 27, as relief of Dr. Farwell.

Surgeon S. H. Griffith, ordered to duty at the Pan-American Exposition, Buffalo, April 25, in charge of exhibit of Bureau of Medicine and Surgery, Navy Department.

Asst.-Surgeon R. B. Williams, detached from Pensacola Navy Yard, and ordered to Key West Naval Station, with temporary duty at Dry Tortugas.

Medical Inspector J. R. Waggoner, detached from Naval Hospital, Cavite, and ordered to Mare Island Hospital, having been condemned by a medical board of survey.

## Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended April 11, 1901:

Surgeon C. E. Banks, granted leave of absence for six days from April 15.

Surgeon J. J. Kinyoun, relieved from duty at San Francisco, Quarantine, and directed to proceed to Detroit, Mich., and assume command of the service. Granted leave of absence for fifteen days.

Surgeon T. B. Perry, department letter of March 2, 1901, granting Surgeon Perry leave of absence for thirty days, amended so that said leave shall be for 20 days.

P. A. Surgeon J. H. Greene, relieved from duty at Berlin, Germany, and directed to proceed to Washington, D. C.

P. A. Surgeon L. E. Cofer, designated as chief quarantine officer of the Territory of Hawaii, relieving Surgeon D. A. Carmichael.

Asst. Surgeon Hill Hastings, to proceed to Santa Barbara, Cal., for special temporary duty.

Asst.-Surgeon C. H. Lavinder, bureau telegram, granting Asst.-Surgeon Lavinder leave of absence for ten days, amended so that said leave shall begin April 1, instead of March 27.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for seven days. Upon expiration of leave, to proceed to Washington, D. C., and report at Bureau for duty.

Asst.-Surgeon L. L. Lumsden, upon departure of Surgeon J. J. Kinyoun, to assume temporary command of San Francisco quarantine station.

Asst.-Surgeon Edward Francis, to proceed to New York, and report to medical officer in command, Immigration Depot, for duty.

A. A. Surgeon G. H. Altree, granted leave of absence for four days from April 10.

Hospital Steward and Chemist Henry Gahn, to assume temporary charge of Purveying Depot during absence of medical purveyer.

Hospital Steward F. L. Brown, relieved from duty at Boston, Mass., and directed to proceed to Cape Charles quarantine station and report to medical officer in command for duty and assignment to quarters.

Hospital Steward F. H. Peck, to proceed to San Francisco, Cal., for special temporary duty.

PROMOTION.

Asst.-Surgeon H. S. Mathewson promoted and appointed passed-assistant surgeon to rank as such from April 7.

APPOINTMENT.

J. A. Moncure reinstated and appointed acting assistant-surgeon, U. S. Marine Hospital Service, for duty at the Gulf quarantine station.

Surgeon D. A. Carmichael, relieved from duty at Honolulu, T. H., and directed to proceed to San Francisco, Cal.

Surgeon C. T. Peckham, granted 20 days' additional leave of absence on account of sickness.

Asst.-Surgeon Hill Hastings, to proceed to Bakersfield, Cal., for special temporary duty.

Asst.-Surgeon M. J. White, to report to Surgeon J. H. White for duty.

Asst.-Surgeon W. C. Billings, to proceed to San Francisco, Cal., for special temporary duty.

Asst.-Surgeon D. H. Currie, to proceed to San Francisco, Cal., for special temporary duty.

A. A. Surgeon R. S. Primrose, granted leave of absence for five days from March 30.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended April 12, 1901:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 23-30, 1 case; Oakland, March 16-23, 1 case; San Francisco, March 23-30, 7 cases.
District of Columbia: Washington, March 30-April 6, 2 cases.
Florida: Jacksonville, March 30-April 6, 19 cases.
Illinois: Chicago, March 30-April 6, 9 cases.
Indiana: Evansville, March 23-30, 1 case; Terre Haute, March 18-25, 1 case.
Iowa: Clinton, March 30-April 6, 1 case; Ottumwa, March 16-23, 1 case.
Kansas: Wichita, March 30-April 6, 17 cases.
Kentucky: Lexington, March 30-April 6, 8 cases.
Louisiana: New Orleans, March 30-April 6, 8 cases, 2 deaths; Shreveport, March 23-April 6, 4 cases.
Michigan: Detroit, March 30-April 6, 3 cases; West Bay City, March 30-April 6, 2 cases.
Minnesota: Minneapolis, March 30-April 6, 20 cases.
Nebraska City, March 2-23, 7 cases; South Omaha, April 1-6, 6 cases.
New Hampshire: Manchester, March 30-April 6, 6 cases.
New Jersey: Newark, March 30-April 6, 2 cases.
New York: New York, March 30-April 6, 42 cases, 8 deaths.
Ohio: Cincinnati, March 29-April 6, 3 cases; Cleveland, March 30-April 6, 35 cases, 2 deaths.
Pennsylvania: March 30-April 6, McKeesport, 1 case; Philadelphia, 1 death; Pittsburg, 3 cases; Steelton, 1 case.
Rhode Island: Riverpoint, March 10-April 8, 5 cases.
South Carolina: Charleston, April 2, a few cases.
Tennessee: March 30-April 6, Memphis, 22 cases, 1 death; Nashville, 14 cases.
Utah: Salt Lake City, March 30-April 6, 28 cases.
Virginia: Roanoke, March 1-31, 71 cases, 4 deaths.
West Virginia: Wheeling, April 1-8, 2 cases.
Wisconsin: Green Bay, March 31-April 7, 2 cases.

SMALLPOX—FOREIGN AND INSULAR.

Argentina: Buenos Ayres, Feb. 1-28, 37 cases, 21 deaths.
Austria: Prague, March 8-23, 7 cases.
Belgium: Antwerp, March 8-16, 3 cases, 1 death.
China: Hongkong, Feb. 23-March 2, 9 cases, 7 deaths.
Egypt: Cairo, March 4-11, 1 death.
France: Paris, March 16-23, 6 deaths; St. Etienne, March 1-15, 1 case.
Great Britain: England—Bradford, March 8-23, 3 cases; Liverpool, March 16-23, 2 cases; Southampton, March 16-23, 1 case. Scotland—Glasgow, March 22-29, 11 deaths.
India: Bombay, March 5-12, 10 deaths; Calcutta, March 2-9, 85 deaths; Karachi, March 3-10, 12 cases, 4 deaths; Madras, March 2-8, 11 deaths.
Mexico: Progreso, March 22-29, 8 cases.
Netherlands: Rotterdam, March 23-30, 2 cases.
Russia: Moscow, March 8-16, 4 cases 3 deaths; Odessa, March 8-23, 13 cases, 3 deaths; Warsaw, March 8-16, 9 deaths.
Spain: Malaga, March 1-15, 2 deaths.
Switzerland: Geneva, March 2-9, 1 case.
Philippines: Manila, Feb. 16-23, 1 death.
Porto Rico: Ponce, from beginning of epidemic to March 15, 132 cases.

YELLOW FEVER.

Costa Rica: Port Limon, April 6, 1 case.

CHOLERA.

China: Hongkong, Feb. 23-March 2, 6 deaths.
India: Bombay, March 5-12, 4 deaths; Calcutta, March 2-9, 26 deaths.
Straits Settlements: Singapore, Feb. 2-23, 1 death.

PLAGUE—FOREIGN AND INSULAR.

China: Hongkong, Feb. 23-March 2, 7 cases, 6 deaths.
India: Bombay, March 5-12, 1,196 deaths. Calcutta, March 2-9, 537 deaths.
Philippines: Manila, Feb. 16-23, 7 cases, 6 deaths.

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## Original Articles.

### THE GYROMELE IN THE DIAGNOSIS OF STOMACH AND INTESTINAL DISEASES.*


FENTON B. TURCK, M.D.

CHICAGO.


The gyromele (revolving sound) is a flexible steel cable, terminating in a more flexible steel spiral end. This spiral end is provided with a metallic pellet, and covered by a sponge, lamb's wool or cotton. The sound is fastened in a revolving apparatus—not unlike a surgeon's drill. After introduction into an accessible cavity of the body, if the revolving apparatus is put in motion, the rotations of the cable cause vibrations of varying degree which, being transmitted through the tissues, are perceived externally by means of auscultation and palpation.[1]

Cables of different caliber and length have been devised in order to obtain cables of different degrees of flexibility and elasticity, which considerably broadens the scope of usefulness of the gyromele, especially for diagnostic purposes.[4] But it is not only the extraordinary adaptability, flexibility and elasticity which enable the instrument to enter cavities hitherto inaccessible, but the rotary motion adds greatly to the safety and facility of the use of the gyromele sound.

Since the delicate rotations gently wend their way through any possible narrowing, and these rotations can be followed externally by the auscultating ear or the palpating finger, we are enabled to gain valuable information of cavities which were formerly inaccessible. This information is limited not alone to anatomical data, as situation, extension, capacity, etc., of the sounded cavities, but by means of specially constructed gyromele sounds we may obtain valuable data as to the contents of these cavities, adherent masses of mucus, bacteria, etc. Thus, I have been able to remove, by these means, bacteria from different regions of the stomach, and make extensive studies of the normal and pathologic flora of this organ.[3] [4] [5] [6] [11] [14] [18] The following cavities have been explored successfully with the gyromele: Nose and throat; esophagus; stomach; pylorus and small intestine; colon; bladder; uterus; thoracic cavity; false cavities of various character.

Various attempts had been made before the year 1894 to sound the stomach. Exploration with the stomach-tube for sounding the stomach was not successful, as no means of locating the tube within the stomach, such as by palpation, were presented, and, therefore, Leube attempted to locate the great curvature of the stomach by pushing in a stiff sound. Ewald ("Diseases of the Stomach," Am. Trans., 1892) shows the impossibility of locating the curvature of the stomach by using the stiff sound, in the following language: "A stiff sound is introduced into the stomach until it meets with resistance, as far as is feasible, without the employment of undue force. If, now, the sound can be palpated below the level of the umbilicus, dilatation of the stomach is proved to exist. This method has been objected to on the ground that it is dangerous, and that it is frequently impossible to feel the tip of the sound. Leube has rejected both objections, and, so far as the former (danger) is concerned, I fully agree with him. Feeling the point of the sound through the abdominal wall is an entirely different matter. It is most frequently utterly impossible to feel the sound distinctly, even if we go over the whole abdomen as carefully as we can, palpating one square inch after another. Further, we must remember that the stomach is not infrequently in a vertical position, etc. For all these reasons, palpation with the sound will only give uncertain results."

As sounding the stomach with a stiff sound was proved to be both impossible and impractical for diagnostic purposes, the method was abandoned. No other attempts appear in literature of the use of the gastric sound for diagnostic purposes, until the publication of my method (1894) of using a revolving flexible sound, which is not only an advance of all other methods, but is based upon a different principle.[1]

1. The flexibility of the sound is of such a degree as to adapt itself accurately to the situs, shape and size of the organ.

2. By means of the revolving apparatus (drill) to which the sound is attached, vibrations are produced which can be palpated and auscultated externally, thus giving us exact information of the presence and locations of the revolving cable.

3. The situation of the metal sound can also be verified *intra vitam* by means of the *x*-rays. The fluoroscope and the skiagraph give excellent results.

4. Percussion of the inflated stomach is rendered more facile and exact when the border-line of the stomach has been established beyond doubt, by means of the introduced cable. Only then are we enabled to distinguish the finer differences of sound between the stomach and the intestine.

#### ESOPHAGUS.

The difficulty and impossibility of ascertaining the exact position of the cardia, *intra vitam*, has led to methods of determining the length of the esophagus in the living, by means of external, anatomical landmarks. The usual method is to measure from the line of the incisors externally to the xyphoid appendix of the sternum, giving the sound a corresponding curve. Others measure from the incisors along the lobe of the ear to the tenth dorsal vertebra. The following is

* Presented by invitation at the Exposition of Diagnostic Instruments, in connection with the Congress of Internal Medicine, Berlin, April, 1901.

Rosenheim's method: From the second spinal process along the median line, to the costal articulation of the twelfth thoracic vertebra on the left side. This represents the length of the gullet from the uvula to the cardia; the distance between the uvula and the incisors must be added to the obtained figure (7 cm.).

It seems unnecessary to call special attention to the inaccuracy of these methods. The gyromele is the only instrument which, by the above-mentioned vibrations, makes its presence manifest as soon as it enters the stomach. If the presence of the end of the rotating sound—which is provided with a conical tampon of cotton or sponge—is once ascertained, it is then easy to exactly localize the cardia by gently withdrawing the sound until it meets with slight resistance—the narrowing of the cardiac portion of the esophagus.

The accidents reported in connection with sounding of the esophagus are appalling. These mishaps will

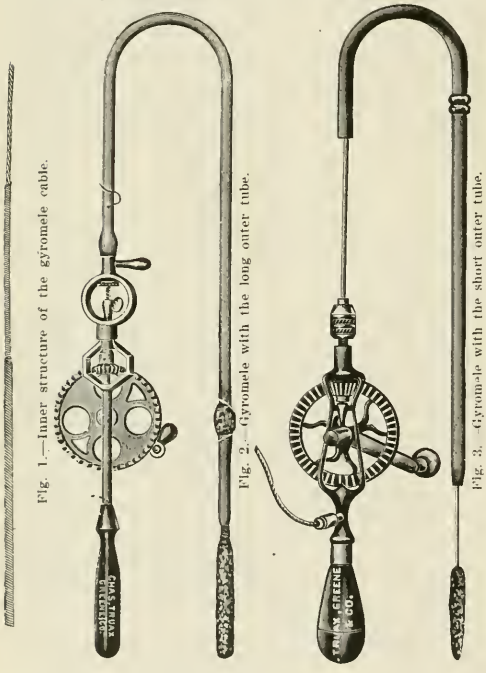

Fig. 1.—Inner structure of the gyromele cable.

Fig. 2.—Gyromele with the long outer tube.

Fig. 3.—Gyromele with the short outer tube.

be reduced to a minimal number if an instrument is used which combines elasticity, flexibility, with a cushioned extremity, and, when introduced, does not depend on the pushing force, but rather upon the gentle rotary motions, thus wending its way by any partial obstruction which it may encounter, without danger of injury.[1 3 4 7 9]

The gyromele is introduced like the ordinary stomach-tube. The vibrations of the rotating end are palpated as soon as this emerges from behind the ensiform appendix of the sternum; then, as has been described, the sound is withdrawn until the cone-shaped cotton tampon or sponge attached to its end is marked at the point of the incisors by means of a tightly-fitting, movable, rubber ring. The gyromele sound is then completely withdrawn and the distance measured from the rubber ring to the base of the cone-shaped cotton tampon, this being the distance from the incisors to the cardiac end of the esophagus.

The cable I have used for special esophageal diagnosis is of medium flexibility (No. 2, about 60 cm. in length). The cable terminates with a more flexible spiral end, which is provided with a metallic pellet, thus affording a means for the attachment of a cone-shaped cotton pledget or sponge. (Fig. 5.) When it is desirable and of advantage, the cushion of cotton or sponge is covered with a thin rubber finger-cot, tied and secured with a fine silk thread. This greatly facilitates the introduction of the cable and renders the same less dangerous than the use of any of the described instruments.

Where greater accuracy is desired, the location of the narrowing at the cricoid cartilage can be ascertained in the same manner with the additional assistance of rotary vibration, which can be easily felt at this point externally.

Where there is a patulous condition of the cardiac orifice, this orifice may not offer sufficient resistance, so the cotton pledget attached to the end of the cable is increased in thickness and the procedure repeated. The attachment of the cotton or wool pledget is an easy procedure: While the cable is being rotated, a small layer of cotton is allowed to wind itself firmly around the pellet of the spiral end of the cable. This forms the apex of the cone. A second larger layer is then placed a little above and overlapping the first layer, forming the base of the cone. More and larger layers of cotton can be added, according to the size of the pledget required.

Attachable cone-shaped sponges may be used instead of cotton pledgets. By covering the cable with a tightly-fitting rubber tube, as described,[16] which is graduated in centimeter scale, the measurements from cardia to incisors can be readily read from the cable.

*Intragastric Bag.* (JOURNAL A. M. A., June 11, 1896).—I have also used rubber bags attached to a double tube, through one of which the gyromele cable is introduced; the other serves for the introduction of air for inflation of the rubber bag. To prevent escape of air through the first or cable tube, the opening of this tube is occluded by a rubber stopper through which the cable passes. The passage of the bag through the cardiac opening into the stomach is detected in the usual manner by external palpation of the rotating end of the sound. After inflation and partial withdrawal of the bag, it meets with the cardiac resistance. (Fig. 6.) This, however, is not as reliable as my other methods, for the reason that the inflated bag occupies the gastric funnel-shaped portion of the cardia, thus meeting the resistance of the gastric walls,[15] and not of the cardiac orifice proper; this results in false measurements of the length of the esophagus and false location of the cardia. This is the reason why McCaskey in measuring the esophagus by means of this method obtained greater figures of the length of the esophagus than did other observers (Proc. of the Am. Gastroenterological Society, 1900).

I have frequently, in the past, called attention to the fact that by this method of using the gyromele strictures could be located in the esophagus, not only by measurement of the distance from the point of obstruction to the incisors, but by palpating and auscultating the vibrations of the gyromele at the seat of the obstruction.[4 7 9] Thus, Ferguson[31] was able to locate exactly an obstructing tumor opposite the bifurcation

of the trachea, before operation. He states: "Upon using Turck's gyromele, we could feel the rotation of the sponge, which was most marked opposite the bifurcation of the trachea." By the same means, diverticula of the esophagus may be explored, and, further, it may be ascertained whether the sound has entered a diverticulum or has passed into the stomach, which is determined by palpation and auscultation of the rotating sound.

STOMACH AND INTESTINES.

For the past eight years I have made extensive use of the gyromele in the exploration of the stomach and intestines, for various diagnostic purposes. In 1893 I first examined and treated a series of interesting cases, proving the accuracy of my methods when combined with the extant methods.[4]

Case 1.—Dec. 5, 1893, J. J., aged 44. Not alone were we enabled to localize the greater curvature 5 cm. below the umbilicus, but it was also possible, by the aid of the gyromele, to diagnose a thickening of the pylorus with absolute certainty.

Case 2.—Nov. 3, 1893, Mrs. J. L., aged 51. Localization of the greater curvature below the umbilicus, discovery of a tumor in the anterior wall of the stomach, and bacteriologic examination was made.

Case 3.—A. M. C. Greater curvature below the line of umbilicus and also tumor-like thickening of the anterior

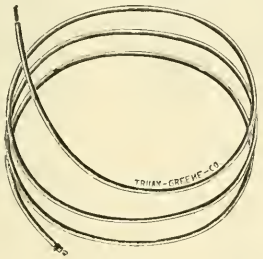

Fig. 4.—Rubber coated metal cable with metal pellet end

gastric wall. Report of necropsy (published) confirmed the diagnosis, and proved that with the aid of the gyromele it is not only possible to exactly determine the dimensions of the stomach, but also to diagnose, *intra vitam,* thickenings and tumors of its walls.

Case 4.—Nov. 4, 1894, L. S. By means of the gyromele, the greater curvature was found 4 cm. *above* the umbilicus-line. An explorative laparotomy confirmed this, and revealed a scirrhus along the lesser curvature.

I have had numerous occasions in the past eight years to make the diagnosis by the aid of the gyromele and see it confirmed by laparotomies and necropsies.[4] I have also reported that during abdominal operations performed by Murphy, Newman, Ferguson, Beck, myself and others, I could determine with exactness the vibrations of the revolving sound.[30]

Dr. Borland and myself have reported on a series of experiments with the gyromele on the cadaver. It must be admitted that the phenomena due to the gyromele are more positively manifest in the living.[30]

During transillumination of the patient with the *x*-rays, a procedure which I have used since 1896, it could be clearly observed how the sound made its way through the stomach and pylorus into the small intestine.[30]

Case 5, which I demonstrated in London, in 1898, (Demonstrations and Lectures at St. George's Hospital, August 8, 9 and 10) was that of a woman 50 years of age, who had shown stomach symptoms for over a year. The vibrations of the gyromele could be felt through a paper placed upon the abdomen of the patient, and thus an exact drawing of the contour of her stomach could be made. An accurate description of this case is to illustrate the technique of gastric diagnosis by means of the gyromele. The patient manifested all the symptoms of retention of food—frequent vomiting, emaciation, etc.[41]

Aug. 8, 1898, three hours after a test-meal, a very flexible gyromele sound was introduced, the patient

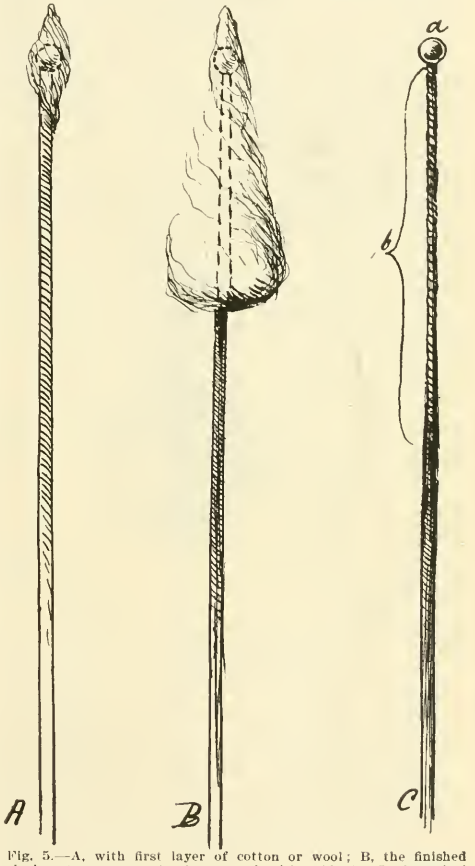


Fig. 5.—A, with first layer of cotton or wool; B, the finished conical cotton tampon (to be covered with rubber); C, the spiral end with metal pellet.

being recumbent. Location of the greater curvature was determined through the vibrations of the rotating gyromele, and found to be on the line of the umbilicus, "and by pushing the cable further into the stomach until the revolving sponge impinges against the lesser curvature, we find it located just below the border of the left lobe of the liver. On withdrawing the gyromele and testing the liquid which can be obtained by squeezing the sponge, we find that there is no HCl present in the stomach. The outline and position of the stomach, as thus determined, are shown by the diagram. (Fig. 7a.) . . . . In order to determine the degree of

distensibility of the stomach, we now pass in a gyromele having a somewhat *less flexible* cable than the one just used, and again determine the outline of the stomach by palpating the revolving and vibrating sound. This time, with the patient sitting upright, we find the greater curvature below the umbilical line and quite near the hypogastric line, while the lesser curvature can be distinctly outlined just above the epigastric line. As shown in the diagram (Fig. 7b), we find with this second cable that the stomach is only slightly dilated, but that it is a case of marked gastroptosis with very lax ligaments, the stomach being freely movable in its position. The long duodenal cable is next introduced for the purpose of sounding the pylorus. The sound is obstructed as it reaches the pylorus and further pushing only elicits signs of pain. The tip of the revolving sound can easily be recognized and the palpation indicates a hardened and thickened pylorus, but no tumor can be felt."

From the examinations thus made, we arrive at the following diagnosis:

1. Absence of free HCl after various test-meals, together with the failure of the gyromele to produce a

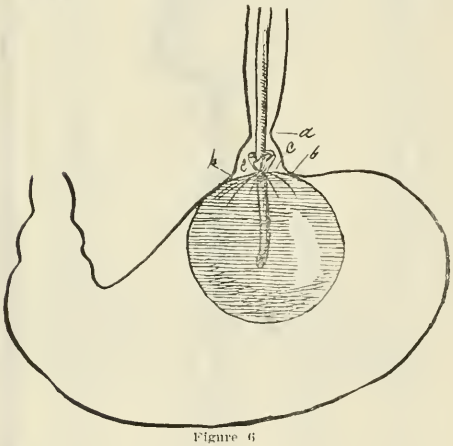


Figure 6

secretion of the acid, would indicate atrophy of the glands.

2. The slight dilatation of the stomach, together with the ease with which the whole viscus can be pushed downward, as shown by the use of cables of different flexibility, indicates the presence of gastroptosis and the thickened walls show hypertrophy.

3. The long retention of food indicates either motor insufficiency due to myasthenia, or pyloric obstruction, and as the duodenal sound indicates a hardened and thickened pylorus, we conclude that this is a case of stenosis pylorica. In view of the fact that the pyloric obstruction, notwithstanding the marked atrophy, is almost complete, I recommend immediate operation.

"(Through the courtesy of Dr. Ewart, the attending physician in charge of the case, the following hospital report has been received:) Operation was performed by Mr. Jaffrey on August 17. No outlying mass of cancer or glands could be felt. The stomach was of *moderate size* with thick muscular walls and *did not reach below the umbilical level. Owing to its dropped state* it could be easily pulled through the incision as well as the pylorus. The pylorus and its vicinity were free from peritoneal adhesions or thickenings. There were a few superficial pyloric venules and minute whitish specks, but no important engorgement. The gall bladder was greatly distended with bile. *Marked thickenings could be felt* not only *at the pylorus*, but in one inch or two inches along the duodenum and two inches or three inches along the lesser curvature. This decided Mr. Jaffrey to prefer gastro-jejunostomy to pyloroplasty, and this was accordingly performed with satisfactory results, the patient doing well for two days. On the third day she began to vomit. Exhaustion set in on the fourth day, when she died. At the necropsy, no tympanites or peritonitis could be found. The external and the stomach wounds were sound. *The thickening* which had been felt, was found to be almost entirely muscular, traversed from within by a few fibers from a thin radiating deposit with white fibrous tissue in the submucous layer. In connection with this, the mucous membrane at the pylorus and for one inch beyond, was atrophied, glistening and striated.

"There appeared to be nothing in the case, judging

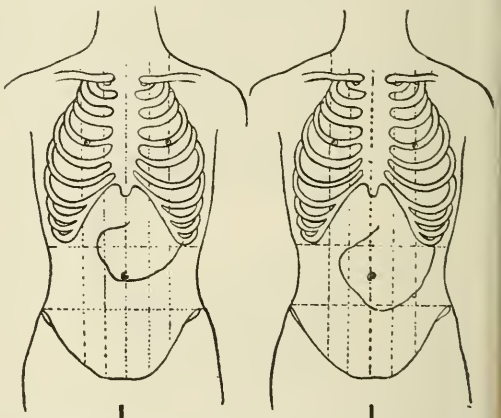

Fig. 7A. The outline of stomach as given by the movements of the light flexible cable.

Fig. 7B.—The outline given by the movements of the less flexible cable.

from these appearances, incompatible with complete recovery from the gastric dilatation, as well as the *gastroptosis*, had the patient's strength been equal to the surgical ordeal. The case tends to show how slight may be the impediment which leads to these fatal results."[41]

### THE GASTRIC MUCOSA.

The examination of stomach contents obtained by use of the gastric tube marked an epoch in the diagnosis of diseases of the stomach and intestines. The stomach contents inform us of normal and pathologic secretion, and food remnants contained in the contents give information as to the approximate degree of the motility of the stomach. Material lying freely in the cavity of the stomach is easily removed by means of the ordinary tube; the mucus adherent to the walls of the stomach in pathological conditions is only obtained with greater difficulty, if at all, in the ordinary methods. Beaumont has demonstrated the presence of this adherent mucus in the person of St. Martin. He found it particularly in "catarrhal" inflammations of the stomach.

Ewald *(Loc. cit.)* recommends lavage of the stomach for the purpose of "loosening the mucus which adheres

to its walls, partly chemically and partly mechanically," but, as stated, this was advised for therapeutic purposes.

Boas (I. Boas zur Symptomatologie des Chronischen Magen-katarrhs und Atrophie der Magenschleimhaut, *Münch. Med. Wochenschrift,* 1887, No. 42.) differentiated between the mucous form and the atrophic form of gastritis, which was a decided step in advance.

Fig. 8.—Duodenal sound with spiral end.

Einhorn (Dis. of the Stomach, N. Y., 1896), in his description of pathologic anatomy of chronic gastritis, states: "The mucosa is usually covered with a thick layer of tenacious mucus, presenting a yellowish-gray or slate color," but this refers more to the pathologic findings postmortem, and mention is not made of this as a diagnostic feature during life. Only the stringy mucus that is free in the gastric cavity and found on removal of the stomach contents by the tube, is considered; when mucus is not found in the gastric contents, it is differentiated as one of the other forms. The former condition is termed "gastritis chronica mucosa."

I reported an interesting case in 1893, of a man who suffered from periodic attacks of great flow, not of gastric juice, but glairy mucus. Between attacks but little mucus could be found. Many of the cases where mucus is found free in the cavity may be due to neuroses and other general conditions. (*North American Practitioner,* May, 1893.)

Leube, Penzoldt, Riegel and others have recognized, chiefly by the postmortem findings, that the mucous membrane is coated by the adhering and tenacious mucus, associated with pathologic changes in the mucosa.

Hemmeter[34] (p. 394) states: "The epithelial surface is in the various forms of gastritis, covered with a tough, glassy mucus, epithelial detritus, and sometimes pus."

It must be admitted that the question whether material removed from the stomach and consisting of mucus, food remnants, epithelia, leucocytes and bacteria had been lying loosely in the stomach or had adhered to its walls, is extremely hard to answer, if possible at all, but it is of the greatest diagnostic importance. Of like importance is the determination of the particular area of the stomach mucous membrane from which the material was derived. The diagnostic significance is not confined to the cellular elements and food detritus contained in the tough mucus, but a study of the nutritive variations of the culture-media will often determine the character or grade of infection. I have rarely been able, even by the prolonged use of the gastric needle douche under considerable pressure, to wash off the mucus covering the stomach wall. If, however, the fasting stomach is first thoroughly douched until the cavity is free from material, and the waste water runs off clear, and then the flexible, revolving sound is introduced and rotated, the adherent mucus masses are gently loosened and brought out. The region from which it is desired to remove this material can be readily determined by external palpation of the revolving sound

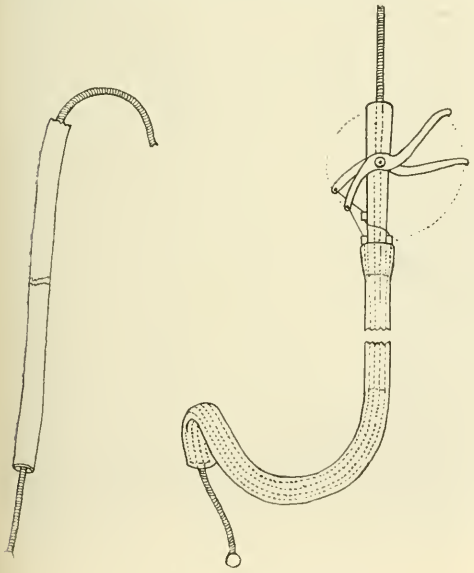

Fig. 9.—Duodenal sound before introduction.
Fig. 10.—Duodenal sound after introduction with silk threads drawn taut.

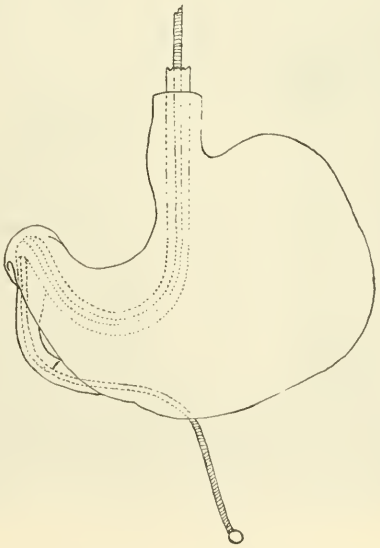

Fig. 11.—Duodenal sound in situ.

within the stomach. Before the revolutions of the sound can be felt externally, it is necessary that the end of the sound must have come in close contact with the mucous membrane from which the mucus is removed and found upon withdrawal of the instrument. The material thus obtained can then be used for examination. If it is desired to obtain material directly from a certain region of the stomach—for instance from the fundus, or greater or lesser curvature—the gyromele sound is introduced through a double stomach-tube. The cable passes through the wider tube while a strong silk thread is passed through the narrow tube. The thread is attached to the end of the longer tube which carries the cable. Upon traction of this silk thread, the cable can be directed to any selected area. By these methods we are enabled to make extensive chemic, microscopic, and bacteriologic studies of the stomach. I have used these methods constantly and successfully in my private clinic.[1 3 4 5 6 14 18]

cially since these conditions vary greatly in different individuals. However, before the sounding of the pylorus is proceeded with, the situation, size, distensibility, etc., of the stomach must be correctly determined. Inflation of the stomach with air greatly facilitates the sounding, because the end of the sound glides more easily along the distended than the collapsed walls. The sound having passed the pylorus, the air is allowed to escape from the stomach and this organ resumes its former shape. When the sound turns through the antrum pyloricum toward the lesser curvature, a procedure which can be palpated externally, it is withdrawn slightly, whereupon the end of the sound enters the antrum. The rotations of the cable are continued while the sound is cautiously pushed forward, and the latter can then be palpated, having assumed the S-shaped curve of the duodenum. At this time it is possible to aspirate the duodenal contents through the cable tube, which convinces of the presence of the end

Fig. 12.—Palpation of the vibrations of the rotating cable within the stomach and outlining the contour upon the abdominal wall. (From the author's private clinic.)

### PYLORUS AND DUODENUM.

In sounding the pylorus and duodenum with the gyromele, a more flexible cable is used, which terminates in an exceedingly flexible and elastic steel spiral. (Descriptions of the apparatus and its use were published in 1894 and 1895.)[1 2 3 4 8 9 14] The object of the spiral end is to give the sound greater adaptability, combined with a certain degree of resiliency. These qualities enable the sound to more easily adapt itself to the anatomical conditions, which is very desirable, especially of the sound in the duodenum. Transillumination with the *x*-rays, gives very instructive and convincing pictures.

Instead of the simple rubber tube, the above-described double tube with the silk thread directing the end of the sound can be used. I have also devised an instrument in which the silk thread is in the same tube with the cable. (Figs. 7 and 8.) Upon traction of this thread, after the sound has reached the greater curvature, a double curve of the sound is effected, which directs its

end with ease into the pylorus. (Fig. 10.) Not all cases require duodenal sounding, but in many of them this exploration is not only of value, but indispensable for differential diagnosis, as the following cases will illustrate:

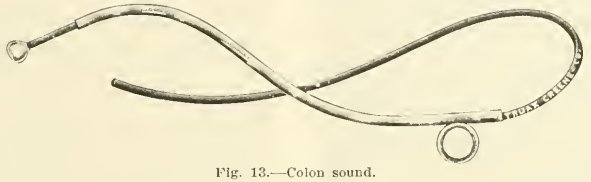

Fig. 13.—Colon sound.

Case 6.—Dec. 5, 1893, J. J. O'C., was sent to me with a diagnosis of carcinoma of the pylorus. The general symptoms of this disease were more or less evident. Thorough sounding of the pylorus and palpation combined therewith excluded a carcinomatous affection of this organ. After a comparatively short treatment, the patient gained more than 10 kgs. This patient has not shown any gastric symptoms since 1894.[4]

Case 7.—Another case is that of Dr. C. L. C., who was sent to me with a suspected stenosis of the pylorus, by Dr. Murphy. There existed in this patient an enormous dilatation of the stomach, great emaciation and debility; weight 54 kg. Sounding of the pylorus by means of the gyromele revealed a patulous, easily passable pylorus and no duodenal obstruction. The *x*-rays confirmed these findings. The patient was treated for myasthenia, and had gained 14 kg. at the end of six weeks. The last reports confirmed the diagnosis.

TECHNIQUE.

The technique of sounding by means of the gyromele is simple and easy. The cable is introduced in almost the same manner as the ordinary stomach-tube. Some experience is required to locate the fundus, greater curvature, pylorus and lesser curvature with certainty, but even the inexperienced find the introduction of the thin cable, covered with rubber tube the thickness of which reaches at the most 5 to 6 mm., and armed with the soft cotton tampon or sponge, easier than the introduction of the thicker and flabby stomach-tube. This is particularly the case with patients unused to intragastric methods. The steel sound serves here the same

Fig. 14.—X-ray of the duodenal sound in situ. The stomach is enormously dilated and markedly myasthenic, which accounts for he extraordinary excursion of the stiff cable, and the stomach is thereby displaced to the left.

purpose as the formerly much-used "mandrine" of the Germans, but because of its greater flexibility and elasticity, it conforms more easily to any intervening curves.

The rotating cable is covered the distance from mouth to cardia with a rubber tube. In this tube, the cable moves freely, and thus little friction is caused. Since this surrounding rubber tube remains stationary, a pushing to and fro of the cable is unnoticed by the patient. As soon as the tampon on the end of the cable has reached the greater curvature, it meets slight resistance, the cable bends, and the end glides along the greater curvature until at the antrum pylorieum, or lesser curvature, it again meets resistance. Now, the stomach is moderately inflated with air and the cable pushed slowly forward; its end now turns—as has been observed by the *x*-rays—toward the left and upward along the lesser curvature. Thus the cable is seen to describe an irregular circle, influenced by the contour of the stomach. Pushing the cable still farther into the inflated stomach, it will bend into the fundus, there adapting itself to the dome thereof. All of these phe-

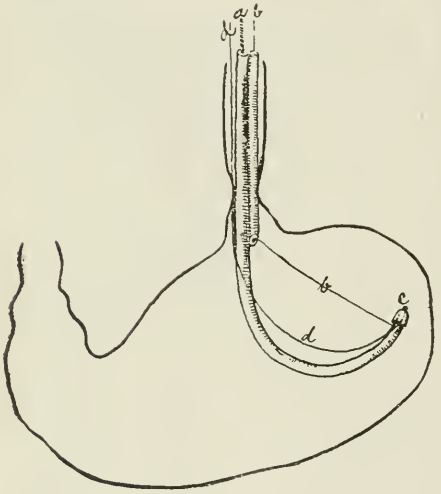


Figure 15.

nomena can be observed with as much certainty by external palpation and auscultation of the rotating cable end, as with the *x*-ray. This holds true, even of those parts which are covered by the left lobe of the liver or by the ribs. (Fig. 12.) By following the rotations of the cable end with a skin pencil the contours of the stomach are drawn upon the abdominal surface. In lean individuals the rotations may be perceived by inspection; in fat subjects, it is advisable to put the cable in more accelerated motion, in order to palpate the rotations. Variations in diameter of the stomach walls influence the degree of the vibrations considerably, and I have been often able to convince myself of this fact postmortem, as reported. Determination of the various grades of thickness, tension and tonus of the gastric walls is arrived at by sounding with cables of various strengths. The observed curves of distention give, in comparison with each other, the desired information.

In sounding the sigmoid flexure through the rectum, different circumstances had to be considered, and for this purpose a modification of the gyromele was required (Fig. 1.) The technique of sounding is similar to that of sounding the stomach and duodenum. It is therefore unnecessary to dwell especially on the sounding of the colon, and hence, I only mention it here.

### X-RAYS.

By the use of the *x*-rays for transillumination of the body, diagnosis by means of the gyromele cable combined with palpation is made more certain and easy. The first attempts to observe the introduced sound *in situ*, with the aid of the *x*-rays, were made by me in the spring of 1896. The degree of density of the steel sound is seen to interrupt the rays and give a distinct contour of the sound. In May, 1897, I demonstrated the transillumination of the body with the sound introduced and put in motion, before the Illinois State Medical Society,[30] and I have since repeatedly called attention to the importance of this procedure. Different substances contained in stomach and other rubber tubes, as mercury, bismuth salt emulsion, etc., have been used with the intention of making the contours visible during transillumination with the *x*-rays. The visi-

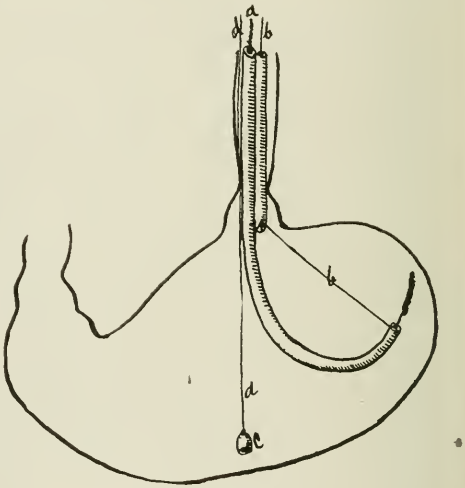


Figure 16.

bility and accuracy of these contours, obtained after introduction of my steel cable, can be observed in the accompanying half-tone illustration. The clearness of the picture has been somewhat impaired by its reproduction. The solid cable is plainly visible as a sharp line, while the hollow spiral end is represented by a more indistinct shadow; in fat and old individuals it is often impossible to distinguish the spiral at all. It is extremely interesting to observe the excursions of the rotating cable with the aid of the *x*-rays or the entrance of the end of the cable into the pylorus or duodenum. I have often found the borders of the stomach, previously marked by lead roll fastened upon the abdomen, confirmed by transillumination. The ensiform appendix and umbilicus were marked with metal buttons, and their position was also confirmed.

Measurements were made by graduating the cable with lead shot. All those experienced in the *diagnostique* of the stomach and intestines will readily appreciate the value of this method. It is easily seen, when applying bismuth salt emulsion, by means of the gyromele, that the walls of the stomach and esophagus

become thoroughly coated with a stratum of the emulsion.[1 7 9 30]

BACTERIOLOGY.

What has been said in regard to the removal of material from portions of the mucous membrane for pathologic examination will give a clear idea of the method used in taking cultures for bacteriologic examination from any selected portion of the gastric mucosa, without contamination from the mouth, esophagus, or other portions of the stomach.

The cable is enclosed in a tube and the end covered with a rubber cap (Fig. 15) which is attached to a string that passes outside along the tube, and when the desired point is reached the cap is pushed off and withdrawn. (Fig. 16.) After a culture is taken from the walls, the cable is drawn into the tube again and the instrument withdrawn from the stomach.

A portion of the rubber end of the tube is then cut off to prevent contact of the sponge with any material which might enter it as it is being withdrawn. The sponge is then pushed out and inoculations made in the usual manner. I have used in special work, requiring great accuracy, a second outside tube that reached to the cardia only. This forms a protection sheath to the above-described tube that is pushed into the stomach. For practical purposes, the simpler method is sufficient.

It is not possible to make accurate bacteriologic investigation of any kind where contamination takes place. This is one of the chief principles upon which modern bacteriology rests. A stomach-tube introduced into the stomach and the stomach contents examined for bacteria gives no scientific data of the flora of the stomach. The micro-organisms in the lumen of the stomach, mixed with food, are transient and, without a constant factor, we can make no accurate deductions. The colonies develop upon the walls of the mucosa, in the bed of mucus, food detritus and exfoliated cells, which adheres with glue-like tenacity. This furnishes an opportunity for bacteriologic examination if we can secure such material uncontaminated. I have already referred to my studies of the gastric flora under various pathologic conditions.[1 3 4 6 11 12 16] The normal stomach, as previously shown, does not permit germs to develop upon the mucous walls, although germs may be found free in the lumen. From a series of experiments upon dogs, my conclusions were that gastritis is caused chiefly by the growth of a variety of germs that develop upon the walls of the stomach; the type of inflammation was not dependent on special forms, but on the groups that predominated. I have verified the accuracy of these methods by cultures taken from the walls of the mucosa during operations for gastrostomy, gastroenterostomy and pylorectomy. Gehrmann,[44] referring to the use of the gyromele in bacteriology, states: "It is apparently the only way of attaining definite data as to bacteriology of the stomach."

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# A NEW OPERATIVE METHOD TO EXPOSE THE SEMINAL VESICLES AND PROSTATE FOR PURPOSES OF EXTIRPATION AND DRAINAGE.

## A PRELIMINARY REPORT.*

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NEW YORK CITY.

The extravesical incisions heretofore employed to expose the prostate and seminal vesicles are the Von Dittel, the Zuckerkandl and the Kraske.[1] In my book on diseases of the genito-urinary system, recently published,[2] I have fully detailed these operations, consequently in the present connection little attention will be paid to them aside from citing their surgical shortcomings.

In all these operations the trunk of the patient lies horizontally. In the Zuckerkandl operation the ordinary lithotomy position is maintained. In the other two the patient lies on the abdomen, the thighs hanging vertically downward over the edge of the table. The space afforded by the Zuckerkandl incision is too limited to allow a surgeon to do any accurate work in connection with organs so deeply situated as the seminal vesicles. The operation is bloody and tedious, numerous vessels having to be ligated in inaccessible positions. Both the Von Dittel and the Kraske operations are lateral ones, consequently only the right or left seminal vesicle and corresponding side of the prostate, as the case may be, are well exposed during a given operation. The Von Dittel operation was designed espccially to expose the prostate, and it also does not serve the purpose of exposing sufficiently the region occupied by the seminal vesicles. Besides being unilateral the Kraske operation is formidable, owing to the extent of the muscular structures, the division of which its performance necessitates. When the seminal vesicles and prostate are in this manner exposed, they lie at the bottom of such a deep wound that Redygier, in order to satisfactorily manipulate them, found it necessary to make the operation still more formidable by advocating a transverse cut across the sacrum just below its third foramen.

Although I have had considerable personal experience with these operations in exposing the seminal vesicles, I have found them all very disappointing, and this has led me to originate the procedure which I am now to report, and which I have found eminently satisfactory. After describing my method in detail, I will report five cases in connection with which I have practiced it. These five represent my experience up to date, with the operation. The method is as follows:

In the first place it must be remembered that the perineal and pelvic structures to be submitted to operation are soft, yielding and elastic. In order to facilitate an accurate dissection through such tissues they should be made to assume as stable a position as possible, and that can only be accomplished by putting them on the stretch, thus making them taut. This can be accomplished by flexing the thighs sharply, as in the extreme lithotomy position. The patient with his thighs so flexed is put belly downward on a Trendelenburg

* Read before the New York County Medical Association, Feb. 18, 1901.

1. In this connection mention should be made of the interesting surgical work of Dr. Hugh Young, of Baltimore, who has on two or more occasions exposed and removed the seminal vesicles by opening the abdomen and flexing the bladder forward.

2. The Macmillan Co., New York, 1900.

table, the buttocks protruding somewhat over the end while the flexed thighs straddle the table. The end of the table is then inclined upward quite sharply. In this position the body is maintained by sand bags, strappings and the attention of attendants. Figure 1 represents the position described. It is generally better to put the patient in this position after he is under the influence of an anesthetic. Dr. Stone, my house surgeon at the city hospital, has had a table made with notches at the sides to take the knees, which device may prove of some advantage in steadying the body. An antiseptic, lubricated cotton tampon, to which a tape is attached, is then pushed into the previously cleansed rectum, well up into the region of the sigmoid, in order to guard against bowel leakage during the operation. In the Von Dittel operation a catheter is maintained in the urethra to mark the position of the canal during the performance of the operation. In my operation no catheter is necessary or advisable. I make it a point, however, to see that the bladder has been emptied just before the administration of the anesthetic.

The next step is the external incision. This consists of two somewhat converging longitudinal cuts, which are connected at their dependent and proximal extremities by a transverse cut. The longitudinal cut to the operator's right begins a little above the upper

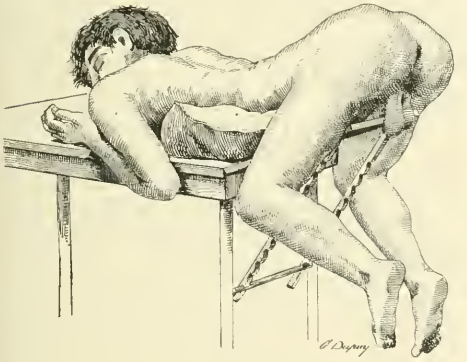

Fig. 1.

border of the patient's coccyx and just inside the body of his right ischium, and extends downward and slightly inward, keeping just within the border of that bone, passing the tuber ischii and ending somewhat below that tuberosity at a point laterally and about three-fourths of an inch anteriorly to the anterior margin of the anus. The longitudinal cut to the operator's left corresponds exactly to the one just described, it lying in like manner along and just within the body of the left ischium. The transverse cut connects the converging ends, dividing the perineum transversely about three-fourths of an inch anterior to the anterior margin of the anus. Figure 2 shows the line of the incision. The line of incision being so marked the next step is to incise deeply along the longitudinal cuts, going through the fatty tissue of the ischiorectal space and dividing above a few of the lower fibers of the gluteus maximus muscle. The transverse cut is then deepened, the anterior layer of the deep fascia being cut through. Great care should be taken in cutting down transversely to keep sufficiently away from the anus to avoid wounding the sphincter muscle. The forefinger of the operator's left hand should next be inserted into the rectum, the ball of the tip being turned downward against the anterior rectal wall, while the corresponding thumb presses against the loosely dissected rectum, the hand at the same time exercising upward traction as illustrated in Figure 3. The gut is thus held up in the grasp of the thumb and forefinger, while with his right hand the operator employs the knife to dissect more deeply, cutting through the levator ani muscle and the visceral layer of the pelvic fascia. It must be borne in mind, in this connection, that the pathway of the dissection, which is between the urethra and rectal wall, is very narrow. The forefinger in the rectum acts in this deep dissection as a most important guide. The stroke of the knife in making it should be inward and at the same time toward the rectal wall. The tip of the finger should always be moved so that it is just behind the portion of the rectal wall where the dissection is being made. This being done there is no danger of perforating the rectal wall, and at the same time the direction of the dissection, keeping along close to the rectal wall, is such that the urethra escapes damage. In case the lower portions of the lateral incisions have not been deep enough to sever the fibers of the levator ani muscle they can now be made so. This accomplished, the rectal flap of the wound can be still further raised. The knife is then for the time being discarded and the operator's right forefinger inserted along the dissection, keeping just below the rectal wall till it passes through

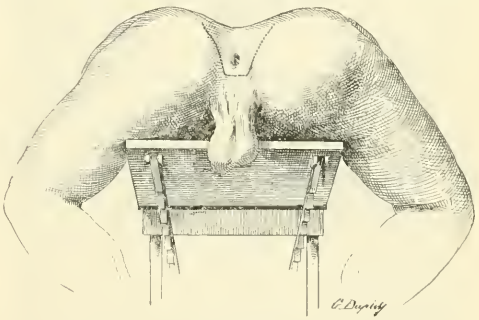

Fig. 2.

the cut in the visceral layer of the pelvic fascia and enters the lymph space which lies between the prostate and the rectal wall. This space being reached, the left forefinger should also be passed in alongside the right and the path of the wound over the prostate divulsed by separating the fingers. This much accomplished, it is comparatively easy, by a continuance of this separating process with one or both fingers, to strip the loose rectal connections off from the seminal vesicles and the posterior bladder wall, leaving those parts exposed to direct surgical attack. The operation for which the incision was undertaken being completed, the walls of the wound should be carefully adjusted by deep sutures, so as to bring the rectum back into its original position. A space, however, for gauze packing, should be left in the middle portion of the transverse cut. If the sutures about the rectal portion of the wound are not deep, so as to allow the sphincter to become firmly united to the outlying structures, some tendency to rectal prolapse may eventually develop. Temporary retention of urine demanding the passage of a soft catheter is very apt to develop, especially in cases where considerable gauze packing is left connecting the deep track of the wound with the

surface. As the tissues in this part are well nourished, first-intention is the rule.

This operation renders direct surgical attack feasible in many rebellious forms of seminal vesicular disease which have formerly been left unaided, or which have responded unsatisfactorily to palliative measures of treatment. Acting on this assumption I have in this manner opened and drained thickened and catarrhally-distended seminal vesicles, have freed them from dense inflammatory adhesions, have removed a neoplasm from the interior of one of them, and have entirely extirpated one. Aside from extirpation of the seminal vesicles, much of the surgery I am now doing in this connection is in the nature of pioneer work. As the patients on whom I have practiced it are, however, still in the hospital, convalescent, or have been only recently discharged, it is as yet too early to draw conclusions as to its true surgical value. I have accordingly called attention in the title of my paper to the fact that my report is a preliminary one. This specification it is needless to say does not apply to my method of operating, the advantages of which are established. The operation, as I have stated, exposes the prostate most satisfactorily, making its removal comparatively easy. Although I have removed a very large number of pros-

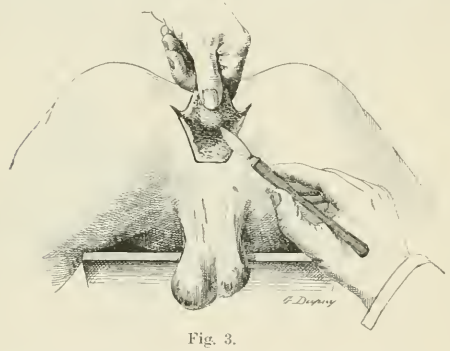

Fig. 3.

tates from those suffering from the effects of prostatic hypertrophy, I have almost uniformly done so in connection with a suprapubic or perineal cystotomy, and shall probably continue to do so in spite of the easy route afforded by the operation just described, since I consider drainage and treatment of the bladder in that class of cases a most important feature in the after-treatment, the accomplishment of which is impossible in connection with an extravesical operation. For suppurative conditions in connection with the prostate the operation I have described would be of practical value.

Up to the present time I have employed my operative method on five occasions. The patients have all recovered most satisfactorily, their stay in the hospital averaging about three weeks. In three of them the purpose of the operation was to expose chronically diseased seminal vesicles for incision and drainage. In these instances free longitudinal incisions into the diseased sacs were made and, were the interior of the organs was found to be granular from chronic catarrh, such tissue was removed by gentle curettage. In all cases the cavities of the sacs were left packed with gauze, while gauze drainage to the surface of the wound was established. Wherever the sacs were found bound down by perivesicular inflammatory adhesions, such were broken up, leaving the organs free. This is an original method of treating chronic seminal vesiculitis. I think it will prove of much value in connection with very aggravated cases. As my experience with it is as yet, however, very recent, I will not at this time comment further on it.

One of my cases represented an instance of extirpation of a seminal vesicle, while from another I removed a neoplasm from the interior of a seminal vesicle, leaving the sac intact, the first operation of its kind on record. The neoplasm in question was an adenoma having, however, associated with it certain evidences which made the examining pathologist fearful of the coexistence of carcinoma.

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## MYASTHENIA GRAVIS PSEUDOPARALYTICA.

### (ASTHENIC BULBAR PARALYSIS.)*

J. R. BUIST, M.D., AND E. G. WOOD, M.D.
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In 1877, Wilks, of Guy's Hospital, London, published the report of a case of "Bulbar Paralysis without Anatomical Changes." "The patient, a girl, could scarcely move about, spoke slowly and had strabismus. For a month she remained in much the same condition, then all the symptoms became aggravated and in three days they assumed the characters of bulbar paralysis. There were indistinctness of speech, difficulty of swallowing and inability to cough. Respiration became increasingly difficult, and death rapidly supervened." The next year Erb reported three cases in which the chief symptoms were a striking paresis of muscles, especially of mastication, of the neck and the eyes (ptosis), less of those of deglutition, the tongue and extremities.

During the twenty years that have passed since Wilks reported this interesting condition, 62 cases have been reported, including our own, most of them (46) from the continent of Europe—10 from England and 6 from this country. Though there has been a notable lack of unanimity in the nomenclature of this affection, the clinical features of the cases recorded by the various observers have been so strikingly similar in all their salient features, and the results of the autopsies have, with one or two doubtful exceptions, so uniformly presented a complete absence of all signs of organic disease both macroscopic and microscopic that there can be no reasonable doubt that practically all the cases belong to the same category.

To the earliest observers the symptoms which attracted the greatest attention were those referred to the muscles innervated by the bulbar nuclei, hence whatever the lesion or disturbance of function might prove to be, it was naturally referred to the bulb and the various designations of "bulbar paralysis without anatomical changes" (Wilks, 1877) and "asthenic bulbar paralysis" (Strümpell, Church, Dana, and Collins, in "Twentieth Century Practice") were given to the disease.

In 1890, Shaw[2] reported a characteristic example of the disease. In this case he drew particular attention to the weakness and exhaustibility not only in the muscles innervated by the bulb, but also in the muscles of the eyes and extremities. During recent years this weakness and exhaustibility of the muscles generally has taken perhaps a more important place in the symptomatology of the disease than that formerly given to the bulbar symptoms.

In 1895, Jolly[3] reported a case under the title of "Myasthenia Gravis Pseudoparalytica," and he seems

* Read before the Nashville Academy of Medicine, Dec. 11, 1900.

to have been the first to use this name. Recently the English writers, notably Buzzard, with Sanger Brown in this country, have adopted the same title. While it may be claimed that such a title is unscientific, one may urge that it is not misleading, that it suggests no pathologic conditions that might prove to be erroneous, and that it refers especially to the characteristic clinical feature of the disease.

*Etiology.*—As to the etiology, practically nothing is known. Sex seems to play no important part. It has been observed most frequently in young adults. A few cases have been preceded by influenza, typhoid fever, prolonged worry or mental or physical exertion, but in the great majority of the cases the patients have been strong healthy individuals, free from any apparent taint, hereditary or acquired, before the attack, and in no instance recorded has any observer been able to attribute the disease to any definite cause. Rarely has there been a family tendency to nervous disease. Syphilis and alcohol seem to play no part as an etiologic factor.

*Pathology.*—At present nothing definite is known as to the true nature of the disease. In seventeen instances autopsies have been held by competent observers, with the practically uniform result that no lesions have been discovered either in the affected muscles or in any part of the nervous system, central or peripheral, that were sufficient to account for the symptoms. Careful and extensive microscopic examination of the whole nervous system by the most modern methods failed to discover any departure from the normal in 11 of the 17 autopsies; in the other 6 the lesions were slight and inconstant, and consisted of slight degenerative changes in the intramedullary portion of the anterior roots in one case, in the cells of the motor gray matter from the oculomotor nucleus through the whole length of the cord in another, of partial disappearance of the chromatophilic elements of the third, sixth, seventh and twelfth nuclei in another, and of slight medullary hemorrhages that possibly occurred while dying in the other three. By some the disease is considered to be toxic, the result of disturbed metabolism, and it is possible that the poison produces changes in the cells which can not be observed under ordinary modes of investigation, but which may in the future be demonstrated by more recent methods of examination.

An interesting experiment by Dr. Farquhar Buzzard[4] goes a long way to prove that the disease is one of the nervous system and not a myopathy. In a case under his observation he completely exhausted the biceps muscle, by faradic stimulation until movements were no longer visible; he then immediately applied galvanism and a prompt and vigorous contraction occurred. This tends strongly to show that the exhaustion was not in the muscle but in the conducting power of the nerve. The absence of muscular atrophy also militates against the myopathic nature of the disease.

*Symptoms.*—The characteristic features of the disease are the weakness of the muscles and the rapidity with which they become exhausted, the tendency to affect not only the bulbar muscles but also those of the eyes and extremities, the occurrence of remissions and exacerbations with a tendency to vary from day to day, the presence of the myasthenic reaction, the retention of intellectual and sexual power, and the absence of atrophy and fibrillary twitching, of sensory disturbance, of reaction of degeneration, of bladder or rectal troubles, or of interference with the reflexes. The onset is usually gradual, but sometimes rapid. Though the weakness may begin in any muscle, the cranial nerve muscles usually suffer first, and in the majority of cases the earliest symptom is either ptosis or diplopia; for this reason many of these patients first consult the oculist. The ptosis or diplopia may be slight, may be intermittent or may disappear altogether for an indefinite period, to recur again in a marked degree; after a time it usually becomes a permanent symptom which varies, however, from day to day, and tends to become worse in the evenings. The liability to fatigue of the levator palpebræ is readily shown if the patient looks steadily upward at an object held above his eyes, when the lids are seen to gradually droop until the eyes are nearly closed. There may be weakness of any or all of the ocular muscles, resulting in complete ophthalmoplegia.

Suckling[5] published two characteristic examples under the title: "Functional Ophthalmoplegia with General Paralysis and Implication of Cranial Nerves in Young Women." In these cases there was a great tendency to oscillatory movements of the eyeballs when fixed for a time to their limit in the direction of the weak muscle. In some instances the patients can not raise their eyebrows, wrinkle the forehead nor close the eyes tightly; in others the weakness of the lower facial muscles is shown by a calm, rather expressionless countenance. Sooner or later the muscles innervated by the bulbar nuclei are affected; weakness in these muscles may be the earliest symptom, or it may not appear until near the end of the case. It is owing to the prominence of these bulbar symptoms that the disease has been designated "asthenic bulbar paralysis." All the symptoms of true bulbar paralysis may be present, but they are usually less marked, nearly always bilateral and are characterized also by exhaustibility and variability from day to day. There is difficulty in biting, mastication, deglutition and articulation; the palate reflex may be weak and on phonation the soft palate but slightly elevated on one or both sides; there may be inability to protrude the tongue beyond the teeth, or if projected to its normal extent it soon tires, begins to quiver and recedes into the mouth; difficulty in sucking, blowing or inflating the cheeks may be observed. In many cases the patient begins his meal all right, but in a few minutes, though still hungry, he is compelled to rest owing to the weakness in his muscles of mastication, or before he has satisfied his hunger he is no longer able to swallow and fluids regurgitate through his nose. The difficulty in articulation is shown by the weakness of the voice after use. At first the patient can speak clearly and distinctly, but his voice gradually grows weaker until he can no longer articulate; after a short rest he can proceed as before. The disease is prone to affect the respiratory muscles, producing attacks of dyspnea of an alarming character; indeed, the majority of the deaths have been due to asphyxia from this cause. The rapid fatigue of the respiratory muscles is well shown in our patient, who lost three-quarters of an inch in expansive movement after eight or ten inspirations.

The muscles of the head and neck may be affected with a tendency of the head to fall backward. The extremities are weak, the patient may be unable to raise his arms above his head, or, if he can do so, he can not maintain them in this position beyond a few minutes when they gradually fall to his side, but after a brief rest he may be able to raise them as high as before. His grip is feeble. In writing he begins rapidly, but after a few lines it becomes slower and labored until he is compelled to stop. The patient may be able to walk well for a short distance, then his gait becomes

feeble and irregular until he is forced to sit down and rest; he may be unable to lift one knee over the other. In some cases the weakness is so marked that the patient is unable to raise himself out of bed or to rise from a chair.

In addition to the weakness and exhaustibility, with in some cases a permanent paresis, which may affect any of the voluntary muscles, other striking features of the disease are its tendency to be aggravated in the evening, especially after exercise, the occasional exaggeration of the weakness when the patient's attention is drawn to his condition and the better performance of involuntary than voluntary movements. Remissions and exacerbations are common and the patient may for weeks, months, or even years—five years in Dreschfeld's[9] case—appear to have made a complete recovery and then, perhaps suddenly, there is a recurrence of all the symptoms.

*Myasthenic Reaction.*—The electrical reactions in the affected muscles are interesting. If the muscle is not fatigued by voluntary exertion there is a prompt and good response to faradic stimulation—the vigor of the contraction, however, varies in different muscles and in the same one at different times. As the applications of the current are rapidly repeated, the movements gradually decline in extent and force until in a few minutes contractions are no longer visible, but after a minute's rest vigorous contractions are again induced by faradism. This peculiar exhaustibility of the muscles to the faradic current is called the myasthenic reaction, and since it was first described by Jolly it has been found to be present in the majority of the cases in which the examination was made. Even after exhaustion to faradism a vigorous contraction is at once induced by galvanism. In no case has reaction of degeneration been demonstrated.

It is very striking that in a disease with such pronounced and characteristic motor defects, which often lead to a fatal termination, there remains throughout a complete absence of so many of the well-known signs of organic disease in both the nervous and muscular systems. There is no atrophy of the affected muscles and fibrillary twitchings are absent; the special senses are unaffected and intelligence is good to the end, though in a case reported by Collins there was rapid exhaustion of the senses of sight and hearing; there are no sensory or trophic disturbances; there is no ataxia and the pupils are normal. There are no bladder or rectal troubles and the superficial reflexes, arm and knee-jerks are normal, or present no material change; in a few cases it is said that the knee-jerks became exhausted after repeated tappings.

The course of the disease is characterized by the tendency to remissions and exacerbations already mentioned. In some instances the affection is almost limited to the bulbar muscles, but in most cases it is extensive in its distribution. The duration is indefinite; it may be chronic, as in Dreschfeld's patient who died from respiratory paralysis fifteen years after the onset of the disease, and in one of Buzzard's, who is still living eight years after the symptoms first appeared; on the other hand, it may be very rapid, as in an example reported by Widal and Marinesco,[6] where death occurred fourteen days after the onset of the first symptoms.

*Diagnosis.*—The diagnosis must depend upon the recognition of the characteristic features of the disease, the weakness and early fatigue of the muscles, the implication of other muscles than those innervated by the bulbar nuclei, especially those of the eyes and extremities, the tendency to remissions and exacerbations and the myasthenic reaction, with normal intelligence and the absence of atrophy and fibrillary twitchings, of sensory disturbances, of bladder and rectal troubles while the reflexes are normal. It is perhaps most likely to be mistaken for hysteria, neurasthenia, true bulbar paralysis or multiple neuritis, but a careful examination associated with the history of the case should prevent one falling into error. In this connection a case was recorded by Allbutt:[7] "Miss ———, aged 18, caught cold six months previously, followed by stiffness of the tongue and jaws; this stiffness remained for a few weeks and then disappeared. She now moves her tongue and jaws and indeed every muscle of the face, throat and orbit normally. Of late she has begun to talk oddly, 'as if with a potato in her mouth.' This gets worse as she proceeds, when her utterance becomes involved and she stops." She had difficulty in swallowing, "she choked over her meals, more when she was tired, that is, at the later meals of the day." No evidence of hysteria or other neurosis or of palsy or atrophy was found, nor any other evidence of organic disease, except that the "forefinger of the left hand seemed weak and fumbling." A diagnosis of hysteria was made and for two or three weeks she made considerable improvement. Then one evening her symptoms, especially the swallowing, grew worse again and next morning before breakfast "she suddenly fell to the ground, was convulsed, turned blue and died at her mother's feet." Such a case in the hands of so competent a diagnostician as Professor Allbutt shows how readily the true nature of the disease may be overlooked, especially when the symptoms are so apparently indefinite and so variable as in the example recorded. A discussion on the differential diagnosis between myasthenia gravis and the various diseases with which it may be confounded is hardly necessary. As a rule a careful examination of the patient will render the exclusion of other diseases which may resemble it comparatively easy.

*Prognosis.*—Of the 62 recorded cases, 23 terminated fatally, the average duration of life after the development of the first symptoms being about 1½ years. As in many instances the duration is protracted, and as several of the reported cases have come under notice only during the past year, it will be evident that these figures probably under-rate the true gravity of the disease. It is probable that complete recovery sometimes takes place. Attacks of dyspnea from weakness of the respiratory muscles are of the gravest possible omen, and the patient's friends should be warned that death may occur suddenly during one of these attacks.

*Treatment.*—No specific treatment is known. Complete rest, mental and physical, and freedom from all forms of excitement should be enjoined. Various drugs have been tried, but there is no evidence to show that any drug has a beneficial effect on the disease. Strychnin has naturally been tried, but so far without result. One patient of Buzzard's made a great improvement under thyroid extract, but in another it was given without benefit. Faradism appears to have done harm, while galvanism and massage did no good. General tonics, as iron, arsenic and cod-liver oil may be of use in maintaining the general health.

REPORT OF CASE BY DR. J. R. BUIST.

According to the diagnosis of Dr. E. G. Wood and myself, the case we are about to report should be put in a class of nervous affections, the prominent feature

of which is a peculiar paralysis, or, more strictly speaking, a paretic state of many muscular groups, upon exertion rapidly showing fatigue, soon succeeded by absolute loss of power if the action of the muscles is persisted in.

It is only in the last eight or nine years that a real clinical entity has been accorded this abnormal state of the neuromuscular apparatus. As much as twenty years ago some cases first attracted the attention of medical men in Germany and England, and were reported under different designations.

The foremost neurologists of Germany, France and England are, at the present time, evincing very great interest in these cases, and studying hard to solve the hidden problems of causation and pathology.

Let us recollect that most forms of disease when first recognized, appear infrequent, but as familiarity with the clinical features increases, we find that particular cases are not so uncommon. At all events we know that this will be the first case ever described and reported in the Southern States, and the sixth ever given to the profession in America. Dr. Wood and myself are glad that this distinction will belong to the Nashville Academy of Medicine.

All the articles written on this subject unite in stating that the first reported case that came to an autopsy was that of Dr. Wilks of Guy's Hospital, published in 1877. The examination of the brain and spinal cord were carefully and fully conducted, and as no lesions of these structures were found, Dr. Wilks gave his case the name of "Bulbar Paralysis without Anatomical Base."

Along about the same period Erb of Germany published one or two cases. No other case was reported for ten years after. From 1887 to 1893 quite a number were reported in Germany, France and England. About that time Jolly of Berlin appears to have been the first to use the term "myasthenia gravis pseudoparalytica." In 1893 Dr. Dreschfeld published a case under the heading "Polio-encephalo-myelitis without Anatomical Foundation." In 1896, Collins[5] uses the term "asthenic bulbar paralysis." Since then the text-books of Church and Peterson, Allbutt's "System of Medicine," and some other recent works employ the designation of "asthenic bulbar paralysis." Dr. Buzzard of London, in a lecture last March, used the term "myasthenia gravis," and so does Dr. Sanger Brown of Chicago in the last published case.

To our minds this term "myasthenia gravis pseudoparalytica" is by far the most appropriate yet employed. Without committing us to any theoretical doctrine of its etiology and pathology, or involving us in the necessity of localizing the disease, it simply gives us the most conspicuous clinical features.

Mr. E. R. R., white, 34 years old, a native of Giles County, Tennessee, and a resident of Carthage, Tenn., came under our care on Nov. 23, 1900.

*Family History.*—His father is said to have been an active and healthy man, and to have died at the age of 72, in an apoplectic stroke. Seven years previously he had a slight attack of hemiplegia, which was recovered from, except that the facial paralysis persisted. He had abdominal dropsy a year before his death. His mother was a woman of good constitution and died at the age of 73, of pleurisy. There were ten children, two by a first marriage and eight by the second—the patient is the youngest. His brothers and sisters seem to have been sound, of strong constitutions, except one brother now 48 years old, who, when 18 years of age, had an attack of typhoid fever. Ever since he has had tremulous movements of his hands. He can not write well; his condition has not changed in thirty years. One sister, now 38, with three children, after the birth of her last child—eight years ago—seems to have had puerperal mania. Her mind remains unsound, but she is not in an asylum.

*Personal History.*—The patient is a man of good intelligence and fair education. He has lived mostly in Tennessee, a few years in Florida, and has traveled abroad. He has always enjoyed excellent general health, usually weighing 140 pounds. He has led a very active and sometimes laborious life, being engaged in various mercantile pursuits, has had all the ordinary diseases of childhood, and a slight attack of influenza when 20 years old. This left no serious sequelæ.

Ten years ago, while working very hard in a wholesale drug-store, he suffered with lumbago, which confined him to bed for two weeks, and two years later he began to have pains in both legs and feet, with much restlessness of the latter at night. This condition lasted, with intermissions and in decreasing severity, up to two or three years ago.

He went to Europe in the summer of 1899, on business and for travel, remaining there until April, 1900. While in London, during February, drooping of the left eyelid occurred, and first attracted his attention while playing billiards—he was annoyed by the eyelashes coming in the field of vision. This drooping increased so that in two weeks complete ptosis of that lid existed, and he consulted an oculist. After three weeks partial recovery occurred and he has remained about the same ever since. He can not fix the date of the drooping in the right eye, but is sure that it was some months subsequent to the occurrence in the left. He had no diplopia at this time.

On April 20 he first observed that at times he saw double, and then visited another oculist in London. After examination he was advised to return home, as his case looked suspicious of serious trouble. He arrived in New York on May 10, and consulted an oculist for diplopia. He was wearing a shade over the left eye at that time, to avoid double vision. He reached this city on the way to Carthage on June 1, and walked from one train to another, in the station, carrying two heavy satchels. On taking hold of the hand-rail with his left hand, he found he had lost power in the arm and could not lift himself up by it. This was the first weakness he had experienced in any of the extremities. On June 10 he again noticed the weakness of the left arm when he tried to lift his baby. About June 15, while at home, he awoke from sleep in the middle of the night with very peculiar feelings—there was a wave of tingling passing through his body, great oppression over the chest and stomach, and he thought he was about to die. He had not eaten imprudently, but a dose of bicarbonate of soda gave him relief, and he was better before the doctor arrived; it was thought likely he had had indigestion. He says it was not at all like night-mare. Subsequently, at long intervals, he had slight recurrences of this.

Early in July he first found he had lost power in the right arm—discovering this by his inability to put this hand into his hip pocket. Two weeks later, in going into the village one-fourth of a mile from his home, he took a short-cut and had to cross a stile steps, so he reached out both hands and sought the fence to help him up, but his hold gave way and he fell backward to the ground. He recovered in a few minutes sufficiently to walk a few hundred yards to a doctor's office. He was then in a state of great prostration—pulse from 110 to 120 and weak. He had to be taken home in a carriage.

A few days after this he went to Red Boiling Springs and remained there two weeks. Just before leaving home, he thinks his lower limbs were weak. His stomach and digestion had become disordered and he felt badly and was losing flesh. He made no improvement at the Springs, and in a few days after returning home, started to Battle Creek Sanitarium in Michigan. By September 15 his muscular weakness had increased so much that he was unable to raise himself in bed or to dress himself unaided.

He remained at this institution from August 1 to October 1, receiving the usual treatment of massage, hot and cold packs, electricity, etc., the paretic state all the while increasing, although he was much relieved of his gastric disturbance.**

Through October, and up to November 21, he remained at home, during which time he thinks his condition grew no worse. He has never had the least trouble with his bladder. His urine has been repeatedly analyzed and nothing abnormal found. His bowels are usually good; no rectal paresis. He never had headaches, no febrile attacks and no pains except as above noted.

EXAMINATION OF PATIENT BY DRS. WOOD, J. R. AND W. E. BUIST; AT 8 P. M. NOVEMBER 23, AND 8 A. M. NOVEMBER 24.

He was fairly well nourished, color good, intelligence excellent, memory good. His forehead showed transverse wrinkles distinct. His expression was calm, the lower half of his face smooth and symmetrical, both at rest and in action. There was partial double ptosis. When his eyes were fixed on any object held above the eyes, the upper lids would gradually fall until the eyes were almost closed. Both eyes could be tightly closed.

*Ophthalmoplegia (Partial).*—The movements of both eyeballs were defective in all directions—weakest in the left external rectus. Convergence was fair. On turning the eyes to their limit in any direction, oscillatory movements soon appeared. The pupils were normal in size and shape, the reaction to light and accommodation good. The fundus was normal in both eyes. There was no facial paralysis, but the lips were weak and easily fatigued on suction. The tongue protruded in a straight line and with normal force, but soon began to quiver and in less than two minutes would fall back. The palate-reflex was normal, and moved well in both sides. The jaw-jerk was active, but on biting the temporals and masseters were weak and soon became fatigued; eating, swallowing and talking tired him in a few minutes. The neck muscles were sound and the trapezii quite active and strong. The pectorals and serrati were weakened, the latissimi good.

*Arms.*—The grip was very feeble in both hands. The dynamometer showed right 25 and left 27, and was better at the morning examination—32 and 35. Flexion of the elbow was active and strong if not resisted, but weak against resistance. The deltoids were flattened and small. There was no atrophy of the infra and supraspinati. He could raise his arms, flexed at the elbow, so that the fingers reached the top of the ears, and could maintain them, the right 25 seconds, the left 20, and then they would fall down. He could not put his hands in his hip pocket. His chest and shoulders were symmetrical—no fibrillary twitchings. Chest expansion: Expiration, 30½ inches; inspiration, 32½. After eight or ten deep inspirations, the power of expansion diminished to three-quarters less. The patient could write for a few minutes, but the hand-writing then rapidly changed, becoming feeble, with irregular, illformed letters.

*Lower Limbs.*—These were weak generally, but with no atrophy. The thighs measured the same, and the calves were equal. In the recumbent posture he could put one leg over the other, and sitting could, with the greatest difficulty, throw one knee over the other—he could flex and extend the knees easily and equally. He could not raise either limb against resistance. When lying down he could not rise up unassisted, and when sitting could not rise to the erect posture without help. He could stand erect alone. Romberg's symptom was absent. Walking twice across the room his gait was good, his step being a little quicker than it should be, but after the third round his limbs got tired and he had to support himself or he would have fallen. The knee-jerks were very active when lying on his back and rather more than normal when sitting, but equal in both limbs. There was no foot clonus, and no extensor response of the big toes.

*Myasthenic Reaction.*—Tested at 8 a. m., November 24, the biceps responded well the first half minute, then grew weak, and responses ceased in about three minutes. Responses of the deltoids were very weak, and became exhausted in 2½ minutes. Both arms were alike.

*Sensation.*—There was no pain anywhere. Cutaneous sensibility was everywhere unimpaired to touch and pain—temperature test not used. The muscular sense was good. He could touch the point of his nose with a finger of either hand with his eyes shut, without tremor. No ataxic gait and no ataxic movement of arms existed. The organic reflexes were normal, and sexual power good. The symptoms of weakness and fatigability of the muscles were more pronounced in the evening examination than on the following morning.

The patient was under observation and treatment until December 11, and then went home. During this time the pulse and temperature remained normal, that is, between 76 and 88 and 98.6 to 99 respectively. His sleep was usually good and undisturbed. His appetite was fairly good and bowels regular. The urine was found normal in quantity and quality. His knee reflexes were frequently examined, almost always active and, when not so, hand reinforcement would develop them to fully normal. He wrote two short letters, the first he had written in some time; after the first page the hand-writing became bad. His digestion seemed easily disturbed and he was afraid to eat many articles of ordinary diet. On the evening of November 29, in less than an hour after dinner, he was seized with a tightness and oppression of the chest, some difficulty in swallowing and a sense of general prostration. His chest expansion was slight, even with effort, and his facial expression anxious. There was slight nausea when the head was raised a little, but no vomiting nor any epigastric pains or uneasiness. His voice was weak, and tired easily. This condition was recovered from in a few hours. He said he had felt such attacks before but lighter in degree. On another occasion he found slight difficulty in deglutition, the milk getting up in the posterior nares. The muscles were always a little stronger in the mornings, especially the levators of the eyelids. He was generally in a good humor, hopeful and patient. No twitchings nor tremors were ever present.

He improved in muscular power perceptibly while under our observation, the grip of the right hand 35, of the left 36, at the time he left. He did not improve any in flesh or general condition. He could walk across the room eight times without giving out. Dr. L. B. Graddy was kind enough to examine the eyes on the day he left, and found the pupils normal. The fundi in both globes were equally normal, vision normal, and the vocal cords acted normally.

*Treatment.*—Complete rest in bed was ordered. The thyroid gland was tried a few days but abandoned, because it seemed to produce headache. Cod-liver oil and phosphorus was given for a few days, but his stomach rather rebelled and he was placed on codein, 1/8 gr. every three or four hours, which he still takes tentatively.

COMMENT.

Making a summary of the symptoms presented in the above record, we have the following clinical picture: A young man, previously healthy, with no antecedent illness and no irregular habits, is taken with a gradually advancing loss of power in the muscles innervated by the third nerve; then marked improvement up to a certain point. After a few months he suddenly becomes aware of a partial loss of power in the left arm. This slowly increases, when unexpectedly his lower extremities get quickly tired, and one day in attempting to get up a stile steps he staggers and falls back. Both arms and both legs now rapidly lose power, so that on very slight exertion complete exhaustion of voluntary power takes place. Meanwhile no change in sensibility and no impairment of mind, no abnormal condition of reflexes, and no disturbance in the circulatory system have occurred. The paretic muscles, though diminished in size, do not show real atrophy, and respond to electric stimuli. This irregularly progressive march of paresis finally invades the muscles of mastication, deglutition and respiration. This, it seems, is essentially different from the clinical history and behavior of any other form of neurotic disorder.

If we compare the above symptom-complex with the features of those nervous affections which most resemble

* A letter from Battle Creek, Dated Nov. 12 (received Dec. 10), states that "his case is unique, and called myasthenia gravis."

it, and with which it has been most frequently confounded, we can easily differentiate "myasthenia gravis" from each and all.

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## LIMITATIONS OF THE LARYNGOLOGIST IN THE GENERAL TREATMENT OF NOSE AND THROAT DISEASES.

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The tendency observable in modern laryngologic literature, to ascribe to the general system a closer etiologic relation with the nose and throat, must have one important effect—to call for a more general treatment of the upper respiratory tract.

Before the local propaganda had practically absorbed the attention of specialists in our line, the general or systemic means comprised in great measure the plan of treatment of nose and throat diseases. And now that localism has had full sway, it is to be expected that the general treatment should come more into vogue. Perhaps, if it were merely a return to former conditions, there would not be much call for a paper on limitations in this regard. But we must not forget that during these years changes have taken place which have increased our knowledge tenfold and our range of instrumentation and manipulation a hundredfold; which have so added to the science of medicine that no man can encompass it; which have so multiplied the fields of work that division of labor is not alone a pleasure but a necessity. Knowledge is no longer cloistered in the minds of a few men; it is open and free to him who will but learn; and its adherents are no longer numbered by the few but by the many. Naturally, this encourages competition in the acquirement of knowledge and struggle for supremacy in the application of knowledge to the various fields of human activity.

The pace set by all these workers results in the development of the special lines and to such an extent that he who would keep up to the standard set by these pacemakers must confine himself, almost exclusively, to the domain of his own work. Hence, when there is a call to return to a general view of medicine, for the cure of certain nose and throat affections, the specialist who has been in great part a localist finds himself, if he be conscientious to patients, in a field in which he can not work, except to the detriment of his special duties, which can not receive the attention they require.

It is a consideration such as this that has led me to present here some points in the relation of the throat and nose to the general system, which seem, at least, to substantiate the proposition that has been made to the effect that the practitioner and not the specialist should conduct the general treatment. I know the argument is advanced that the specialist should be first a general practitioner, and then become a specialist, that he should never sacrifice his interest in general medicine for the detail of his specialty. And yet the progress in general medicine is so great that ten years make a tremendous difference and the specialist, after such a lapse of time from participation in the actual practice of general medicine, will find such a change that he will be in almost an unknown world. Then, he can barely keep up with the literature of his own line—not to speak of the tremendous amount that is to be included under the head of general medicine. Every month there are published about 300 articles devoted exclusively to the nose, throat and ear—the whole domain of medicine includes many thousands. Which is to be chosen, the relatively few or the impossible many? Another thing, the laryngologist's attention is, in the main, devoted to manipulation with instruments of examination and of therapeutics—can he be expected to be proficient in these and at the same time capable of outlining the plan of treatment which comprises conditions and circumstances remote from the nose and throat?

Because a paralyzed left vocal band is due to pressure upon the left recurrent, which in its turn depends upon a tubercular pleurisy or lymph node, is that any reason why the laryngologist should treat the tuberculosis? It seems to me that his function was completed when he discovered and localized the paralysis. Because chronic inflammations of the larynx and pharynx are often associated with bronchial and pulmonary conditions, and because the heart is in anatomic relation with the lungs and bronchi, is that any reason why the laryngologist should conduct the treatment of heart affections, or perchance kidney affections, which cause or result from cardiac diseases? I can understand how one who devotes his attention to the heart and lungs must be somewhat proficient in the diagnosis—not treatment—of nose and throat affections, but that the laryngologist should affect to include the lungs, heart and kidney is either presumptuous or evidence of a lack of full interest in his own line. It must be admitted, however, that circumstance sometimes throws a laryngologist into the necessity of including diseases of the lungs in his work, but few are equal to the task of properly filling both functions.

I say nothing of the justice which should be accorded the general practitioner who sends patients to laryngologists and to other specialists, for that matter, for his proper territory should not be encroached upon by the very men to whom he refers his cases.

Another phase of the question is to be found in the justice to patients, which we all should and do accord. Should we whose view is largely limited by the requirement of our special study and duties assume to meet the general indications with a skill equal to the general practitioner whose efforts are continually directed toward general conditions which we are considering? Is it not better for each to fulfil his own part of the medical and surgical management of the case—does not our own obligations to our patients demand this? We can, naturally, advise and consult with the general practitioner upon these matters, but to carry out these general indications is surely his particular function.

Relative to the bearing which general medicine and other specialties have upon laryngology, it will be interesting to consider the various conditions which may be associated with hemorrhage of the upper respiratory tract. According to Hagedorn, they include the following: Changes in the blood-vessels and blood itself, hemophilia, morbus maculosus Werlhofii, scorbutus, purpura hemorrhagica, phosphorus poisoning, anemia, leukemia, pseudoleukemia, diabetes mellitus, fatty degeneration of the blood-vessels, diphtheria, variola, ileotyphus, pyemic processes, gout, influenza, acute rheumatism, vicarious

* Read by Title to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

menstruation, nervous causes, lung diseases, heart diseases, interstitial nephritis, cirrhosis of the liver and pertussis. Is there a single condition enumerated here whose treatment a laryngologist would be justified in undertaking? Certainly there is as much reason to undertake general treatment of these complications and associations of epistaxis and hemorrhage from the pharynx as to prescribe general or systemic treatment for chronic rhinitis or pharyngitis.

In this connection, it might be well to mention that Kompe has discovered that epistaxis is a precursor of softening of the brain, which plainly indicates that in this instance the laryngologist might play the rôle of a diagnostician, but not that of a therapist.

### COMPLICATIONS OF NOSE AND THROAT DISEASE.

When we investigate the various general and remote conditions which complicate nose and throat diseases, or which come into relation with them, we must be more than willing to admit that they can not fall within our therapeutic scope, unless they are relievable by local means or measures whose effect is local. Their number and distribution certainly offer a formidable argument in this regard. For instance, Friedrich groups them as follows:

Respiratory Diseases: All chronic lung diseases, asthma, emphysema, bronchitis, croupous pneumonia, chronic pleurisy, affections involving the apex of the lungs, edematous pleurisy, pleuritic exudates, chronic indurative processes of the lungs, tuberculosis, swelling of the intrathoracic lymph nodes, anthracosis, tumors of the mediastinum, diseases of the bronchial and peritracheolaryngeal lymph nodes, struma, thymus hypertrophy, abscess of the mediastinum.

Circulation: Heart weakness with lack of compensation, venostasis on account of the same, arteriosclerosis, mitral insufficiency and other valvular affections; aneurysm of the aorta, innominate, right subclavian and carotid, pericarditis, pericardiac exudate, thrombus, embolus, infarct and various affections of the heart and blood-vessels.

Digestion: Mouth conditions, dyspepsia, indigestion, cirrhosis of the liver, icterus, gall-stones, cholera Asiatica, cholera nostra, various stomach and intestinal affections.

Blood: Chlorosis, pernicious anemia, leukemia, pseudoleukemia, lymphosarcoma, hemophilia, purpura, scorbutus.

Chronic Constitutional Diseases: Rhachitis, acromegaly, diabetes mellitus, gout.

Acute Infectious Diseases: Measles, scarlatina, varicella, variola, typhoid, influenza, mumps, acute rheumatism, diphtheria, erysipelas, malaria.

Chronic Infectious Diseases: Tuberculosis, lupus, leprosy, glanders, foot and mouth diseases, anthrax, actinomycosis, rabies, trichinosis.

Kidney Diseases.

Skin Diseases: Eczema, herpes, pemphigus, impetigo, erythema, urticaria, lichen, miliaria.

Genital Diseases: Vicarious menstruation, masturbation, vasomotor reflex neuroses, puberty, gonorrhea, syphilis.

Eye Diseases.

Intoxications.

Nervous Diseases: Hemiplegia, progressive paralysis, cerebral softening, motor paralysis, tumors and abscess of the brain, meningitis, multiple sclerosis, bulbar paralysis, pseudobulbar paralysis, cerebral hemorrhage, cerebral syphilis and tuberculosis, tabes, syringomyelia, paralysis agitans, epilepsy, hysteria, chorea, enuresis nocturna, affections involving the cranial nerves, pachymeningitis, leptomeningitis, acute cerebrospinal meningitis.

It will be noted that though Friedrich devotes over 300 pages to the relations of the nose, throat and ear to these diseases, which comprise practically the whole range of medicine, he does not say one word on treatment, probably considering that this should in the main be left to general practitioners and specialists in other lines. This catalogue of diseases shows the utter futility of an effort on the part of the laryngologist to meet the general indications enumerated. To assert that some may be met is to confess that he is unequal to the task of conducting such treatment as successfully as one who makes a closer study of general conditions.

### TREATMENT OF PHARYNGITIS.

It is very interesting to take up a single topic, such as chronic pharyngitis, and observe the general treatment advised by various laryngologists. The following are the general plans announced:

Ball interdicts alcohol and tobacco, urges suitable diet, sulphate of soda or Carlsbad salt, attention to general health, and mineral waters.

Block's treatment is prophylactic, dietetic, hygienic, climatic, hydriatic, medicinal and at mineral springs; mercury, iron, iodin and springs containing iron, arsenic, sulphur and iodin.

Bosworth treats gastric catarrh, and uses mineral waters, colocynth and podophyllum for constipation.

Bresgen tries mineral waters.

Coakley inquires into the diathesis, seeks to correct the causal conditions, relieves constipation and congestive diseases of the liver.

Downie prescribes general tonic treatment, dry bracing air, iron and quinin with bitter infusions, and saline aperients when necessary.

Fink treats sweaty feet with liquor antihydroicus of Braudau, corrects the disordered circulation and looks after the stomach and bowels.

French attempts to cure the impaired digestion, which is the underlying cause in the majority of cases.

Ingals attends to the bowels, with arseuious acid, saline diuretics, corrects dyspeptic symptoms, with colchicum.

Kyle gives careful attention to the general condition and to correction, as far as possible, of any underlying constitutional diathesis or organic lesion, and stimulation of glandular secretions of the alimentary and urinary tract. For this he gives effervescing phosphate of sodium, succinate of sodium, compound wine of iodin.

Lennox Browne resorts to saline purgatives, iron and vegetable tonics, and arsenical waters.

Morell Mackenzie prescribes confinement to the house, restricted diet, wet compress, mustard poultice, opiates, and the Turkish bath.

Mandel gives iron and iron salts, iodids, baths, and change of atmosphere.

Moure favors mineral springs, sulphur and arsenical waters.

Price-Brown treats chronic gastric disease, checks the liquor and tobacco habit, regulates the general system, attends to the alimentary canal and prescribes appropriate tonics.

Robinson treats the constitutional condition, by appropriate general medication and hygiene.

Rosenberg gives hygienic and dietetic treatment and baths.

Schech removes the anemia, scrofula, hemorrhoidal conditions, interdicts strong alcoholics, highly seasoned or too hot foods, smoking and snuff-taking; protects workers in dusty atmospheres by the use of respirators, enforces rest and limits use of the voice in professional speakers, prescribing baths, mineral waters, and hydropathic cures.

Schmidt stops the smoking and drinking, orders mineral waters, cold baths, and denies sugar to diabetics.

Seiler builds up the system, gives hygienic treatment, such tonics as quinin, iron and phosphorus, cautioning patients against the evil consequences of masturbation, venereal excesses and intemperance.

Solis-Cohen attends to the general health, urges avoidance of exposure, and maintenance of functions of the skin, bowels and other organs as normal as possible, giving as tonics, iron and quinin, phosphoric acid and compounds.

It is evident that in addition to the treatment at mineral springs, which can only be accorded to a minority of the sufferers from this disease, attention to the stomach and bowels, according to the references here given, constitutes by far the most important indication. Let us see what this signifies. Until a few years ago, such an indication would have been a simple one to meet in the light of the knowledge of the time. To-day it is different, for it involves a diagnosis between, and a thorough understanding of, acute gastritis, chronic gastritis, gastric ulcer, dilatation of the stomach, gastroptosis, superacidity and the various widely-distributed causes of constipation. To do this properly requires a thorough knowledge of the details of stomach-contents analysis, physiologic chemistry, physical diagnosis and the latest modern methods of gastro-intestinal treatment. This manifestly falls beyond the province of the laryngologist, and so, that which at first sight is the simplest general treatment associated with an affection of the nose and throat, calls for a general practitioner or one who has made the condition a matter of special study. So we may analyze the general indications in every nose and throat disease, until we are forced to the conclusion that our work should be limited to the local manifestations in the nose and throat alone.

In the few rare instances where general treatment results in immediate local change in the nose and throat, the laryngologist may appropriately conduct the general treatment, but under other circumstances it is his duty to refer the case to the general practitioner or to the specialist in whose domain the condition belongs.

Thus mercury and iodids in syphilis of the nose and throat, aconite, atropin, opium, coal-tar products, etc., in acute conditions, and salol, etc., and the salicylates in rheumatic conditions, so far as their effect is local, are subjects for study and use at the hands of the laryngologist.

Personally, I do not take the view that the general system has such an overwhelming influence upon the diseases of the nose and throat. I am more disposed to expect a local cause in the majority of instances. But when the system is found at fault, it is clearly not the function of the laryngologist to correct it, with the slight exceptions just indicated; and those who maintain that the general condition is the most important indication for treatment, must, in justice to their patients, refer them to the general practitioner for treatment.

### LIMITATIONS OF THE LARYNGOLOGIST.

In conclusion, I venture the following as the limitations of the laryngologist in the general treatment of nose and throat diseases: 1. Acute conditions of the nose and throat, influenced by remedies which have an immediate local effect. 2. Rheumatic nose and throat conditions which exhibit a positive and early relief under appropriate treatment. 3. Syphilis of the nose and throat where general treatment may be best observed by watching its effect upon the local lesion, and where the local process is rapidly destructive. Even under these conditions, the patient's chances might be improved by assistance from one whose attention is less directed to localism.

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## ABSOLUTE INCREASE OF MEASUREMENT FROM THE ANTERIOR SUPERIOR SPINE TO THE MALLEOLUS AS A SIGN OF HYSTERIC HIP DISEASE.*

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The differential diagnosis between tubercular and hysterical hip disease is sometimes easy but, on the other hand, sometimes exceedingly difficult, especially if the test examination under ether can not be resorted to; while the importance of a correct decision is always great, both from the medicolegal and the clinical standpoints.

Gilles de la Tourette, in an excellent review of the subject, gives a number of diagnostic signs—left side involved oftener than the right; pain, spontaneous or induced by pressure and motion, not only about the joints but at various points along the affected limb; relatively great development of cutaneous hyperesthesia; absence of nocturnal paroxysms; the presence of hysterical edema about the affected joint and limb; involvement of the knee muscles in the rigidity; coldness of the affected parts; finally, the presence of other well-marked hysterical signs—most of which are approved by my own experience. To this list the sign indicated by the title of this paper is at times a valuable addition.

The shortening of the measurement from the anterior superior spine of the ilium to the malleolus, due to the erosions and absorptions of tubercular hip disease, is familiar to every one. Less well known is the fact that i

* Read by title before the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

early stages of the disease this measurement is sometimes longer than the corresponding one of the opposite side, and the communication by Halsted,[1] published in 1885, in which the obviously correct explanation of this is clearly given is less often cited than it deserves.

Halsted's statement is that when this relative lengthening of the measurement is present on one side, it is mainly because the corresponding leg is adducted, and also because the opposite leg, with which comparison is made, is abducted. The latter factor is in fact the more important one, though both rest upon the same cause. It is, namely, perfectly evident, when one stops to think of the matter, that the center of motion within the head of the femur is ordinarily not in the direct line between the anterior superior spine of the ilium and the inner malleolus, but slightly inside of it toward the median line of the body. If, therefore, we measure from the anterior superior spine to any point below the neck of the thigh bone, we are measuring, as it were, the chord of a circle, and not the diameter, and no such chord can be as long as the diameter itself. If we strongly adduct the thigh, so that the three points in question lie in the course of one straight line, and then measure, we obtain, as it were, the diameter of the circle. It is also important to note that abduction shortens the measurement in question more rapidly than adduction lengthens it.

In the adduction of one limb and the abduction of the other with which its measurements compare, as met with in either tubercular or hysterical hip disease, provided they lead to tilting of the pelvis, these principles come eminently into play. The demonstration is easily made if one will place his foot on one end of a tape-measure and draw it taut to the anterior superior spine of the ilium, and will then note the changes in distance that are made as one sways the pelvis to the right or left, thus alternately adducting and abducting the limbs.

The value of this sign in differential diagnosis depends upon the fact that the lengthening of the measurements repeatedly alluded to rarely occurs in tubercular hip disease except in the early stages, when pain induces the muscular contraction which leads to tilting of the pelvis, yet when no erosion of the joint has taken place. In hysteria, on the other hand, the lengthening comes on with the contracture and does not pass away, however long the morbid conditions may last. Again, the difference between the two sides as regards this measurement is rarely, if ever, so great in true hip disease as it may be in its counterfeit, a fact which the case about to be reported will illustrate. Finally, the amount of lengthening or shortening is certain to be greater with persons whose pelves are of such a shape that the distance between the anteroposterior planes of the anterior superior spines and the acetabulum is relatively great. This is probably true of women as compared with men, but this point needs further investigation. I give a brief history of the case which called to our minds the importance of this diagnostic mark.

The patient was a woman about 30 years old, and of good health, up to the time of an accident which happened on July 31, 1893. On that date, while walking about a shoestore to make a purchase, she stepped backward through a trap-door, into a cellar about five feet in depth, but, the fall being partly broken by a short flight of steps, the actual blow was not very severe. She struck on the back, the left hip, and the back of the head, and, what was perhaps more important, she received a severe nervous shock, which was added to by the fact that she considered the storekeeper to blame.

After resting for a few minutes in a more or less dazed condition, she walked home, but almost immediately after entering the house she vomited, she said, two or three pints of a liquid which was colored with blood and was considered by her to be pure blood. The vomiting continued through the whole of that day, whenever any food was taken, but she kept about her house, nevertheless, until seen by her physician and advised to go to bed. For two days after this she was said to pass blood in the urine. The vomiting and nausea continued off and on for two weeks. She was extremely nervous, and suffered from attacks of faintness and pain along the vertebral column, increased by pressure. She had also palpitation and partial incontinence of urine for a number of weeks. Both legs became weak and would not bear her weight, though there was no paralysis. The pain in the neighborhood of the left hip was an early symptom, and would perhaps have been associated with the pain in the back as one of the general nervous symptoms, but for the fact that pain on active and passive motion, so severe as to make her scream out during the examination, suggested the idea of hip disease. Besides this pain on passive motion there was persistent dull ache, but there were no spasmodic outbreaks, even at night. The pelvis was tilted upward on the left side, to an extreme degree, and all the muscles controlling the motions of the hip-joint, and indeed those at the knee and ankle also, though to a less marked extent, were held rigid, so far as could be ascertained, day and night, without intermission. The diagnosis of hip disease was, moreover, strengthened by the discovery that the measurement from the anterior superior spine to the internal malleolus was greater by half an inch to an inch on the affected than on the unaffected side.

Treatment had been instituted in accordance with this view, and many months elapsed before she was permitted to put the foot to the ground. Meantime, the difference in the measurements aforesaid between the right and left side increased somewhat, so that it became actually more than an inch, while the whole limb became relatively cold and the muscles atrophic.

At an examination made by me in 1893, five months after the accident, and again nearly a year later, a well-marked hemianesthesia was found, associated with hyperesthesia over the hip-joint area, and the case was considered to be one of hysteria, pure and simple. Indeed, all her physicians had considered some of the signs and symptoms as of that nature.

At an examination made fifteen months after the injury, hemianesthesia of the left side, including the arm, leg, face and trunk, was still well marked. The vision of the left eye was not quite so good as that of the right, but there was no great impairment of the field for motion or color. She was still wearing the Taylor extension-splint and was suffering much from poor sleep, pain in the hip, knee and back, and from various hypochondriac and hysteroid symptoms. The general nutrition was poor. When she was examined, while lying flat on the table, the tilting of the pelvis toward the left side was so extreme and the abdominal muscles on the left side were so contracted that a depressed appearance was given to that half of the abdomen. The patient shrank from the slightest touch over the skin on or near the hip, pelvis, or back on the left side, and the slightest motion at the hip-joint was strongly resisted. The region of the left trochanter was

1. N. Y. Med. Jour., 1884, vol. 39.

excessively prominent, more than could be explained by any ordinary effusion or thickening. The surgeons considered that thickening was present, but I was inclined to believe that the condition was due to hysteric edema.

The left calf was found to be about three-eighths of an inch smaller than the right, and the left thigh was also smaller than the right, to about the same degree, but there was no practical difference between the glutei muscles. The entire left leg and arm, the left side of the trunk and face were slightly cooler than the right. The patient said that this was habitually the case, but that the left hand sometimes grew hotter than the right. I will note, in passing, that an alternating difference of this sort, the foot on the anesthetic side being cooler than its fellow while the hand on the same side is warmer, or vice versa, has been observed by me in quite a number of cases of hysteria. These signs, however, shift about from day to day or even hour to hour. The muscles about the knee and ankle were so rigid that it was difficult to bend the limb at those joints, as well as at the hip. No satisfactory reflexes could be obtained on either side, but the plantar reflex was much less pronounced on the left than on the right side. The knee-jerks were exaggerated, the left more so than the right.

The patient was carefully observed and repeatedly examined by the physicians in charge until the case came up in court, when her suit was lost on the ground of no liability. Her condition after this continued the same, except that she discarded the splint, finding she could get along about as well without it. Her general nutrition did not improve, and for a number of months she was troubled with a harassing cough and lost flesh and color to a marked degree. By my advice she entered the Massachusetts Hospital, and while there a salpingitis was found and treated, but without benefit to her general condition. After her return home means were found for sending her out of town, and she gradually improved, though without material change, either as regards the extreme tilting of the pelvis or the absolute lengthening above referred to.

Being greatly interested in the case, I kept track of the patient and, three years after the accident, at a time when the trial of her claim had long been an affair of the past, I induced her to come again to the hospital for examination under ether, by Dr. R. W. Lovett and myself.[2] All the conditions above described were present and unchanged before the etherization, but the relaxation was complete, the movement of the joint was free, the measurements became normal and the whole appearance and feel of the structure of the two hips became essentially alike on the two sides. As the anesthesia passed away, the contracture of the muscles, the hyperesthesia of the skin and the pain associated with passive motion rapidly returned. It could not be said that the rule laid down by Charcot, namely, that in hysterical hip disease the hyperesthesia of the skin returns before that excited by motion, could be substantiated.

Since that period the patient has gradually gained in all respects, but up to the time of my last accounts of her, she had not entirely recovered and was still lame.

The increased length of the measurement from the anterior superior spine of the pelvis to the internal malleolus has not, so far as I know, been recognized as a characteristic of hysterical hip disease, though a search through the literature of hysteria shows that it has not been wholly unnoticed. Charcot is said to have described a case of that sort, but so far as I could judge from the reference, he speaks of it in a way to lead one to think that he regarded the signs as important.

Since the case above recorded I have seen a similar one, though less marked, the details of which it is not necessary to mention, and my colleague, Dr. Lovett, to whom my sincere thanks are due for valuable aid in this case, has likewise observed one or two of apparently similar character.

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2. It is proper to say that the test by etherization had been proposed at an earlier stage, but was not carried out on account of the unwillingness of the patient and her friends to submit to it.

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## A CASE OF TRANSIENT MOTOR APHASIA, COMPLETE ANOMIA, NEARLY COMPLETE AGRAPHIA AND WORD BLINDNESS, OCCURRING IN A LEFT-HANDED MAN; WITH ESPECIAL REFERENCE TO THE EXISTENCE OF A NAMING CENTER.*

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PHILADELPHIA.

The history of the patient is as follows: Alfred E., aged 42 years, a coal miner by occupation, had always enjoyed good health until the onset of the present illness, which occurred four weeks previous to his coming under observation. He denied venereal infection and the use of alcohol, and his family history was negative. At the time above mentioned—four weeks—while at work, he suddenly became dizzy and weak on the left side, but power was not completely lost. There was no loss of consciousness, but he found that he was unable to talk, although he knew what he wanted to say. He also noticed that he was unable to write anything excepting his name and address. In the course of a day or two he regained the power of speech, excepting that he could neither name objects nor people. He says that he knew the name but could not express it. The muscular weakness of the left side improved rapidly excepting the muscles of the face and tongue.

When examined, the patient appeared to be a healthy, well-nourished man, of considerable intelligence for his station in life. The heart, lungs and kidneys were normal, and there was no rigidity or increased tension of the blood-vessels. He was a left-handed man excepting for his writing, which had always been performed with the right hand. The angle of the mouth was drawn slightly to the right and the tongue was protruded to the left. Weakness of no other muscles could be discovered. The knee-jerks were both active and equally so, and upon the left side there was a wrist-jerk which could not be elicited upon the right. He complained of headache, but there were no other sensory disturbances. Examination of the eyes showed nothing abnormal. He understood everything that was said to him and could converse fluently until he was required to name either a person, place or object; this with the exception of his own name and address, he was unable to do. For instance, he was unable to give the name of his married sister, who was with him, but knew when it was pronounced correctly. There was inability to name paper, a penholder, an ink-well and a watch, but he could tell at once what they were used for, and whether or not they were named correctly by another,

* Read by title before the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

but he could not repeat the name after it had been pronounced. He also insisted that he knew the name but could not say it. He was equally unable to name the objects when felt or heard, as in case of the watch; or objects smelled or tasted. Both printed and written words were read very imperfectly, the latter more so than the former. Single letters could usually, but not always, be read, and in attempting to read he sometimes got a word by spelling it. When words not recognized were read to him, he was unable to tell whether it had been done correctly or not. It was noticed that the more common the word the more likelihood there was of its being recognized. Figures, he read correctly, but simple arithmetical calculations could not be well done; for instance, he knew how much twice two was, but could not tell how much five times two made.

With the exception of his name and address, spontaneous writing was impossible; in attempting it, after making one or two letters imperfectly he would give up in disgust. Writing from dictation could be done somewhat better, but still very imperfectly. For example, the sentence: "John Smith is no good," was given him. He wrote, with much effort: "John Smith is no"—the word "good" being attempted but unintelligible, and he was unable to proceed further. He could copy fairly well for a while, but would soon tire and be unable to proceed further, and he was unable to read what he had written. Figures could be made correctly.

Improvement gradually took place, the power of pronouncing names first becoming better. At the end of two months he wrote a letter home and was able to name, in some instances after some thought, all objects shown him, excepting a lead pencil.

To sum up the symptoms of this case, we have in a man who was left-handed for all acts excepting writing, which was performed with the right hand: 1. Loss of the power of naming, whether the object was seen, felt or heard, smelled or tasted. The name, however, he claimed to know and recognize, whether it was pronounced correctly or not, but he could not then repeat it. 2. Marked but not complete word blindness, with preservation of the power of recognizing and reading numerals. 3. With the exception of his name and address, inability to write spontaneously; better, but still very imperfect, power of writing from dictation, and inability to read the copy. 4. There was paresis of the muscles of the tongue and lower part of the face on the left side.

From the suddenness of the onset the lesion was evidently vascular in origin—either an embolus or hemorrhage. All of the symptoms excepting the inability to pronounce names can be explained by an incomplete involvement of the angular gyrus on the right side. A lesion limited to this locality does not, however, explain the peculiar form of inability to name objects exhibited by this patient. From the facts that the patient, by means of his internal language, could call the name into consciousness, that he could recognize whether it was pronounced correctly or not, but could not repeat it, we are justified in assuming that the disability was motor and not a sensory defect. It differs from the so-called optic aphasia of Freund in that there was loss of the power of naming, even after the stimulation of other senses than sight, and that there was ability to call up the name but inability to say it. There would seem, therefore, to have been no interruption of the pathways between either the primary or higher visual centers and the center for auditory word memories; it would seem likely also that a lesion destroying these tracts would also cause hemianopsia.

There has been some discussion of late as to the existence of a concept or naming center. After Broadbent, Mills has been the most earnest advocate of its existence. The case just reported would seem to add some proof to the correctness of the theory that such a center exists.

It will be remembered that the patient could not name objects after stimulation of either the senses of sight, touch, hearing, smelling or tasting, and also that the inability to pronounce the name was due to a forgetting of the muscular movements necessary to say the word, and not to loss of the power of calling the word into consciousness. These facts eliminate loss of function of the centers for preserving the sensory memories, viz., visual, tactile, auditory, olfactory and gustatory, as a cause. It is not likely that the center of motor speech memories in Broca's convolution was destroyed, as he could use all other words with facility. It does not seem improbable, then, that this disability was due to the destruction of either a tract or tracts leading from the region or regions where names are called into consciousness to the motor speech center. It is, therefore, necessary to assume that either the lesion cut a number of tracts leading respectively from the centers of visual, tactile, auditory, olfactory and gustatory memories to the motor center, or else that tracts from each of these centers converge to a common center where the memories of names are stored up to be called into consciousness by stimulation of one or all of the percipient centers, and that from this center a tract passes to the motor speech center, and that this tract was destroyed. While the occurrence of the former is conceivable, that of the latter seems more probable, especially so as a lesion to cut all of the tracts mentioned would have to be of considerable extent, and from the slight amount of shock present at the time of onset, this was probably not the case. The possibility of such a lesion occurring has been considered by others. Langdon[1] has reported the case of a man who had lost the power of naming objects seen and felt, but who could name them when any of the other senses were excited. He knew what the object was used for and whether the name was pronounced correctly or not by another, but he could not repeat it. In addition, he had word and letter blindness, agraphia due to muscular disability, as he could write with the left hand, right homonymous hemianopsia, right hemiplegia and anesthesia of the right hand and forearm. Langdon believed that the lesion involved the posterior limb of the left internal capsule and extended outward into the centrum ovale, but did not involve the cortex. He believed that inability to name objects, either seen or felt, was due to a cutting of the tracts leading from the centers of visual and tactile memories to Broca's convolution. He afterward says that it is also possible that the symptoms might be produced by a cutting of fibers going from these centers to the naming center and regards the existence of such a center as possible but not proven.

Bramwell,[2] in discussing a case of total inability to spontaneously name objects and persons, with, however, ability to repeat names when heard, associated with slight word blindness and agraphia, says that this inability, viz., loss of the power of naming, may be due to destruction of the "naming" center, which he assumes is part of the superior temporal convolution; destruction of the nerve fibers which pass from the "naming" center to the motor vocal speech center; and destruction of the motor vocal speech center by which these impulses are emitted. To these Mills very properly adds "de-

struction of the sensory percept centers and tracts leading from these centers to the naming or concept center."

If we assume that the belief that a naming center exists offers the best explanation of the occurrence of the peculiar form of anomia presented by this patient, the question arises: Where is this center? This has not yet been answered satisfactorily, and this case does not offer us much help other than that from a consideration of the other symptoms presented, it seems probable that it is somewhere in the region of the center for auditory memories, where it has been placed by others. Mills[3] has located it in the third temporal convolution, but his case, reported as evidence of this, is not conclusive as there was destruction of other neighboring portions of the brain, and other forms of aphasia —word blindness, agraphia, etc.—were present. Hammond[4] has recently reported a case due to traumatism, in which the patient had no other symptom excepting the loss of ability to name, and knew the proper uses of the objects presented, but could not pronounce the name after he had heard it. When operated on, a clot was found covering the entire superior temporal convolution on the left side, and at the junction of the posterior with the middle third of the gyrus there was a hole into which a probe could be introduced to a depth of about an inch and a half, at a right angle to the surface of the gyrus. Removal of the clot was followed by recovery. Hammond believes that there is a certain region of the cortex in which the memories of names are stored; he thinks that it is probably a part of the center for auditory memories which has this special and isolated function. Bramwell,[5] in his discussion of the case, before mentioned, expresses the same view. That a so-called center may be subdivided into parts possessing different functions would seem probable from the observations of Hinshelwood[6] and others who have reported cases in which there was letter but not word blindness, the converse of what should take place if the faculty remaining depended on first-learned and consequently, as it were, more deeply-rooted impressions.

It will be remembered that in Hammond's case, before mentioned, there was no word deafness, and yet there was a lesion involving part of the left superior temporal convolution. At this point it may be well to again call attention to the fact that in the case just reported, there was but slight letter blindness, and that the power of reading and writing numerals was preserved.

While recognizing the uncertainty of the correctness of an opinion based alone upon clinical symptoms and theorizing, it seems to the writer that the most probable explanation of the inability to name objects presented by this case is: that there is a naming center, probably somewhere in the temporal lobe, possibly part of the superior temporal gyrus, and that a tract leading from this center to the center for the preservation of the motor memories of speech was damaged. Such a tract would likely run through the insula and thus would be in a location easily reached by a lesion that had, judging from the word blindness and motor paralysis present, involved the angular gyrus and extended subcortically in a direction to impair the function of the fibers running from the centers for the lower part of the face and tongue to the internal capsule.

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1. Langdon: Phila. Med. Jour., vol. III, p. 504.
2. Bramwell: Brain, 1898, p. 343.
3. Mills: Jour. of Nerv. and Mental Dis., vol. 23, p. 1.
4. Hammond: Ibid., vol. 26, p. 754.
5. Loc. cit.
6. Hinshelwood: Letter, Word and Mind Blindness.

## THE PHARMACOLOGY OF THE NITRO-SUGARS.*

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The nitro-sugars are in reality nitrate-esters, and are closely allied to nitroglycerin and other members of this class. They were first prepared, along with other organic nitrates, by Schonbein[1] (1845), then by Sobrero[2] (1847) and Flores Demonte and Minard[3] (1847). The whole class of bodies obtained by these observers was made by simple nitration, and this led to the name "nitro" being given to them. Subsequently another class of substances possessing entirely different physical and chemical properties was obtained, and, on reduction, yielded amido compounds. To these the name of nitro-compounds has been restricted. It was shown later that nitroglycerin did not yield an amido compound and, therefore, it could not be a true nitro body. It is in fact a nitrate.

The differences may be expressed, taking the derivatives of etham as examples, thus:

| $C_2H_5—NO_2$ | $C_2H_5—ONO$ | $C_2H_5—ONO_2$ |
|---|---|---|
| nitro-etham | ethyl nitrite | ethyl nitrate |

As nitro compounds yield amido compounds on reduction—$C_2H_5NO_2$ yielding $C_2H_5NH_2$—it is evident that their nitrogen is directly connected to the alkyl radical, whereas nitrites, which are isomeric with them, must have their nitrogen linked to the alkyl radical through the intermediation of an oxygen atom, as there is no other possibility. Nitrates which are built up in the same way as nitrites must also have their nitrogen united to the alkyl by an oxygen atom. Recently the formula R-OONO has been suggested, but into this question it is unnecessary to enter. It may perhaps be well to restate that the nitro-sugars belong to this nitrate class.

Pharmacologically the interest which surrounds the nitrites and many organic nitrates is their peculiar affinity for unstriped muscular fiber, especially that of the blood-vessels. Injected into the circulation, they lower blood-pressure; perfused through the vessels of isolated organs, they dilate them; and administered to man, they lower the tension of the pulse—effects due to a paralyzing influence on the unstriped muscle of the blood-vessel wall.

All volatile or soluble nitrites, inorganic or organic, exert this action, but not all nitrates. Inorganic nitrates and organic nitrates corresponding to them, e. g., urea nitrate, have no influence. The organic nitrates which possess this effect are those in which the nitrate group has replaced an alcoholic hydroxyl. And all of them, with a few doubtful exceptions, belong to the aliphatic group. Ethyl nitrate, which may be regarded as ordinary alcohol with the OH replaced by $NO_3$; glycerol trinitrate (nitroglycerin), in which the 3(OH) of glycerin have given place to 3($NO_3$), and erythrol tetranitrate, in which the 4(OH) of erythrol (a tetrahydric alcohol) have been replaced by 4($NO_3$) are examples in point.

The action of these three substances, although similar in kind, is of very different degree. Nitroglycerin in minute amounts possesses a powerful but comparatively transient action; erythrol tetranitrate in much

* Read by title in the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Philos. Mag., xxxi, p. 7.
2. Comptes Rendus, xxiv, p. 247.
3. Ibid., p. 390.

larger amounts, a more gentle and prolonged effect. The difference in action is due in the main to a difference in solubility—erythrol tetranitrate is a crystalline solid and much less soluble in water than nitroglycerin; mannitol hexanitrate, which is still less soluble, exerts a correspondingly weaker effect.[4]

The nitro-sugars possess an action similar to these solid organic nitrates. They too are solid, but the three investigated—glucose nitrate $[C_5H_6(NO_3)_5CHO]$, levulose nitrate $[C_5H_6(NO_3)_5CO]$, and saccharose nitrate $[C_{12}H_{14}O_3(NO_3)_8]$—are non-crystalline. At ordinary temperatures they are of a pasty consistency; at low temperatures they are brittle solids. Their solubility in water is very small; they gradually decompose in air, and like all bodies of this class, they are explosive.

Their pharmacologic action corresponds to their chemical constitution and solubility in water. A saturated solution in 40 per cent. alcohol injected into the circulation causes an immediate and somewhat prolonged fall of blood-pressure, and when injected through a catheter into the stomach a similar, but delayed, slighter and more prolonged fall is obtained. Perfused through the vessels of an isolated kidney, they all cause distinct dilatation, apparently of almost equal degree. They also exert a similar action on the pulse of man, but the effect is not great. The following figure shows that produced by 0.1 gram of glucose pentanitrate:

On urinary secretion the effect is slight. In the few experiments made the variations seemed to follow those of the blood-pressure.

These bodies, in fact, act in every way like the other solid organic nitrates of this class. Like them, they are readily reduced on boiling with dilute alkalies, and the explanation of their action, whatever it may be, is the same. They are, however, much less stable and much less active than erythrol tetranitrate, and on this account it is doubtful if they will find a place in therapeutics. Strange to say, they possess a very bitter taste.

## THE CLASSICAL CESAREAN VERSUS PORRO CESAREAN.*

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PHILADELPHIA.

As the present year completes the nineteenth century and we are about to be ushered into another with all its responsibilities, it is natural for those of us who are interested in the history of midwifery to look over the past and also think of the possibilities of the future.

The remarkable advance which has been made, particularly in the latter half of this century, has revolutionized our science, resurrecting operations which were in the writer's student days spoken of only in condemnation. We refer to the classical paper on the "Contagiousnss of Puerperal Fever," by Oliver Wendell Holmes, in 1843; next, the work of Semmelweiss, of Vienna, in 1846, and later that of Pasteur in bacteriology, and its application to surgery by Lister. The works of these illustrious men have established forever the fact that the so-called childbed fever is an infection.

The antiseptic era has revolutionized obstetric surgery. It has made the physician all the more appreciate the fact that the problem before him for solution is a grave one and that at any moment in the progress of labor he may find himself facing an operation which must be performed, not only intelligently, but immediately.

This century has given us the child-saving operations: axis-traction for the forceps, the modern symphysiotomy, and the modern Cesarean section.

The century is closing with our science placed on a higher plane than ever before in its history. The obstetrics of to-day conserves the child's interests more than it ever did in the past. It makes us all the more mindful of the fact that we have two lives at stake and that we have no right to sacrifice one to save the other.

The twentieth century still has much to accomplish. Let us hope that with the advance of civilization the midwife will soon be a thing of the past, or else remedy the evil by compelling her to attend a full course in medical training, for none other than the physician has a right to assume the responsibility of an obstetric case.

My object in this paper is to defend to the best of my ability the classical Cesarean section as the operation of choice whenever it is essential to deliver by abdominal section; also to express my views in answer to the question: Does the life of the child alone indicate the Cesarean section? My conclusions are based on an experience gleaned from my private work and the work of two teaching maternities—the Philadelphia Lying-in-Charity for twelve years, 8000 cases, and the Medico-Chirurgical College Maternity for six years, 1500 cases; also the study of the published results of others.

In these two maternities thirteen successful Cesarean sections have been performed. Of this number six were by the writer, seven by my colleagues. Twelve of these cases were the classical Cesarean by choice; one was a Porro by necessity.

The Cesarean section is so frequently performed now and—in the hands of the experienced—with such a low mortality that the day, we believe, is not far distant, if it does not already exist, when, for the child's interest it will be elected in some cases over high forceps, version, induction of premature labor, and symphysiotomy. If the mortality is as low as we claim, the operation will be more generally resorted to and we may expect in the future a new chapter added to obstetrics.

If we follow closely the recent literature on the subject we believe that the above statement as to mortality can be substantiated. Each month is adding to the accumulating evidence.

A recent paper by Reynolds[1] on "The Conditions which Govern Success in the Sanger Cesarean Section," embodies my views so precisely that I will take the liberty to draw from his text. He reports fourteen successful cases and makes the following two propositions:

1. "That when the mother's vitality has been seriously lowered by either septic infection, prolonged labor, or complicating disease, the mortality of the Cesarean section is so high that it is an unjustifiable operation, and in such cases symphysiotomy should be done when it is applicable or, if it is not, craniotomy to the living child should be unhesitatingly preferred to the section, in the interests of the mother."[2]

2. "That when the mother is in good condition, that is, when she is generally sound, uninfected, and not

4. Bradbury: The Lancet, 1895, II, 1205.

* Read by title before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Obstetrics, January, 1900.

2. Always excepting cases in which the hopeless condition of the mother leaves the child's interests only for consideration.

exhausted by long labor or by prolonged efforts of delivery by the forceps, the Cesarean section is so safe an operation that it may be used unhesitatingly in cases at term, whenever an intrapelvic deformity would be fatal to the child, and may often be preferred even to the induction of premature labor, on account of its superiority in the saving of fetal life."

He analyzes the two largest lists of Cesarean sections recently published, that of Everke's 35, and Leopold's 100.

Excluding the cases of hysterectomy and those infected, or else exhausted by long labor, that were operated on, he finds 74 cases come under his second proposition.

To this number he adds his 14 cases, making 88. I will take the liberty to make the same analysis of the 13 cases herein mentioned and will remove one case, a hysterectomy, leaving 12 cases operated on in good condition, by hysterotomy. This makes a grand total of 100 cases. In this series there were but two deaths; both cases were operated on many years ago when our technique was not as good as it is now.

"The most favorable showing for the neglected or complicated cases, that of Leopold, gives almost one death in every four." It would seem from these statistics that the Cesarean section, if anticipated and not performed as a *dernier ressort*, is accompanied with so low a mortality that the life of the infant would be a sufficient indication.

Accepting this proposition it becomes our duty to be prepared to operate by abdominal section in all cases giving the history of one or more labors resulting disastrously to the infant.

In pelvic deformity the patient in many cases should be given the test of the first stage of labor and if the head is fixed at the inlet the forceps may be applied and judicious traction made; failing in this, abdominal section should be resorted to.

For eclampsia developing at or near term when for certain reasons it does not seem wise to resort to manual dilatation of the cervix, abdominal section will rapidly empty the uterus and enable us to bring about free blood-letting, which is often beneficial. Olshausen advises Cesarean section in severe cases of eclampsia occurring before the onset of labor and with undilated or unyielding soft parts.

Hillman reports a case of eclampsia in which he was forced to perform Cesarean section. The woman, a primipara, 23 years old, came under observation after she had had six convulsions. She was cyanotic and comatose; pulmonary edema, no labor pains, os completely closed. The operation was performed to save the mother's life. It could not be decided whether the child was alive or dead. After the uterus was emptied there were no further convulsions and immediate improvement was followed by recovery. The child was still-born.

For placenta prævia, particularly the central variety, when the patient has not been depressed by excessive hemorrhage, abdominal section will conserve the child's interests, and the patient will escape the hemorrhage subsequent on any operative interference per vias naturales.

For prolapse of the cord complicating the vertex, especially in cases where the cord can not be reposited and podalic version is entertained, here, in some cases, section may suggest itself.

There exists a difference of opinion among American Cesareanists as to which is the better method of operation, the Sanger or the Porro. The writer believes that the same conservatism which has cared for the child must be applied to the mother, and that a mutilating operation should be only one of necessity.

The celio-hysterotomy has many advantages over celio-hysterectomy. We can not agree with those who believe that a woman should not be exposed to the danger of a second Cesarean.

Celio-hysterotomy has a lower mortality, can be performed more readily, and above all it is the operation which conserves the mother's interests and by so doing broadens the field for the Cesarean section. On the other hand, celio-hysterectomy is mutilating, has a higher mortality and should only be performed when the patient is infected or when some tumor of the uterus makes it necessary. Celio-hysterectomy should not be performed simply to prevent future pregnancy, when ligation of the Fallopian tubes—which is less mutilating—will accomplish the same purpose.

In reviewing my six cases we find the following:

CASE 1.—Flat rachitic pelvis; also extensive fibroids of the uterus. Patients two days in labor, infected. Hysterectomy was necessary.

CASE 2.—Scolio-rachitic pelvis. A second Cesarean, an elective operation. Hysterotomy performed.

CASE 3.—Coxalgic pelvis; a II-pari; first labor ended in craniotomy; operated on during labor. Hysterotomy.

CASE 4.—Generally contracted pelvis. Patient has had six dead children. Elected date. Hysterotomy.

I wish to place on record my fifth and sixth cases, operated on in February and March of this year.

CASE 5.—A third Cesarean for scolio-rachitic pelvis. Mrs. C.; married; aged 34 years, was admitted to the Medico-Chirurgical College Maternity Feb. 13, 1900. In September, 1892, she was delivered by the elective Cesarean[3] section in Kensington Hospital for Women, Philadelphia. Dr. Charles P. Noble operated, the writer assisting.

Five years after this, in 1897, she was admitted to the Philadelphia Lying-in-Charity in her second pregnancy, and well advanced in the last month. With the history of this artificial delivery and the patient again in the last week of gestation a second Cesarean seemed indicated. The staff of the hospital agreed with me in this opinion. Examination of the patient proved the fetus to be of good size, presenting by its pelvic pole. The following measurements were made: intraspinous 27 cm., intracristal 28 cm., external conjugate 17 cm., diagonal conjugate 8.5 cm., true conjugate 7 cm.

A second elective operation was performed Aug. 12, 1897. A free incision was made through the abdominal wall to the side of the old linear scar. Several omental adhesions were now loosened, then it was found that the uterus and abdominal wall were firmly united at the lower angle of the old incision. The uterus showed no evidence of the result of the first operation. The silk sutures used could not be found. Although this strong attachment between uterus and abdominal wall interfered with the compression of the organ it did not seem wise to make the dissection.

A clean incision was now made parallel with the long axis of the uterus just sufficiently large to permit the extraction of its contents. The fetus, presenting by the breech, was delivered head first through the incision. The uterine wound was closed with interrupted silk sutures just escaping the mucosa. For the abdominal wound silkworm gut was used.

The third Cesarean was performed in February last, at the Medico-Chirurgical College Maternity. In this

3. Annals of Gynecology and Pediatrics, January, 1893.

operation the patient had the test of a thirteen-hour labor without progress.

The incision was this time made over the old scar. Because of the firm union between the uterus and abdominal wall at the lower angle of incision a transverse fundal incision in the uterus was made. The child, a female weighing 7½ lbs., was with ease removed, and the uterus nicely contracted.

The puerperium was uneventful. Mother and child left the hospital in four weeks. Both were in good condition.

Case 6.—An obliquely contracted pelvis. Mrs. B., a multipara, aged 37 years, was admitted to the Philadelphia Lying-in Charity, Feb. 28, 1900. The history of her previous labors is briefly as follows:

The first labor was long (52 hours) and finally terminated by the use of forceps. The child was dead.

The second labor, also long, resulted in craniotomy. As a result of these two instrumental deliveries the soft parts were badly torn, demanding two years ago the removal of the left ovary, trachelorrhaphy and a ventrofixation of the uterus. The patient comes to us a third time pregnant, near term. Her previous history is explained in an examination of the pelvis. It is contracted and the left oblique measurement is much encroached upon.

Cesarean section was performed after the test of a fourteen-hours labor. An interesting point in the operation was the effect that pregnancy had had on the fixation of the uterus. Fortunately the uterus was not firmly attached, else we might have had another cause for obstruction.

The growing uterus had left its point of attachment and a cord-like band six inches in length had formed, extending from the fundus over the anterior wall of the uterus to the point of attachment. A longitudinal incision was made in the uterus and the child easily removed. The infant was a male weighing 9¼ lbs. Mother and infant left the hospital in one month in good condition.

In conclusion, I would say:

1. That the life of the infant alone, under certain conditions, justifies the Cesarean section.

2. That the classical Cesarean has as low a mortality as an easy ovariotomy. Is not the life of the child then as good a reason for performing a simple abdominal section as are the vague symptoms for which operations are daily done?

3. That the classical Cesarean is less mutilating than the Porro Cesarean, and, with the patient in good condition, is therefore the operation of choice.

4. That the Porro Cesarean has about the same mortality as has hysterectomy for fibroids. That it should be performed when the patient demands it, or when infection or a neoplasm of the uterus makes it necessary.

5. That it is the duty of the practitioner in attendance on a multipara with the history of one or more dead children, to be prepared to perform the Cesarean section. If he does not possess the necessary surgical training then he should call to his assistance the obstetric surgeon.

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**Lumbar Puncture in Miliary Tuberculosis.**—Dr. William Osler recently showed, at his clinic, specimens from a patient who had died of acute miliary tuberculosis, and in whom the diagnosis had been made by lumbar puncture, the fluid exudate obtained showing an enormous number of tubercle bacilli. The disease is almost invariably mistaken for typhoid fever.

## OCEAN CLIMATES: THEIR EFFECTS AND THE CASES THEY BENEFIT.*

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We are all familiar with land climates, for obvious reasons, but a study of ocean climates is desirable, because a sea voyage is often beneficial when a change of land climate is of no avail. And why this is true is readily comprehended when the differences in the climates are observed.

1. The climate of the sea is more equable on account of the temperature being varied by ocean currents instead of winds, as is the case on land. That this is true is proven by the fact that the hottest and coldest months on land are August and February, respectively, because the winds are scorching and freezing during those months, while the hottest and coldest on the sea are September and March, because the southern cauldrons are at their highest and lowest temperatures during those periods.

2. The sea air is warmer. While this statement applies to the parts of the sea which are the ordinary paths of travel, yet as a statement it is true in general, as Arctic explorers have said it was warmer on the sea than on land—or ice. The warmer air is more sedative, and tends to allay nervous irritability of tissue and body.

3. The air of the sea is more nearly aseptic, is free from dust, and contains more ozone than land air, except in the highest altitudes. And it is almost continually in motion.

4. The sea air contains more moisture than land air, and this moisture is laden with the volatile elements of sea water. The dew point is lower than on land, and the sensible temperature is also somewhat lower.

Besides these points of difference, it is interesting to note that the sea currents flow so that the warmest currents hug the shores of the coldest side of the continent, as the so-called gulf stream follows our Atlantic coast, while the Japan stream veers away from our warm western shores. The rising and lowering of the temperature is slower than on land, for the isotherms travel only at the rate of twenty-two miles a day, while the cold or hot waves on land travel with the velocity of the wind.

Thus we see that the sea affords conditions that favor slow travel. And in the days of the sailing vessel it was quite the proper thing for the invalid to take a sea voyage, where he could enjoy pure air, sunshine and the breezes.

What are the effects of a sea voyage? The equability of the climate permits, and the desires of the traveler demand, the spending of the most of his time in the open air, and the pure air is stirred in motion by the continual sea breeze and fans the invalid, and the tonic influence of the air creates appetite, and the enforced rest revives the exhausted body. Quiet of body and mind, freedom from the worry of business and domestic cares assist mother sea in restoring the tired invalid to health. Sea air has a sedative effect on the nervous system, increases metabolism, weight, appetite, and inclination to sleep, and so, to those with whom it agrees, it is a sedative tonic.

From a knowledge of these effects we can readily perceive the class of cases which sea air will benefit. In addition to the general effects enumerated, the air has, also, a sedative effect on the respiratory passages. Therefore

* Read at a meeting of the Chicago Laryngological and Climatological Association, Nov. 15, 1900.

a sea voyage should benefit a large number of cases of diseases of the respiratory tract, and we find that it is true that it is, in the majority of cases, a specific for hay-fever, whooping-cough, purulent and chronic bronchitis, and of benefit in incipient tuberculosis and tuberculosis where cavities or empyema exist. Walshe gave it as his opinion that a sea voyage, especially in the case of young adult males, will occasionally work more effectual change in the phthisical organism than any other single influence or any combination of influences with which he was acquainted. Formerly sea voyages took the place of the high altitude treatment of consumption. The English recommended the trip to Australia or New Zealand because it afforded the longest spell of marine influence. Williams gives statistics of 65 phthisical patients who used sea voyages: 41 were in the first stage, 17 had the right lung affected, 12 the left, and 12 had both lungs affected. In this group 5 had the disease arrested, 19 decreased, 4 remained stationary, 4 advanced, and 9 extended; 58 per cent. were improved, 10 per cent. remained stationary and 32 per cent. were worse; 24 were in the second and third stages, 5 had the right lung in the second or third stage, 5 had this lung in the third stage and the left in the first; 7 had the left in the second or third stage and 7 had the left lung in the second or third stage and the right in the first. Of this group, the disease was arrested in 5 cases, decreased in 31, remained stationary in 7, advanced in 9, advanced and extended in 3, and extended in 10; 55 per cent. were improved, 11 per cent. remained stationary, and 34 per cent. were worse.

Altogether improvement was noted in 77 per cent., and 22 per cent. were worse. In the cases where softening or excavation was present, 43.75 per cent. were improved. Williams remarks: "The general improvement consisted of gain of appetite, color and strength, and above all, of weight; sea voyages surpassing all the other climatic groups in this particular. Twenty-five of these patients were weighed before and after the voyages and the result was 17 had gained, of whom 9 had gained more than a stone, and the rest from 5 to 12 pounds. In 3 cases the fact of gain only was recorded. In 2 patients the weight remained stationary, and 6 lost weight. The large gain of weight is to be explained by the improvement of the appetite, the regularity of the meals, the plentiful supply of food at them, and the lack of opportunities for exercise."

Williams believes the forms of phthisis that are benefited are: 1, the scrofulous or strumous form; 2, the hemorrhagic type marked by limited consolidations and large recurrent hemoptyses, and lastly the chronic unilateral cavity cases, without great local irritation. He believes the sea air promotes the fibrotic process, and when there is a septic discharge it has also a healing influence, and the results in cases of empyema are sometimes marvelous. Therefore, he recommends sea voyages in chronic pleurisy and empyema, chronic bronchitis, various forms of scrofulous disease, hemorrhagic phthisis, unilateral tubercular cavities and neuroses, the result of overwork or insomnia.

But the day of trips on the sea in sailing vessels is apparently over, for the present generation is not content with the slow methods of the past, but wishes to regain health in a hurry. And they prefer to go to some altitude resort where they can easily return to their homes on the first appearance of home sickness, and keep in touch with their world of business. An ideal trip for such patients is a combination of sea travel and mountain climbing, such as is found in a trip to Norway, for example. A trip across the Atlantic prepares the invalid for a continuance of the journey by steamer along the coast, and among the fjords of Norway. The monotony of the sea voyage is interrupted by short journeys across the land, over the mountains in wagons or carts in a bracing and pure climate, where the best of food can be obtained and the novelty of traveling through a new country adds pleasure to a trip which otherwise might become irksome. The wayside trips are never far enough from the sea to be removed from the effect of the sea air, and the confinement of the vessel is removed. The greatest objection to such journeys is the expense, yet it does not amount to so much more than the expense of traveling on land as to be an insurmountable objection.

Asthma is frequently benefited by a sea voyage, notwithstanding the humidity of the sea air. But in this disease the same rule holds good as in prescribing a change of air on land: what is beneficial to one patient may be a source of torture to another; so no rule of advice can be laid down as infallible.

Scrofulous affections, other than pulmonary, are frequently cured by prolonged sea voyages, and I know of no better cure for the malarial dyscrasia, for the patient is entirely removed from all the conditions which tend to prolong this condition.

Debility as evidenced by chlorosis, anemia, malaise, loss of flesh and strength, insomnia, nervous irritability and similar symptoms is often removed by a sea voyage.

Chorea is frequently benefited, as well as some cases of rheumatism, contrary to the ordinary rule that rheumatics should not be in a damp climate. But the exposure which patients often are subjected to in the way of humidity at sea is often without bad results, like the patients I have sent to the mountains with asthma, who could wade through slush and snow and get their feet wet without any sign of asthma.

As already intimated, the class of cases which are benefited in highest degree are the overworked, melancholic, the brain-goaded sufferers, the women who are harassed by domestic cares, or society dissipations, the children who are nervous and weakly, and, in short, the army of neurasthenics. In this class of cases it is a question whether the improvement almost invariably following an ocean voyage is due so much to the change of climate as to the change of scene and entire change of life.

I have purposely omitted the disadvantages connected with a sea voyage, for the reason that the climatologist can not refer his patient to any spot on earth where there are not disadvantages, and if we are to scientifically study the effects of various climates, we must know their physiologic effects, and then compare the value of different varieties of climate by admitting that, aside from variations in climatic conditions, all the others are equal. Admitting, therefore, that all other conditions are equal, I am inclined to believe that the advantages of a sea voyage for a large number of our patients who seek change are often overlooked, and I believe the modern comforts of an ocean voyage offer inducements to patients which should be accepted in many instances, and my colleagues will probably agree with me when I say that no travel causes the tired-out professional man to renew his strength quite so quickly as ocean travel, barring the individuals who have idiosyncrasies against this form of treatment on account of incoercible seasickness.

297 Ashland Boulevard.

## ADHESIVE RUBBER DAM FOR THE PREVENTION OF POSSIBLE INFECTION AT THE SITE OF OPERATION.

J. B. MURPHY, M.D.
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Infection of wounds during operation may always be traced to contact with materials, and is probably rarely if ever due to contamination from the atmosphere (Dr. P. L. Friedrich, *Arch. für Klin. Chir.*, B. 59.). The common sources of infection of operation wounds are as follows: 1. Instruments. 2. Sponges and dressings. 3. The hands of the operator or assistants. 4. The skin of the patient. 5. Towels, sheets, etc., used about the wound.

The exhaustive researches of Fürbinger, Ahlfeld, Koch and others emphasize the difficulty of rendering the hands aseptic, for after a short period of exposure they again become septic from their own secretions, as has been shown by cultures made for the inner surface of rubber gloves. We have been able to overcome this difficulty by the use of such gloves.

The sterilization of the skin surface in the field of operation is practically as difficult and uncertain as is the case with the hands, as shown by Mark Kummel, Lauenstein, Samter, Senger, and others. The danger of

infection from this surface is always present a short time after it had been prepared, because of the secretions from the sweat and sebaceous glands, which the sterilizing solutions have been unable to reach. Samter secured sterility in 20 per cent. of his cultures after thorough disinfection; Lauenstein, 44 per cent.; after preparation by Fürbinger's method, not a single case was free from germs, showing that asepsis of the skin is not often obtained.

For the past two years the author has been endeavoring to secure a sterile, adhesive rubber dam, which, when placed on the skin, would remain firmly adherent to it throughout the operation, at the end of which it might be removed. The mechanical, chemical and physical difficulties proved great stumbling-blocks, and one manufacturer after another declared it would be impossible to produce such an article. Finally all the difficulties were overcome, and an adhesive rubber dam produced[1] which answers all the purposes mentioned above. It is sufficiently adhesive to stand considerable traction without separating from the skin, and is not affected by water, antiseptics or wound secretions. It is prepared and sterilized, placed in sterile envelopes and these, again, placed in other envelopes, much after the method used in preparing the dry sterilized catgut. Thus prepared, the dam remains in a perfectly sterile condition, and can be applied to the prepared skin, and, as an extra precaution, its surface washed with any of the antiseptics or sterilizing solutions. If it is not sufficiently adhesive a little ether spread over its surface will increase its adhesive properties. It is elastic and gives with the skin, being, in reality, a non-secreting, sterile, artificial derma, for the period of operation.

Owing to its elasticity, it may be applied to any part of the body. For laparotomies, it is spread over the abdomen, extending onto the symphysis pubis and covering the umbilicus. For herniotomy, it covers the inguinal region and genitalia, and it is in this operation that it is of the greatest practical importance, for we know that this field of all others is most frequently infected from the surrounding parts. In vaginal operations, it covers the entire perineum and prevents the soiling of the field from the rectum. In amputations, it entirely encircles the limb at the seat of operation. In operations on the eye, it covers all the remaining parts of the face. In fact, there is no part of the body to which it may not be readily applied, as is shown by the accompanying photographs.

### METHOD OF APPLICATION.

The field of operation is prepared in the usual way. It is then thoroughly dried, washed with ether and the rubber is applied, the latter being put slightly on the stretch as it is brought in contact with the skin. The small quantity of ether retained by the skin increases the adhesive power of the dam. After it is applied, it is washed with alcohol or with any other sterilizing solution. The incision is now made through the dam, simultaneously with that in the skin, and to the same extent, as it stretches even more readily than the latter and there is no trouble in retracting it. The dam remains in position until the sutures are inserted and tied, after which it is lifted at one end, put a little on the stretch and divided at the points of suture in a manner similar to that of dentists in removing the dam from teeth.

Its second practical application is in all suppurating and draining wounds. In these cases it should be left on until suppuration and discharge have ceased so that it may protect the skin and prevent the erosion and eczema which are so frequently caused by the irritation of a purulent discharge. For this purpose it is particularly applicable in cases of artificial anus, cholecystostomy, gastrostomy, nephrotomy, suprapubic cystotomy and a draining, suppurative, circumscribed or general peritonitis.

We have used it in a number of cases at Mercy Hospital, with gratifying results, and feel that its simplicity of application and its self-evident advantages need no further word of comment.

100 State Street.

1. By Johnson & Johnson.

**Politzer Air Douche for Inflating the Stomach.**—Our foreign exchanges mention with approval Oehler's suggestion that the Politzer air-bag can be made to serve the purpose of inflating the stomach for diagnostic purposes. The subject reclines and takes a swallow of water. The tube of the air-bag is inserted in the nose, and as he swallows the water the air is expelled from the bag and passes with the water into the stomach. After repeating this simple maneuver three times the stomach is usually so inflated that its outlines can be accurately determined and its motor function tested by the peristalsis induced by the air.

# THE PRESENT STATUS OF SPINAL SURGERY.*

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NEW YORK CITY.

*(Continued from page 1117.)*

FRACTURES (CONTINUED).

In those cases where no improvement follows the recovery from the shock, and yet the suspicion remains that a complete crush of the cord has not occurred, we should operate immediately. This divides the cases, therefore, as follows: 1. Those that evidently have complete destruction of the cord; they should not be operated on. 2. Those where, following the recovery from the shock, it is evident that the lesion of the cord has not been completely destructive and yet no improvement is noted. Operation here should be done as soon as these facts are determined. 3. Those where the lesion of the cord is incomplete and where the symptoms of compression are extending as evidenced by increasing paralysis and the enlarged area of anesthesia. Here operation should be undertaken immediately, as there is a hemorrhage, an inflammatory thickening, or some acute process present that threatens the destruction of the cord unless it is controlled. 4. Those in which improvement is noted at first but is arrested later. Operation in these should be done as soon as it is settled that the improvement has ceased. 5. Those who made a full recovery or almost so under the usual conservative methods, where the paraplegia or other symptoms develop at a later date. This is probably due to compression from callus, and the operation should not be delayed any longer than is essential to establish the fact that there has been a loss of function.

In our former paper we tabulated 103 cases of traumatic injuries to the spine, and divided them into two series, the pre-antiseptic and the antiseptic. In the former the deaths were 63 per cent.; in the latter 50 per cent. We have now been able to tabulate 227 cases in 185 of which all of the facts in regard to the result are known. This includes the 103 cases formerly tabulated. Of this number 59 died within a few days, and therefore the death may be said to have been hastened by the operation itself; 32 died at a later period, and usually from complications not resulting from the operative interference—91 deaths, therefore, in all, or 49.18 per cent., which corresponds very closely to my former statistics. Of course, this includes the cases dating back to the pre-antiseptic era, but it is hardly worth while at the present time to eliminate them from our statistics. If only those dying within the first few days are counted against the operative statistics the percentage is only 31.89. With these statistics before us there can be no doubt about the advisability of operative procedure, as compared with the conservative treatment. These figures could be still further improved by throwing out the pre-antiseptic cases.

We must also remember that this includes all of the patients who were operated on immediately, many of whom would in all probability have died of the shock alone. Thus we find out of 27 affected in the cervical region, operated on immediately, 21 died, while out of 10 operated on at a later period only 2 died; in the dorsal region, out of 49 operated on immediately 23 died, while of those who were operated on later, only 5 died from a total of 63. Even in the lumbar region the same disproportion exists; thus, from 6 immediate operations, 4 died, while from 22 done at a later period, only 4 were fatal.

The inserted table shows the results better than any description I can write.

| Cervical Region. | Immediate Operation. | Later Operation. |
|---|---|---|
| Deaths | 21 | 2 |
| Recovery | 0 | 2 |
| Improved | 2 | 1 |
| Not improved | 0 | 4 |
| Subsequent death | 4 | 3 |
| | 27 | 12 |

| Dorsal Region. | Immediate Operation. | Later Operation. |
|---|---|---|
| Deaths | 23 | 5 |
| Recovery | 4 | 10 |
| Improved | 9 | 18 |
| Not improved | 6 | 16 |
| Subsequent death | 7 | 16 |
| | 49 | 65 |

| Lumbar Region. | Immediate Operation. | Later Operation |
|---|---|---|
| Deaths | 4 | 4 |
| Recovery | 1 | 6 |
| Improvement | 1 | 6 |
| No improvement | 0 | 4 |
| Subsequent death | 0 | 2 |
| | 6 | 22 |

| Sacral Region. | Immediate Operation. | Later Operation. |
|---|---|---|
| Death | 0 | 0 |
| Recovery | 0 | 1 |
| Improved | 0 | 3 |
| Not improved | 0 | 0 |
| Subsequent death | 0 | 0 |
| | 0 | 4 |

These statistics are decidedly against immediate operation and we must urgently advise never operating until it is evident that the patient will not succumb to the direct effects of the injury. As soon, however, as he has recovered from the shock and his exact physical condition is known the operation should be performed.

This emphasizes the fact, which is already recognized, that the cervical is the most dangerous region for operation, and at the same time the least satisfactory in its ultimate result. The results in the dorsal region have improved since the earlier statistics, due probably to the improvement in technique, the greater rapidity with which the operation is done, and the fact that operations are done earlier than was formerly the case. The lumbar region shows a surprisingly small number of surgical interventions when it is taken into account that the safety of the operation in this region and the decided improvement following it was emphasized in all the earlier papers on this subject. I can not but feel that some of the incomplete recoveries recorded have been due to incomplete relief of the compression. Unless the operator has had considerable experience in spinal surgery, it is a very easy matter to overlook a compressing point. It is essential, in order to make the operation perfectly successful: 1, to remove enough laminæ to absolutely settle the fact that there is no remaining compression of the cord; 2, to chisel off any projecting bone, whether it be a portion of a vertebral body or bodies, or one or more articular processes; 3, to remove all blood clots, even though laminæ of unaffected verte-

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bræ have to be removed to get beyond the hemorrhagic area; 4. to look out for thickening and compression resulting from inflammatory processes or injuries of the structures within the vertebral canal. It is sometimes difficult to be absolutely certain whether all compression has been done away with, but one usually recognizes the fact that the cord is smaller in the exposed area than it should be, and that its pulsation is not complete, not as full as in a normal cord. Care should be taken, therefore, that the cord dilates to its full extent, and that the pulsation returns. This can happen only where the cord has not been completely destroyed. And if the operator can not be sure of this fact without cutting the dura, he had better make an incision and definitely determine whether the integrity of the cord has been preserved. He will also sometimes recognize the fact that the dura is discolored, looks as though there has been an intradural hemorrhage, and while this accident, if it has occurred, has probably produced more or less disintegration of the cord itself, the dura should be opened and this blood clot extirpated, for one may look for a certain amount of regeneration in the cord provided it is relieved from the compression at a sufficiently early period and has not been completely destroyed.

After commenting on the former statistics of the operation, Keen said: "With such statistics before us it is impossible to draw any other conclusion than that operation is advisable in case extension directly after the accident fails to reduce the deformity. Of course, the limitations arising from the time that has elapsed since the accident, the region involved, and the severity of the lesion must be given due weight in reaching a conclusion in any given case. In an instance therefore of such gravity followed by such an immense percentage of deaths, if no operation be done it would seem to be advisable with our present experience, in all suitable cases to give the patients the real though often desperate chance that operation offers and that the operation should be done at a much earlier period than has hitherto been the rule." If this was the conclusion reached after a careful weighing of all the data presented up to that time, how much more emphatically may we advise operation with the present statistics before us.

The question may be asked: What are the dangers of the operation? And this applies equally to all conditions in which laminectomy is indicated. We have already spoken of the shock, and this necessarily includes the anesthetic, but, with our improved methods of handling shock at the present time, this need be much less than it was formerly. In the cervical region, one must remember the dangers of phrenic paralysis when the third and fourth, or even the fifth and sixth cervical vertebræ are interfered with, and here it is advisable that the operator should manipulate the cord as little as possible. Hemorrhage has been spoken of as a serious danger, but we have not found it so. If one is unaccustomed to operate in this region, he will lose much time in attempting to control bleeding by the application of hemostatic forceps. This is hopeless. If, however, he is prepared to make a rapid clearing of the laminæ and then pack the wound for a few minutes with firm compresses, the extravertebral hemorrhage will entirely cease. The hemorrhage arising from the vessels about the dura may be somewhat troublesome, but it usually stops in a very short time, and in our experience has never proved dangerous. In the cervical region, if the injury includes the costo-transverse foramen, hemorrhage from the vetebral artery, which has proven fatal several times, must be guarded against. Formerly the loss of cerebrospinal fluid was feared, but a number of cases have since been reported where this oozing went on for weeks and large quantities were lost, yet the patient survived and eventually recovered. In one of my cases a fistula persisted for ten or twelve weeks with no appreciable inconvenience to the patient. If the dura is opened, and closed again with fine catgut, or fine silk, there will be but little escape of cerebrospinal fluid. The weakening of the spine is perhaps an important element, particularly in those cases where a portion of a displaced body or a projecting articular process or processes have to be removed. Here supporting apparatus should be employed and the method of wiring the vertebra, as suggested by Hadra, may be considered. Finally, operation on that part of the spine below the first lumbar vertebra, in which we find only the cauda equina, comes under rather a different ruling from those where the medulla itself may be affected. Here a lesion is a nerve compression or nerve section and the results of operation would not differ from operative measures undertaken upon nerve tissue in any other part of the body.

I have operated on the following cases of fracture or fracture-dislocation of the spine since the publication of my last paper. These cases have not been published before and are therefore given somewhat in detail.

CASE 1.—W. W., a male, was admitted to the New York Post-Graduate Hospital, Aug. 9, 1897. Four years before, he was shot from a distance of four feet. The bullet was 32-caliber, and entered the mid-dorsal region a little to the left of the spine. Immediate paraplegia and anesthesia resulted. He was unconscious most of the time for the next four days. Vesico-rectal paralyses were also present, but improved after a few weeks so that he was able to control his bladder. At the end of a year he was able to move his right leg and had regained some sensibility in both. Improvement has been going on gradually for the past three years. His general health is very good.

Examination revealed normal organs, but there were bedsores on the buttock and ankles. Ankle-clonus was exaggerated, also the patellar reflexes, and the gluteal muscles were thrown into clonic spasm on pressure over the sciatic nerves. The feet were in constant plantar flexion.

Operation was performed on September 1, under ether anesthesia, the incision being from the sixth to the tenth dorsal spines, and down to the laminæ. The arches of the sixth, seventh, eighth, ninth and tenth dorsal vertebræ were removed. There were evidences of fracture of the seventh, eighth and ninth laminæ. The fracture crossed from one side to the other, running toward the right and from above downward. The superior right articular process of the tenth vertebra was also fractured and had not united. Pressure on the cord was present over the whole area, and there were also evidences of old pachymeningitis. Pulsation of the cord was much reduced before the removal of the compression, but improved afterward. Before the operation the left leg had to be strapped to the thigh to prevent the violent muscular spasms, which resulted from the least jar, from throwing him out of bed. He could walk with the aid of crutches, as long as this leg was strapped up, but if it was allowed to dangle it would throw him over. When he left the hospital the reflexes were normal, he had recovered almost normal power in his adductor muscles on both sides, and in his quadriceps extensors, while the areas of anesthesia were markedly diminished. He has been heard from within a few months, and has recovered a great deal of the power in both limbs, although he is not yet able to do without crutches and has no trouble either with bladder or rectum.

CASE 2.—A. L., a male, on July 19, 1898, while diving in shallow water, struck upon his head, and was immediately paralyzed. He was admitted to the New York Post-Graduate Hospital on July 27, and at this time had complete paraplegia and anesthesia below the third rib. He had had syphilis two

years before. Priapism was present. He could extend his wrists slightly and flex the elbows. Vesico-rectal paralysis, cystitis and bed-sores were present. The areas supplied by the ulna nerve were still sensitive.

On July 28, I took an *x*-ray, which confirmed the diagnosis of fracture-dislocation of the fifth cervical vertebra. Operation, August 12, was under ether anesthesia, with removal of the laminæ of fourth, fifth and sixth of the cervical vertebræ. The fifth arch was compressing the cord, which did not appear to be crushed. There was no hematoma, and the dura was not opened. Pulsation returned as soon as compression was removed. In a few days sensation began to return, and he could use his arms considerably, while the priapism disappeared and he seemed to be gaining rapidly. His bladder symptoms, however, did not improve, and he began to give signs of uremia. Then, about September 1, he was suddenly completely paralyzed again and died in uremic coma, September 25. Unfortunately the house staff allowed his body to be removed without asking for an autopsy, so that it was impossible to determine the cause of the return of the paralysis.

CASE 3.—B., a female, was aged 14, with a family history of tuberculosis on the mother's side. Both parents, three brothers and four sisters were all healthy.

*Previous History.*—She had measles, whooping-cough and pneumonia in infancy, but was otherwise in excellent health and robust until the present trouble, with the exception of a few months prior to its onset, when she had nervous attacks in school; she was then about the age of puberty. Her first menstruation was very scanty and came four days before the present trouble. She menstruated four weeks later and has not since. In November, 1897, she fell down about sixteen steps, landing so that her head was thrown forward on her chest and her feet backward. She felt no injury and no pain at the time, and forgot about it until reminded of it six weeks later.

*Present Trouble.*—About Jan. 15, 1898, she was taken with la grippe, recovered partly, but felt very severe pains in the muscles of the legs and back. All day, January 22, she had very severe pains between the shoulders, and on the 23d, when dressing, she suddenly found that her arms dropped while combing her hair, and she could not grasp a comb or pins. Sudden weakness came over her and she became hysterical. She then walked some distance and got into bed. Her neck became rigid and her head was thrown backward. She could not use her legs and left arm, but could the right from the elbow down, though not the fingers; the face was flushed and body cold, but temperature 104. There was total loss of sensation below the seventh cervical vertebra, retention of urine and no control of bowels—all these symptoms were present the first day. On January 23 the bladder became distended to the umbilicus and urine dribbled. The condition was unrecognized by the physician. When catheterized the urine was ammoniacal—this was two or three days later. There was no improvement at the end of the week, during which time all these conditions persisted and also great pain in the neck. An osteopath was then called, and discovered a lump about the seventh cervical, which he is said to have massaged away. With massage the stiffness and pain disappeared, and the bowels, which resisted catharties, were made to move with fair regularity. This occurred within thirty-six hours, but there was no further benefit derived from this treatment, which lasted six weeks; by this time the patient had lost considerable flesh. The temperature persisted at about 103 F., nightly. On the fifth day of the disease bed-sores developed on the heel and elbow; they healed in five months. Others have since developed and healed.

The patient was then removed from Utah, where she was taken sick, to the Presbyterian Hospital, in Chicago, where she remained seven weeks, growing thinner every day until almost a skeleton. Her mother says that there the case was pronounced incurable. From Chicago she went with a trained nurse to Bayonne, N. J., her home, in May. Her general health improved greatly. A nerve specialist made there a diagnosis of myelitis. Her temperature became normal soon after reaching home and she regained some of her lost flesh. With careful catheterization all cystitis disappeared, but there was no improvement in muscular power until the present time. Electricity has been used faithfully. There was a partial return of sensation, which is variable in degree and location.

This improvement persisted up to the last three weeks. Then her appetite failed. Temperature became 103 to 104, nightly, and she seemed weaker; a lump appears at intervals on her back at the seventh cervical, and is about the size and thickness of a watch.

The mental condition has been good, and she has never been unconscious, but sometimes petulant. Cathartics and catheters are still necessary.

*Physical Examination:* The tongue is coated with dry, brown fur. The breath is sour, the nose obstructed, the neck asymmetrical—enlargement on the right side, soft and over the sterno-cleido-mastoid muscle. As to the thorax, the veins in the median line are prominent. The lungs show diminution of resonance on the left side, anteriorly, and rough, harsh breathing sounds over this area on deep inspiration—the same posteriorly. The heart is negative. There is an anemic bruit in the veins of the neck. The liver is apparently normal, also the spleen. Bed-sores are present on the hips and in the lumbar region and heel. These show—first two regions—reparative changes.

Extremities: The right arm muscles are weak and flabby, with much wasting of the flexors of the forearm; the dorsal and palmar interossei and ulnar groups wasted away. The arm can be raised, also the forearm flexed on the arm, but no flexion of the hand is possible. Extension of the hand is controlled. The tendons are not contracted. There is anesthesia of the dorsal surface of the fourth finger only. In the left arm less wasting of the muscles is evident, but the shoulder group shows motor power only. There is no anesthesia. The right leg has partial anesthesia below the knee, the patellar reflex absent, and no ankle-clonus. The left shows motor paralysis and anesthesia of the whole extremity.

There is pain on palpation over the spinous process of the sixth cervical vertebra; crepitation; tendinous or blood clot.

The abdomen shows anesthesia over the surface extending to a line between the nipple line and the clavicles.

The *x*-ray revealed displacement of the fifth cervical vertebra.

*Operation:* On September 15, Dr. Lloyd made an incision over the spines of the fourth, fifth and sixth cervicals, hemorrhage being controlled by gauze packing. The fifth vertebra was found dislocated and pressure on the cord by its body very marked. Pulsation in the cord was absent. The dislocated vertebra was reduced by traction on the head and body and manipulation. The head, neck and chest were put in plaster after closing the wound. The patient stood the operation very well, but with no improvement.

CASE 4.—A male of previous good health, fell through an elevator shaft, receiving a fracture of the spine, with complete paraplegia, vesicorectal paralysis, and obliteration of the reflexes. There was also anesthesia below the iliac crests, bed-sore over the lower sacral region, and gangrene of the toes of the left foot. This was his condition at the end of six weeks, when he was brought to me.

He was 28 years old, and had measles and typhoid fever when a boy. He had pneumonia twelve years before the accident, and seven years before had two sores on the penis. The latter were treated locally, and the patient's physician told him they were chancres, but gave no constitutional treatment.

When he fell down the elevator shaft, a distance of sixty feet, he struck on the lower spinal region, or buttocks. He was not rendered unconscious by the fall, but was unable to rise, as his lower extremities were completely paralyzed. The rectum and bladder were also involved. There was kyphosis in the lower dorsal region, the eleventh and twelfth vertebræ being most prominent. When I saw him his condition was fairly good, and he had partial control over the bladder, but his bowels still moved involuntarily. The toes on the left foot were gangrenous, the heart and lungs negative, and anesthesia extended over the areas supplied by nerves arising from and below the fifth lumbar segment (Starr). He voided urine voluntarily on the second day, and was out of bed the eighteenth.

Three weeks after operation there had been improvement in his general condition. The gangrene of the toes and the bed-sores were almost well. Control over the bladder was almost normal and there was also partial control over the rectum, also considerably more motion than before operation, the improvement chiefly in the adductors and abdnetors of thighs. There was also some motion in the flexors of the knee and in the quadriceps extensors. The right leg was better than the left. Anesthesia was also less than before, and most of the areas of lessened sensation before operation were now hyperesthetic, and spots of sensation were present in the anesthetic areas. The reflexes also were returning. Incision was from the eleventh dorsal to the second lumbar, inclusive, with removal of these arches. The cord was plainly seen to be pushed anteriorly and to the left side. The portions of bone encroaching on it were removed when the cord, which before had not been larger than a lead pencil and non-pulsating, expanded to its full size and pulsation returned. The dura was opened and no general destruction of the cord or blood clot was present. Improvement followed.

NOTE.—Feb. 28, 1901. This patient has been heard from again within the past few days, and he reports that he still continues to improve.

FRACTURES.

CASE 104.—Operator, Warren, 1867. Dorsal region; duration, 4 days. Projection over 6th D. crepitus; senses comatose; paraplegia, priapism, anesthesia, tympanites, paralysis of bladder. Incision 8 inches long; 5th D. spine fractured and removed with forceps. Fracture 6th D. lamina and trans. process; dura punctured. Intradural clot found on cord and left. Improvement unmistakable. Plantar reflex observed on second day; third day sensation along thighs and reflexes good below seat of fracture. Death on eighth day. Cause of death and post-mortem observations: Fracture of pelvis and left laminæ of 5th to 7th D.; comminuted fracture of 5th, 6th and 7th bodies, twisting of spine. Death due to infection from cystitis. Reference: An. of Surg., vol. xvii, p. 439.

CASE 105.—Operator, Fitzgerald, 1882. Upper dorsal region; duration, 2 hours. Paraplegia and anesthesia below lesion; vesical and rectal paralysis. Removal of fractured laminæ and reduction of dislocation. No improvement. Death some days later on moving the head. Reference: Syme; Aust. Med. Jour., 1883, p. 121.

CASE 106.—Operator, Fitzgerald, 1882. After a formal laminectomy—a new fracture. Canal reopened, projecting part of body removed. No functional result. Reference: Idem.

CASE 107.—Operator, Balow, 1886. Paraplegia and absence of reflex. Death on eighth day. Reference: Glasgow Med. Jour., 1892, p. 1, table viii.

CASE 108.—Operator, Balow. Duration, 6 weeks. Fracture with paraplegia. Return plantar reflex, motion of big toe. Death after 3 months; myelitis. Reference: Idem.

CASE 109.—Operator, Balow. Fracture with paraplegia. Improvement. Reference: Idem.

CASE 110.—Operator, Schede, 1886-90. Dorsal region; duration, 13 months. Fracture of 5th and 6th D.; anesthesia below umbilicus; paraplegia complete; vesical paralysis, exaggeration of reflexes gradually becoming worse; bedsores, anesthesia. Resection 5th and 6th D. arches; fragments removed; meninges normal. No improvement. Death from exhaustion 1 year later; gangrene. Post-mortem: Fracture of 7th and 8th D. bodies; displacement into canal. Reference: Rieder, Yahr. d. Hamburger Statts Krank., 1892, vol. ii, pp. 236-301.

CASE 111.—Operator, Schede, 1886-90. Dorsal region; duration, 18 months. Fractnre of clavicle and 6th D. Anesthesia almost up to mammæ; paraplegia, paralysis of bladder and rectum; reflexes exaggerated; gradual increase in symptoms. Four dorsal arches removed; body of 6th displaced into canal, crushing cord. No improvement. Reference: Idem.

CASE 112.—Operator, Schede, 1886-90. Dorsal region; duration, 16 weeks. Paraplegia and anesthesia; absence of patellar reflex; priapism, ejaculation, vesical paresis. Removal of arch of 6th D. which pressed on cord. Gradual improvement. Return of patellar reflex in 4 months. Could walk after 5 months. Almost complete recovery. Reference: Idem.

CASE 113.—Operators, Wooster and Montgomery, 1889. Cervicodorsal region. Paraplegia of lower limbs; partial paralysis of upper limbs. Removal of 6 bony fragments; cord normal. Paralysis increased; dyspnea. Death on 36th day. Post-mortem: Comminuted fracture of 5th and 6th C., 1st D.; cord crushed; pus at this point. Reference: Occidental Med. Times, 1889, p. 497.

CASE 114.—Operator, Woodbury. Dorsal region; duration, some weeks. Complete motor and sensory paraplegia. A slight sensibility over right great toe; paralysis of bladder and rectum. Ablation of 3rd, 4th and 5th dorsal arches. No improvement for some time, when extension and counter extension were applied; then rapid improvement. Seventeen months later practically well. Reference: N. Y. Med. Jour., 1890, vol. l, p. 1007.

CASE 115.—Operator, Ewing Mears. Lumbar region. Complete motor and sensory paraplegia. Removal of 1st lumbar arch. No pulsation in cord. Impossible to reduce fracture of body. Improvement. Reference: Phila. Med. News, 1890, vol. l, p. 210.

CASE 116.—Operator, Dalton, 1889. Dorso-lumbar region; duration, some hours. Complete motor and sensory paraplegia below great trochanter. Arch of 12th D., which compressed cord, removed. A splinter pierced cord. Return of sensibility. Death on 3rd day; hyperpyrexia. Reference: St. Louis Courier of Med., vol. l, p. 128.

CASE 117.—Operator, Armstrong. Dorsal region. Complete paraplegia; bedsores, pyrexia. Resection of 12th D. to 1st L. arches. meninges normal; cord atrophied; marked displacement of vertebral body. No improvement. Death on 8th day. Post-mortem: Fracture of 3rd and 12th dorsal bodies. Purulent infection, probably from bedsores. Reference: Reports U. S. M.-H., Washington, D. C., 1889, p. 2712.

CASE 118.—Operator, Bird. Dorsal region; duration, 1 year. Motor and sensory paraplegia; diarrhea; atrophy of lower limbs; bedsores, pains in back and thighs. Resection last 3 dorsal arches. Meninges bent at right angles and appeared empty. Area of distribution of crural br. of genito-crural nerve regained sensibility on right. Very slight improvement. Reference: Aust. Med. Jour., 1893, p. 115.

CASE 119.—Operator, Bird. Dorsal region; duration, 48 hours. Great pain; motion diminished, also sensibility, patellar and plantar reflexes. Depression over 12th dorsal. Removal of superior left articular process and arch of 12th D., which was fractured; removal of a dural blood-clot; hemorrhage. Following day all symptoms improved. Almost complete recovery. Reference: Idem.

CASE 120.—Operator, Lamplasi, 1890. Dorsal region. Complete motor and sensory paraplegia; vesical paralysis. Removal of 9th and 10th dorsal spines and arch of 10th dorsal. Third day vesical paralysis disappeared. Complete cure. Reference: Com. Fatta Sul la vi. a Ad. dela Soc., Ital. di Chir., Bologna, il 116, 1889-90.

CASE 121.—Operator, England, 1890. Cervical region. Paraplegia up to 3rd rib; paresis of both arms; priapism. Trephining. Death 6th day, asphyxia. Post-mortem: Fracture 6th cervical; destruction of cord. Reference: N. W. Lancet and Pharm., Winnipeg, 1890, p. 287.

CASE 122.—Operator, Terrier, 1890. Lumbar region; duration, long time. Considerable bony displacement, complete paraplegia, intense pain in lower limbs. Crushing so complete that removal of a lamina gave access to subjacent body. Cord destroyed. Persistence of paraplegia and pain. Reference: Prog. Med., 1891, p. 377; Bull. a Mem., 1891, p. 682.

CASE 123.—Operator, Knox, 1890. Dorsal region; duration, 36 hours. Complete motor and sensory paraplegia; violent cramps in legs. Removal of arch and articular processes of 10th D.; replacement of 11th dorsal, which was dislocated; pulsation gradually returned. Complete sensation following day; some motion of toes; no other improvement for 2 months. In 10 months could walk without assistance. Decided improvement. Reference: Glas. Med. Jour., 1891, i, 241.

CASE 124.—Operator, Weiss, 1890. Dorsal region; duration, 33 days. Complete motor paralysis of left leg; incomplete of right; sensation and reflexes normal; vesico-rectal paralysis; later, paraplegia complete. Removal of 11th D. spine and arch, also 10th D. arch. Premeningeal connective tissue red, injected; marked decrease in size of canal. Next day some motion; 3rd day, involuntary but conscious micturition; disappearance of incontinence. Cured. Reference: Revue Med. de l'Est, 1891, p. 449.

CASE 125.—Operator, Bircher. Dorsolumbar region. Fractured vertebra had contused cord; arch removed, dura opened; sutured with catgut. No improvement. Reference: Bull. a Mem., 1891, p. 680.

CASE 126.—Operator, Roux, 1890. Dorsolumbar region; duration, 5½ months. Complete motor and sensory paraplegia; vesicorectal paralysis; atrophy and edema of lower extremities. No response to Faradic current; contraction with galvanism. Reflexes absent. Anesthesia below Poupart's ligament; sacral bedsore. Resection of 12th D. and 1st L. arches. Canal narrowed by body of 1st L.; cord bruised. Incision of dura. Slight improvement. Death from infection from bedsores, 2 months later. Reference: Chipault, op. cit., 1893, p. 91.

CASE 127.—Operator, Mootprofit. Dorsolumbar region; duration, 9 months. Complete motor and sensory paraplegia; vesicorectal paralysis. Resection of 1st and 2nd L. arches. Canal obliterated; cord only a fibrous tract. No improvement. Reference: Idem, p. 90.

CASE 128.—Operator, Anger, 1890. Lumbar region; duration, 1 month. Complete motor and sensory paralysis; vesicorectal paralysis. Resection of 12th D. and 1st L. arches. Gradual recovery of some sensation and muscular power; improvement of bedsores. Death from nephritis 1 month later. Cause of death and post-mortem observations; Dislocation of 1st L. body backward. Cord nearly severed and pushed backward from left to right. Ascending and descending degeneration. Reference: Idem.

CASE 129.—Operator, Poirrier, 1890. Dorsal region; duration, 4 days. Complete paraplegia, anesthesia and thermal anesthesia. Resection of 11th and 12th D. and 1st L. arches and artic processes of inferior right of 11th, superior left of 12th L. Careful reduction of post. dislocation of 12th body by extension and counter-extension. After several days, improvement in sensibility and rectal paresis. No motor improvement. Result: Some improvement. Reference: Idem, p. 101.

CASE 130.—Operator, Chipault, 1890. Lumbar region; duration, 36 days. Complete motor and sensory paraplegia; bedsores; vesicorectal paralysis. Removal of 11th and 12th D., 1st and 2nd L. arches. No pulsation. Removal of projecting border of displaced body of 1st L. Destruction of cord. Very slight improvement in anesthesia. Reference: Idem, p. 93.

CASE 131.—Operator, Chipault, 1890. Dorsolumbar region; duration, 3 days. Complete paraplegia, anesthesia, vesicorectal paralysis. Of reflexes, cremasteric present; patellar decreased; plantar suppressed. Removal of 11th and 12th D. and 1st and 2nd L. arches. No extra dural hemorrhage. Large intradural clot between node of cauda equina. No improvement. Death 2 months later. Reference: Idem, p. 105.

CASE 132.—Operators, Church and Elsendrath, 1890. Cervical region; duration, 20 hours. Complete paralysis of trunk, abdomen and extremities; anesthesia up to 5th D. spine; posteriorly and anteriorly to superior border of 3rd rib. Absence of reflexes. Vesicorectal paralysis; depression of 5th and 6th cervical processes. Right lamina of 5th and 6th removed. Death from asphyxia in 8 hours. Reference: American Jour. of Med. Sci., 1892, p. 395.

CASE 133.—Operators, Church and Elsendrath, 1890. Dorsolumbar region; duration, 62 hours. Paralysis of lower extremities and abdominal and lumbar muscles; anesthesia to superior border of 3rd rib; all reflexes gone except left cremasteric; priapism, rectal and vesical paresis. Left lamina and spine of last dorsal fractured and 1st L. dislocated forward; dislocation reduced. Death from asphyxia and shock. Post-mortem observations: Fracture of 12th D.; dislocation of 1st D. and 2nd L. Reference: Idem.

CASE 134.—Operators, Church and Elsendrath. Sacral region; duration, 2 years and 3 months. Motor and sensory paraplegia; anesthesia; rectal and vesical paralysis. Two years later had im-

proved, but had complete anesthesia from four last sacral nerves. No reflexes except cremasteric. Incision over sacrum. Canal obliterated up to inferior border of 1st sacral segment. Fragments removed. Sacral root below could not be found. Mouth after anesthesia only in feet, gluteal regions, sacrum and posterior surface of penis; three mo. later lateral motion of feet; some erections. Result: Improved. Reference: Idem.

CASE 135.—Operator, Korteweg, 1889. Dorsolumbar region; duration, 13½ months. Partial paraplegia with anesthesia up to knee; rectal and vesical paralysis. Resection of 12th D. and 1st L. Meninges hard and resistent. Could walk with apparatus. Result: Some improvement. Reference: Chipault.

CASE 136.—Operator, Korteweg, 1891. Dorsal region; duration, 15 weeks. Paraplegia and anesthesia up to 6th intercostal space; all reflexes lost. Resection of 2nd, 3rd and 4th dorsal arches. No improvement. Death 9 months after from pyemia from bedsores. Reference: Idem.

CASE 137.—Operator, Tilanus, 1890. Dorsal region; duration, 7 months. Total paraplegia and anesthesia below umbilicus. Resection of 9th, 10th and 11th D. arches; dura unopened. No improvement. Reference: Idem.

CASE 138.—Operator, Tilanus, 1893. Dorsal region; duration, 3 months. Complete paraplegia and anesthesia below umbilicus, just above zone of hyperesthesia. Resection of 9th and 10th D. arches. No improvement. Reference: Idem.

CASE 139.—Operator, Lucas Championniere, 1891. Dorsal region; duration, 14 months. Removal of 4th and 5th D. arches and a hypertrophic callus, which compressed cord on side and in front. Three months later could walk without cane. For six months gradually became worse. Reference: Idem.

CASE 140.—Operator, Ridenour, 1891. Dorsal region; duration, 1 hour. Paraplegia and pain on motion; depression at 7th D. Removal of 7th, 8th and 9th D. arches; reduction of displaced 7th body. Rapid return of sensibility and control of sphincters. Recovery. Reference: Columbus Med. Jour., vol. x, p. 151.

CASE 141.—Operator, Boyle, 1891. D. region; duration 2 months. Complete motor and sensory paraplegia; priapism, vesical paresis. Removal of 9th, 10th, 11th and 12th D. and 1st L. arches. Marked improvement. Reference: St. Louis Med. and Sur. Jour., vol. ii, p. 308.

CASE 142.—Operator, Audry, 1891. Cervical region; duration, 24 hours. Paraplegia of all 4 extremities; anesthesia below internal aspect of arms; right pupil contracted; ptosis of right eye. Resection of 5th and 6th cervical arches. Cord compressed backward by body. Death in 12 hours from respiratory failure. Postmortem observations: Fracture of 5th cervical arch and body; cord destroyed; extradural hemorrhage.

CASE 143.—Operator, Phillips, 1891. Lumbar region; duration, 3 months. Complete paraplegia, left incomplete paraplegia on right side. Removal of 2d and 3d L. arches. Spine compressed by inferior fragment of 2nd lumbar. Death from nephritis 2 months later; improvement at first. Reference: Memoirs and Discussions of French Cong. of Surg., p. 516.

CASE 144.—Operator, McBurney, 1891 (Starr). Lumbar region; duration, 5 months. Complete motor and sensory paraplegia; vesical and rectal paresis. Removal of 1st, 2nd and 3rd L. arches; dura incised. Vesicorectal improvement at end of 3 months; 6 months later no motor improvement. Result: Slight improvement Reference: Am. Jour. Med. Sci., vol. ii, p. 26; Case 12.

CASE 145.—Operator, McCann, 1892. Dorsal region. Paraplegia. Removal of arches which were driven down on cord; fragments removed. Death subsequently. Reference: Trans. of Am. Surg. Asso., vol. ix, p. 216.

CASE 146.—Operator, McCann, Jr., 1891. Dorsolumbar region; duration, 3 months. Anesthesia below knees; paraplegia. Removal of arches of 12th dorsal and 1st and 2nd lumbar. Recovery. Reference: Idem.

CASE 147.—Operator, Moullin, 1891. Lumbar region; duration, 6 weeks. Paraplegia; anesthesia most marked on the right; some vesicorectal paralysis. Improvement, then stationary. Removal of 2nd and 3rd lumbar arches and inferior right articular process of 2d lumbar, which compressed cord. Improvement; recovery. Reference: London Lancet, 1892, vol. i, p. 359.

CASE 148.—Operator, Wyeth. Dorsal region; duration, 4 months. Complete paralysis from level of umbilicus down, of bladder and rectum. Removed laminæ of 6th, 7th and 8th D. vertebræ and found cord almost completely severed. No improvement. Reference: N. Y. Med. Jour., 1892, vol. li, p. 273; also Annals of Surg., vol. xx, p. 273.

CASE 149.—Operator, Wyeth, 1892. Dorsal region. Removal of 7th and 8th dorsal arches. No improvement. Reference: N. Y. Med. Jour., 1892, vol. ii, p. 273.

CASE 150.—Operator, Urban. Dorsolumbar region; duration 6½ months. Complete motor paraplegia; complete anesthesia in feet; incomplete anesthesia in thighs; vesical paresis; bedsores; patellar reflex exaggerated; superficial reflex absent. Resection of 12th dorsal, 1st, 2nd, 3rd and 4th L.; incised on right side. Traces of cicatricial tissue; body of 1st L. displaced; canal narrowed. Complete recovery. Reference: Gesell. Chir., 21st Cong., 1892, p. 214.

CASE 151.—Operator, Urban. Lumbar region; duration 9½ months. Complete motor and sensory paraplegia; rectovesical paresis. Temporary resection of 11th and 12th D., 1st, 2nd, 3rd and 4th L.; 4th D. body displaced; no pulsation. Pulsation returned. Partial return of sensibility in 24 hours. Reference: Idem.

CASE 152—Operator, Israel, 1892. Motor and sensory paraplegia; rectovesical paresis. Two months later, no improvement. Reference: Idem, p. 111.

CASE 153.—Operators, Verdelet et Venot. Lumbar region; duration 1½ months. Right monoplegia; no anesthesia; vesicorectal analysis. Removal of splinter on right of 1st lumbar. No improvement; increase in cystitis. Death 12th day. Reference: Societe nat. et Physiol de Bordeaux, June 13, 1892; Jour. de Med., 1892.

CASE 154.—Operator, Park, 1892. Dorsal region; duration, 2 hrs. Motor and sensory paraplegia. Resection of 10th, 11th and 12th arches. Canal filled with clot and debris. Improvement of anesthesia; none of paraplegia. Reference: Med. News, 1892, vol. i, p. 546.

CASE 155.—Operator, Bruns. Cervicodorsal region. Paraplegia; anesthesia up to 6th rib; vesicorectal paralysis; priapism, contraction of pupils. Removal of arches of inferior cervical and superior dorsal. Improvement in flexora and possibly in extensory power of arms. Death. Post-mortem observations: Total degeneration of cord. Lower cervical, upper dorsal. Secondary degeneration of points of myelitis. Reference: Mercerdi Med., 1893, p. 9.

CASE 156.—Operator, Koerb. Dorsal region. Complete paraplegia; all reflexes gone; paralysis of sphincters. No improvement. Death 10th day. Post-mortem observations: Fracture 10th dorsal; cord crushed. Reference: Idem.

CASE 157.—Operator, Le Dentu. Dorsolumbar region; duration, 28 days. Complete motor and sensory paraplegia; vesicorectal paresis; fracture of femur. Removal of 11th and 12th dorsal and 1st lumbar arches. Death from pyelonephritis. Post-mortem observations: Cord crushed. Reference: Chipault, loc. cit.

CASE 158.—Operator, Villar, 1892. Dorsal region; duration, 3 days. Depression in dorsolumbar region; motor and sensory paraplegia; patellar reflexes present; plantar and cremasteric gone; vesicorectal paralysis. Incision from 10th dorsal to 1st lumbar; compression removed. Improvement. Reference: Idem.

CASE 159.—Operator, Van Kleef, 1892. Dorsolumbar region; duration, 6 weeks. Total motor sensory paraplegia and rectovesical paresis. Removal of 12th dorsal and 1st lumbar arches; cord compressed by fragments. Marked improvement in two days. Reference: Chipault.

CASE 160.—Operator, Zavaleta, 1892. Lumbar region; duration, 7 days. Motor and sensory paraplegia; vesicorectal paralysis. Fragments removed; extensive ascending myelitis. Death from respiratory paralysis on 42rd day.

CASE 161.—Operator, Wyeth, 1890-91. Dorsolumbar region; duration, 8 months. No motion below hips; no sensation from junction of middle with upper third of thigh; urine overflows. Laminæ of 11th and 12th D. and 1st L.; cord small and soft, and no direct compression. No improvement. Death 3 years later; cause unknown. Reference: Annals of Surgery, vol. xx, p. 154.

CASE 162.—Operator, Wyman, 1892. Lumbar region; duration 8 weeks. Complete motor and sensory paralysis below last dorsal nerve; vesical and rectal paralysis; cystitis. Removal of 2nd L. arch; cord atrophied. Death 15 hours later. Reference: Annals of Surgery, vol. xix, p. 661.

CASE 163.—Operator, Riggs, 1893. Dorsolumbar region; duration, 4 days. Complete paralysis; bladder and rectal paralysis. Removal of last dorsal and 1st L. arches. Recovery from operation. Slight improvement. Reference: Idem.

CASE 164.—Operator, Mayer, 1894. Lumbar region; duration, 17 months. Paralysis, motor and sensory; bladder symptoms; cystitis. First and 2nd L. arches removed; dura adherent to cord. Recovery from operation. Marked improvement. Reference: Annals of Surgery, vol. xxvi, p. 207.

CASE 165.—Operator, Park, 1892. Male, 37; had had Pott's disease some time before; struck by train; paraplegia; anæsthesia limited to skin. No lesion or fracture found. Death on eighth day. Post-mortem observations: Fracture found at region of Pott's disease. Reference: Med. News, 1892, i, p. 546.

CASE 166.—Operators, Weller and Van Hook, 1891; reported by Starr. Third dorsal region; duration 16 hours. Wound from revolver bullet; complete paralysis of lower limbs. Removal of 3rd D. arch; cord found reduced to a pulp. Death 21 days later. Reference: Am. Jour. of Med. Sci., vol. cili, p. 395.

CASE 167.—Operator, Conley, 1891. Fifth dorsal region. Revolver wound at 5th dorsal; complete paralysis of lower limbs. Retention of urine and feces. Fifth dorsal arch removed; cord nearly sound and bullet found in back of vertebræ; iodoform drain. No union because of escape of cerebrospinal fluid. Death 31 days later. Reference: Idem.

CASE 168.—Operator, Bouffleur, 1891. Duration 24 hours. Fracture 5th and 6th C. vertebræ; anesthesia of upper and lower limbs. Exploratory laminectomy at 5th C. Death in 8 hours. Reference: Idem.

CASE 169.—Operator, Halsted, 1891. Second D. and 5th L. dislocated, 12th D. fractured; duration, 62 hours. Struck by grip of cable car; paralysis of lower limbs and trunk. Laminectomy at 12th D.; reduced dislocation at 2nd D. and 5th L. Death in 15 hours. Reference: Idem.

CASE 170.—Operator, Frank, 1891. Sacral region; duration, 2 years. Partial anesthesia of legs and complete of rectum and penis; two bedsores. Portion of sacrum removed. Some improvement. Reference: Idem, p. 405.

CASE 171.—Operator, Golding-Bird. Dorsal region; duration, 72 hours. Severe pain across back, which increased with movement. Paralysis of lower limbs (partial); partial anesthesia of legs and abdomen; reflexes normal; ankle clonus; paralysis of sphincter ani. Removal of 11th and 12th D. arches and blood-clot; wound closed with silver; no drain used; extension made by traction. Sensation and motion steadily improved. Complete recovery. Reference: Br. Med. Jour., May 23, 1891.

CASE 172.—Operator, Warren. Dorsal region; duration, 4 days. Paralysis of legs; cold feet and semistupor; fever. Dura opened and blood-clot found. Death. Post-mortem observations: Fracture of spine and pelvis; torsion and compression of cord. Reference: Annals of Surg., xvii, 1893, p. 439.

CASE 173.—Operator, Pauzer, 1893. Lumbar region; duration 3 years. Male, 40. Fell 30 feet; hysterical, no pain; mind gradually gave way; right limb then painful and weak. Again injured back 11-3 years after; 7 months after was found in a stupor; pain on pressure in lumbar region. Removal of 4th and 5th L. arches; dura adhesive; cord normal. Death 55 hours after. Reference: Trans. Indiana Med. Soc., 1893, p. 47.

CASE 174.—Operator, Pauzer. Lumbar region; duration 4½ years. Male, 40; jumped 35 feet, landed on feet, became unconscious; rectal and vesical paralysis; 3 months later suffered from severe coccygodynia; 2 years later severe pain on pressure; intermittent paralysis of right limb; head symptoms; right arm cold, weak and numb; unconscious spells; pupils constantly dilated. Removal of 2nd and 3rd L. arches and 4th and 5th right laminæ; 2nd lamina and anterior processes thickened; dura thickened and adherent; pulsation present; drainage by rubber tubes. Great pain on right side for 24 hours after. Recovery. Reference: Idem.

CASE 175.—Operator, Pyle, 1893. Dorsal region; duration, 11 hours. Loss of sensation and motion below hips; loss of reflexes; severe pain; rectal and vesical paralysis. Removal of fragments; cord contused. Pain immediately disappeared; sensation and motion returned one week later. Recovery. Reference: Annals of Surg., xix, p. 666.

CASE 176.—Operator, Pyle, 1893. Dorsal region; duration, 6 days. Loss of sensation, motion; rectovesical paralysis; girdle pains. Fragments removed. Pain disappeared, but no other recovery in three months. Slight improvement. Reference: Idem.

CASE 176.—Operator, Wyeth, 1890. Dorsal region; duration 7 months. Paralysis below pelvis: rectal and vesical paralysis Some fragments removed. Gradual improvement; recovery. Reference: Idem.

CASE 178.—Operator, Wyeth, 1892. Dorsal region; duration, 4 months. Complete paraplegia and anesthesia below umbilicus; rectal and vesical paralysis. Cord almost destroyed; 6th, 7th and 8th arches removed. No improvement. Reference: Idem.

CASE 179.—Operator, Wyeth, 1890. Dorsal region; duration, 8 months. Paralysis below hips; vesical paralysis. Removal of 11th and 12th D. and 1st L. arches. No improvement. Died 2 months after; cause unknown. Reference; Idem.

CASE 180.—Operator, Wyeth, 1893. Dorsal region; duration, 7 mo. Complete anesthesia and paraplegia below 6th D. spine and ensiform cartilage; rectal and vesical paralysis. Removal of 3rd and 4th D. arches and fragments of bone; cord found cut. No improvement. Reference: Annals of Surg., xx, p. 153.

CASE 181.—Operator, Wyeth, 1894. Dorsal region; duration, 2 months. Paralysis below crests of ilia; vesical and rectal paralysis. Removal of 8th to 11th D. arches. No improvement; death. Reference; Idem.

CASE 182.—Operator, Ellinwood, 1894. Dorsal region; duration, 3 months. Female, 19; fell 20 feet; complete paralysis below umbilicus; incontinence of urine and feces; in plaster jacket for 2 months; line of anesthesia lowered to pubes. Seventh to 11th D. arches removed; dura adherent; large mass anterior to cord which could not be reached; iodo-collodion dressing. Gradually failed; death. Reference: Occ. Med. Times, viii, p. 581, 1894.

CASE 183.—Operator, Ellinwood, 1894. Dorsal region; duration, 42 days. Male, 34; fell 20 feet; no pain and not unconscious; complete motor and sensory paralysis in lower limbs; bladder paralyzed. Sixth to 10th D. arches removed; pressure removed; cord edematous; blood-clot found. Slight movement and sensation after 2 weeks; developed cough and had dulness on left side; tubercle bacilli found. Died 2 months later. Post-mortem observations; Tuberculosis found; 8th D. was driven into 9th D., which injured cord. Reference: Idem.

CASE 184.—Operator, Roberts, 1894. Region, dorsal. First operation five months; gradual loss of power and sensation below crests of ilia, rectal and vesical paralysis. Removal of 9th and 10th D. arches, bone fragments removed. Regained sensation in testicles. Ten months later, second operation. Complete loss of power below iliac crests. Incision in lumbar region, no fragments discovered. Only improvement in legs. Two years later, third operation; 11th and 12th D. and 1st L. arches removed. Cauda equina displaced and injured, old bone fragments removed. Slight improvement in ankle joint. Reference: Medical News, 1894, lxiv, p. 265.

CASE 185.—Operator, Roberts, 1892. Dorsal region; duration, 1 month. Paralysis of both lower limbs; rectal and vesical paralysis. Pressing fragments removed. No improvement; death. Post-mortem observations: Sepsis. Reference: Idem.

CASE 186.—Operator, Roberts, 1893. Dorsal region; duration, 5 months. Paralysis of lower limbs, bladder and rectum. Cord destroyed. No improvement. Reference: Idem.

CASE 187.—Operator, Roberts, 1892. Dorsal region; duration, 10 months. Paralysis of lower limbs. Cord destroyed. No improvement; death in 2 months. Reference: Idem.

CASE 188.—Operator, Sharples. Dorsal region; duration, 24 hours. Male, 28; injured by falling weight; instantly paralyzed below 11th D.; marked blood extravasation. Arches of 7th, 8th and 9th D. removed; cord bent; no pulsation; compressing fragments removed. Next day tingling in feet and desire to micturate; later paralysis complete, leg-jerks, anesthesia below iliac crests; no control over bladder or rectum; fistula in back. Reference: Medical News, Phila., 1894, lxiv, p. 633.

CASE 189.—Operator, Dundore, 1894. Dorsal region; duration, 5¼ months. Male, 21; injured by falling weight; loss of motion and sensation in both lower limbs; retention of urine; cystitis; slight motion and sensation after treatment with electricity. Ninth D. trephined; cord compressed, but no lacerations; drain and plaster jacket. Subsequent course; Used electricity; recovery. Reference: Med. News, Phila., 1894, lxv, p. 578.

CASE 190.—Operator, Dundore, 1894. Dorsal region; duration, 3½ months. Male, 35; struck by weight while stooping; complete loss of motion and sensation below 10th D. Cord found cut through. Death. Reference: Idem.

CASE 191.—Operator, Dundore, 1894. Dorsal region; duration, 5 days. Male, 20; total paraplegia of lower limbs. Eighth, 9th and 10th arches; cord lacerated and blood-clots found; drain used. Died 15 days later. Reference: Idem.

CASE 192.—Operator, Oliver. Dorsal region; duration, 14 months. Male, 34; fell 20 feet; instant paraplegia of lower limbs, bladder and rectum; all reflexes present. Arches of 7th, 8th and 9th D. vertebræ removed; dura adherent; no pulsation in cord; dura not stitched; perfect union. Improvement in bladder and rectal symptoms. Result; slight improvement. Reference: Med. and Surg. Reporter, 1894, lxx, p. 871.

CASE 193.—Operator, Arnison, 1894. Lumbar region; duration, 2 years. Complete paraplegia below seat of injury. Arches of 1st, 2d and 3d L. removed; cord crushed. Improvement in cystitis. Result: No improvement. Reference: Annals of Surgery, xxi, p. 522, 1895.

CASE 194.—Operator, Arnison, 1894. Lumbar region; duration, 7 weeks. Paralysis of hamstring muscles; retention of urine; incontinence of feces. Arches of 1st, 2nd and 3rd L. removed; cord crushed. No improvement. Reference: Idem.

CASE 195.—Operator, Arnison, 1894. Lumbar region; duration 1 month. Paralysis below hips, and of bladder and legs, atrophy of thighs and legs. Fragments removed. Immediate improvement, could walk in one month, cured in eight months. Reference: Annals of Surgery, xxi, p. 522.

CASE 196.—Operator, Dawbarn, 1893. Lumbar region; duration 8 months. Complete paraplegia, pain and bedsores. Cord found diminished in size. Slight increase in motion, complete control of bladder and rectum, sensation normal. Reference: Annals of Surgery, xxi, p. 46, 1895.

CASE 197.—Operator, Dawbarn. Lumbar region; duration 2 hours. Motor and sensory paraplegia below seat of injury. Fragments removed. Recovery in two months. Reference: Idem.

CASE 198.—Operator, Winnet, 1894. Cervical region. Male, 29; dived in shallow water; mind remained clear; sensation above nipples anteriorly and shoulders posteriorly; retention of urine and incontinence of feces; pupils contracted; tenderness over 4th and 5th cervical; all muscles below neck except diaphragm were paralyzed. Fourth and 5th cervical arches removed with Hey's saw and forceps. Could move arms when last heard from. Result; Slight improvement. Reference: Canadian Pract., xx, p. 1, 1895.

CASE 199.—Operator, McCosh. Cervical region; duration, 18 months. Male, 33; bedridden 9 months; paralyzed below clavicles. Fifth cervical arch removed. Good recovery. Reference: Idem.

CASE 200.—Operator, Lindsey, 1894. Dorsal region; duration, 3 months. Male, 39; struck by cable across back; unconscious; paralyzed in lower limbs; no control over bladder and rectum; bedsores, cystitis; Sayre's jacket, electricity and strychnin given. Could walk with cane after six weeks. Spines of 9th to 12th D. taken off with forceps; spicula of bone removed and dislocation reduced; no drain. Had occasional convulsions and died 5 days later. Reference: N. Y. Med. Jour., 1896, lxiii, p. 382.

CASE 201.—Operator, Wyeth, 1895. Dorsal region; duration, 11 days. Male, 27; struck by rock; instantly paralyzed below seat of injury. Incontinence of urine. Tenth to 12th dorsal arches removed; dura intact, but cord injured. Not much improvement; cystitis; regained partial control of bladder; large bedsores; severe priapism. Result: Very slight improvement. Reference: Jour. of Am. Med. Assoc., 1896, xxvi, p. 1052.

CASE 202.—Operator, Wyeth. Cervical region; duration, 4 days. Male, 19; fell on head; remained conscious; intense pain, especially on motion; complete paralysis of motion and sensation in trunk and lower limbs; right arm partially paralyzed and anesthesia of its ulnar nerve; extension made; marked rise in temperature. Fourth, 5th and 6th C. arches removed; cord almost divided by lamina of 5th C.; cord red, but no signs of hemorrhage. Died 8 days after operation. Reference: Idem.

CASE 203.—Operator, Platt. Dorsal region; duration, 11 months. Fell down stairs; 2 months later loss of sensation and motion in legs; incontinence of urine; curve appeared. On entering hospital, 10 months after, was anemic; curve, anterior poaterior from 6th to 10th dorsal; whole region thickened; tenderness and edema between scapulæ; dulness below right nipple and all the way back; complete paraplegia and wasting of muscles; no control over bladder or rectum; many bedsores. Two parallel incisions from 6th to 9th D. spines just internal to trans. processes; laminæ of 5th, 6th and 7th dorsal cut; fragments removed. No motion restored; improvement in sensation and bedsores. Death 4 months after operation. Cause of death: Probably a complete transverse lesion. Reference: Boston Med. and Surg. Jour., cxxx, p. 415.

CASE 204.—Operator, Myles, 1894. Cervical region; duration, 48 hours. Fall, with immediate loss of power over lower extremities; limbs warm, pulse slow and feeble, respiration shallow and rapid, pupils contracted, pain in neck increasing on movement, bladder and bowel symptoms, sensation absent, reflexes gone in left leg, present in right; next day, paralysis of both legs, all reflexes absent, right side anesthesia up to nipple, left to 8th dorsal, right arm unable to flex or extend fingers, left pronation, supination, extension and flexion gone; pupils contracted, respiration diaphragmatic, legs drawn up. Incision from occiput to 7th C.; fragments removed and 4th and 5th arches. After 30 hours began to sink, and died of dyspnea. Post-mortem observations: Arches of 4th, 5th and 6th C. fractured; also body of 3rd; cord slightly bruised in front, and no displacement of bodies of vertebra. Reference: Medical Press and Circular, London, 1894, pp. 4-7.

CASE 205.—Operator, Giles, 1894. Dorsal region; duration, 10 days. Fell on back; complete loss of sensation below umbilicus; hyperesthesia of back; paralysis in legs, reflexes gone, bladder paralysis; no deformity; 8th dorsal more movable than the rest; no pain on pressure; high temperature. Compressing bone removed; dura not opened. Gradually became worse. Death 34 hours later. Post-mortem observations: Body of 8th dorsal fractured; no laceration of cord. Reference: Australian Med. Gaz., 1894, xiii, p. 86.

CASE 206.—Operator, Ridenour, 1895. Dorsal region. Struck in back by a beam. Arches 6th to 9th dorsal vertebra removed. Sensation returned at once; walked on crutches after three months. Reference: Can. Pract., 1895, xx, p. 1.

CASE 207.—Reprint from Am. Jour. Med. Sci., 1892. Dorsal region; duration, 5 hours. Fracture and dislocation between 10th and 11th D. vertebræ. Fragments removed; dislocation reduced; splines held together with silk. Improvement in symptoms; recovery. Reference: Ibid.

CASE 208.—Operator, Royle, 1895. Dorsal region. Dislocation between 9th and 10th dorsal; also between 12th D. and 1st L. Arches from 9th dorsal to 1st L. removed. Good sensation and motion; recovery. Reference: Ibid.

CASE 209.—Operators, Church and Elsendrath. Dorsal region. Fracture and dislocation of 10th dorsal; complete paraplegia. Extradural clot removed and reduction. Improvement in symptoms; cured. Reference: Ibid.

CASE 210.—Operator, Galaudet, 1895. Dorsolumbar region; duration, 48 hours. Fracture of laminæ of pedicles of 12th dorsal and 1st L.; dislocation between 1st and 2nd lumbar. Fractured portions removed and dislocation reduced. Recovery from operation bedsores and cystitis developed. Thirteen months later sensation returned to lower extremities, but no muscular power. Reference: Annals of Surg., vol. xxv, p. 32, 1897.

CASE 211.—Operator, Galaudet, 1896. Lumbar region; duration 48 hours. Laminæ of 2nd and 4th L. crushed. Fractured part removed; 3rd L. intact; dura not opened; spinous processes o 10th, 11th and 12th D. vertebræ removed. Recovery from opera tion. Three weeks later sensation returned to lower extremities Reference: Ibid.

CASE 212.—Operator, Galaudet, 1890. Dorsal region; duration 5 days. Complete anesthesia of lower limbs and trunk below poi of fracture. Removed laminæ of 4th, 5th and 6th dorsal vertebræ dura opened and cord found normal. Recovery from operatio Convulsion of both upper extremities 6 hours after operation, fo lowed by their complete paralysis. Death 10 minutes after co vulsions. Post-mortem negative. Reference: Ibid.

CASE 213.—Operator, Hudson. Cervical region; duration, weeks. Male, aged 19, dived into shallow water; paralyzed fro neck down, except shoulders and elbows; three weeks later head be back and pupils contracted and not active to light; arms abduct and rotated out, forearms pronated, left arm partly paralyzed a sensation absent below 2nd rib in front, 2nd dorsal spine behin breathing diaphragmatic and pulse regular and strong; large be

sore on sacrum and right shoulder; four abscesses below umbilicus, which healed on treatment; incontinence of urine and of feces at times; temperature sometimes as high as 104 degrees. Wound packed with hot sponge; 7th C. arches removed; processes with forceps, lamina of 6th C. with rongeur; no pulsation of dura; body of 5th C. almost occluded canal. Died on eighth day. Reference: Jour. of Nervous and Ment. Diseases, 1897, xxiv, p. 357.

CASE 214.—Operator, Hersey, 1895. Dorsal region; duration, 5 months. Male, aged 13; fell from tree. Depression of 4th D. crepitus; complete paralysis below injury; movement of arms also impaired; temperature 100 degrees, pulse 78, respiration 32; plaster jacket and extension used three weeks after injury and gave relief, but did not improve condition greatly; removed 15 days later; 35 days later, incontluence of urine, bedsores. Cut transverse processes of 4th, 5th and 6th D. and removed them. Spinous processes removed; deep silkworm sutures used; catgut superficially. Died 19 months after operation. Reference: Atlantic Med. Weekly, vol. viii, p. 370, 1897.

CASE 215.—Operator, Godding, 1896. Dorsal region; duration, 2 weeks. Fell 60 feet; 11 days later left leg completely paralyzed; could move right foot, sensation normal; rectal and vesical paralysis; depression between dorsal and lumbar vertebræ, patella reflexes absent; temperature 99.8 degrees, pulse 92, respiration 20. Left lamina of 11th D. cut with Hey's saw and chisel; arch of 11th D. removed, dura came away with it; deep sutures of catgut, superficial ones of silkworm gut; no drain. Complete recovery. Reference: Atlantic Med. Weekly, vol. viii, 1897, p. 369.

CASE 216.—Operator, Godding, 1896. Dorsal region; duration, 48 hours. Fell 15 feet and struck across back. Extension applied; partly reduced dislocation; complete paraplegia below umbilicus; retention of urine, priapism, paralysis of rectum; spinal curve to right from 6th to 10th D. crepitus over 8th D.; reflexes absent, temperature 99.2, pulse 72, respiration 20. Cord had been cut through between 7th and 8th D.; catgut drain. Died 16 days later. Reference: Idem.

CASE 217.—Operator, Oliver, 1897. Lumbar region; duration, 35 days. Male, 36; struck by train on head and back; unconscious for a time, complete paralysis of lower limbs, rectal and vesical paralysis; constant priapism for 2 weeks; sensation normal; later, projection of left 12th D. and depression of 1st L.; turning to right caused pain; incontinence of feces, bladder control normal, knee-jerk absent. Laminæ of 1st and 2nd L. cut; pressing fragments removed. Galvanic current and tonics given; regained power of locomotion. Result; improvement. Reference: Cincinnati Lancet-Clinic, xxxix, p. 615, 1897.

CASE 218.—Operator, Oliver, 1897. Cervical region; duration, 48 hours. Male, aged 62. Alcoholic; fell down stairs while intoxicated. Pulse slow, respiration stertorons, temperature subnormal; complete motor and sensory paralysis below 3rd rib on right side; on left side arm was involved; could flex right arm; rectal and vesical paralysis, superficial reflexes absent. Irregularity at 2nd and 3rd C.; crepitus felt; pupils contracted. Fragments from 2nd and 3rd C. removed. Bedsores appeared where there had been contusions. Died 3 weeks later. Reference: Cincinnati Lancet-Clinic, xxxix, p. 615, 1897.

CASE 219.—Operator, Frank, 1891. Sacro-coccygeal region; duration, 3 years. Male; fell 36 feet; complete paralysis of lower limbs, loss of sensation below hips, rectal and vesical paralysis; bedsores on sacrum. Coccyx and lower part of sacrum with its posterior wall removed and spinous and transverse processes of 4th and 5th L. Good recovery. Reference: Chicago Med. Record, vol. xvi, p. 143.

CASE 220.—Operator, Porter. Dorsal region; duration, 28 months. Male, 25; fell 20 feet, landed on his feet; complete paraplegia; retention and then incontinence of urine. Segments of 11th and 12th D. removed. Unimproved. Reference: Idem.

CASES 221, 222, 223, 224. For these cases see text, pp. 1248-1250.

DISCUSSION.

DR. R. H. DAWBARN, New York City—I wish to emphasize the importance of early operation in these cases and think this Section should go on record as saying so. I had a case some years ago which taught me a lesson. A young man whose spine had been broken had been treated for nearly a year before coming to me. He saw Dr. Seguin and Dr. Gray, who advised against operation. The patient then bought a large galvanic battery and used it on their advice until there was no response. He ultimately agreed to an operation, and I found the spinal cord in one spot subject to bony pressure, and hardly more than scar tissue at that point. Of course the delay had ruined his chance of ever walking again, but he greatly improved in certain symptoms. As against this I had a case five years ago, of a young girl who fell down a shaft, and I succeeded very promptly in getting an operation, which was done inside of two hours. She was paraplegic from the waist, or just below it. I found the eleventh and twelfth dorsal vertebræ crushed and sticking into the cord. My assistant suggested that perhaps one of the bodies might be fractured and attacking the cord also from its front, and sure enough such was the case. A spicule of bone about the size of a lead pencil was found sticking into the cord. I removed the lamina on that side with the rongeur, and finally reached and removed the fragment. Suddenly there was a tremendous rush of blood—evidently from the torn venæ basis vertebræ—which was controlled by a long strip of gauze curved around the spinal cord. I was afraid that this would be the means of conveying infection from air outside, but this proved not to be the case. The result was an ideal recovery, and prompt restoration of walking and all bodily functions. These cases are not in the same category as fracture of the skull. There is not more reason to delay in a case of fracture of the spine where there is hemiplegia or paraplegia and a depressed or deflected spinous process than for delay in a case of fracture of the skull with depression and pressure symptoms. There is no wisdom in waiting to see what would happen, and there is no more danger from shock in the one case than in the other. I would not wait in a case of fracture of the spine, even a needless hour, for more hopeless cases can not be found than these are. I hope this Section takes the same view that I do.

DR. G. DE N. HOUGH, New Bedford, Mass.—In 1896 I had a case of broken neck in a man who was thrown during a friendly scuffle, striking on top of his head. Paraplegia was immediate. I saw him next day. Both legs and the right arm were affected; temperature 102. He was taken to the hospital; and at 5 o'clock both legs and both arms were paralyzed; temperature 104.5 degrees; spinous process of the seventh cervical vertebra slightly deviated to the left. Laminectomy was performed and he made an uneventful recovery. Soon after the operation I found that he had phthisis. He is still living and I am informed that, except for a decided weakness of the right arm, he is well.

DR. DAWBARN.—The writer and I do not differ in the least. He says that if you have a deflected spinous process you have one more indication for operation, and I agree with him. In saying that he would open the cord, he did not mean that, but the theca spinalis.

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**Endurance of Vegetarians.**—Baelz, of Tokio, is reported in the *Deutsche Med. Woch.* as having stated, at the meeting of the Berlin Medical Society, March 20, that he has found the vegetarian Japanese actually more enduring than meat-eating foreigners in control tests, and the events in China have corroborated his experiences. In the interior of Japan it is impossible for the masses to procure even fish or much rice, and as the Japanese cows do not give milk, they have no butter nor cheese, and the food is limited to barley or buckwheat with one-quarter rice, the soya bean and no meat. The soya bean contains as much albumin as beef and 20 per cent. oil, but the amount of cellulose renders it difficult to digest. The rich Japanese who eat rice more abundantly have soft bones, owing to the lack of lime in the rice. Children who eat much rice have grooves in their bones from the bands of their clothing, although rhachitis is unknown in Japan. Among the tests of endurance he mentioned that he once drove 110 km. in fourteen ours, changing horses six times. A Japanese with a cart made the trip at the same time in 14½ hours. He had two rickisha men trot 40 km. with his weight of 80 kg. every day in the heat of the sun. At the end of fourteen days one of the men had gained .5 kg. in weight. He then added a little meat to their food, but the men said it made them feel tired, so it was suspended after three days. At the end of the twenty-second day of the test the men were as full of energy as at first.

**Medical Journals as Teachers.**—A correspondent of the *Wiener Klin. Rundschau* criticizes the new official post-graduate courses as superfluous in the large cities, observing that "a good medical journal takes the place of many such courses. The serumtherapy of diphtheria became the common property of the profession without any special course of training. The best teacher is always, and invariably, practice on a basis of thorough knowledge of contemporaneous achievements in science and a discussion of dubious points in professional gatherings."

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## CRYOSCOPY OF THE URINE.

Cryoscopy is, in brief, the determination of the freezing point of fluids containing substances in solution. The following are the principal laws deduced by Raoult and others from the study of the freezing point of solutions: 1. All substances, solid, liquid and gaseous, when dissolved in a definite liquid capable of solidification, lower the point of solidification, and this the more the greater the concentration of the solution. 2. If the body dissolved is not combined with or altered by the water of the solution, the lowering of the freezing point is proportional to the molecular weight of the substance dissolved. 3. The solution of an equal number of molecules in a constant quantity of water lowers the freezing point to the same extent no matter what the nature of the substance dissolved may be. 4. When various substances are dissolved in the same solution, the lowering of the freezing point of the common solution is the sum of the lowering produced by each substance when dissolved singly.

On account of electrolytic dissociation of inorganic substances into ions, apparent exceptions to the second and especially the third laws are frequent. Each ion has the same significance in this case as a molecule. Thus dissociation of one molecule of NaCl into the ions Na and Cl would produce the same fall of the freezing point as the two molecules of an organic substance, because these are not dissociated. Van't Hoff's law makes this clear: Equal volumes of isotonic solutions contain the same number of molecules or fragments of molecules, and consequently they have the same freezing point.

In spite of the complexity of organic liquids the foregoing laws are directly applicable to their study, and during the past three or four years, following Koranyi of Budapesth, some work has been done on the cryoscopy of the urine and other organic liquids. The determination of the temperature of congelation is not a difficult procedure. In a recent brochure Claude and Balthazard[1] give the results of cryoscopy of the urine as applied to the diagnosis and prognosis of cardiac and renal diseases and as compared with other methods of exploration of the renal function.

The urine is regarded as the result of the filtration by the glomeruli of a pure, or nearly so, solution of chlorid of sodium, which becomes concentrated by the absorption of water as it passes down the canaliculi and is enriched at the same time with other substances from the blood by a process of molecular exchange, so that for each molecule that passes from the blood into the urine a molecule of chlorid of sodium passes from the canaliculi into the blood. This hypothesis, based largely upon a consideration of osmotic phenomena, serves as a useful guide to understanding the significance of the facts learned by cryoscopy, which permits the calculation of the total molecular diuresis for twenty-four hours and per each kilogram of body weight, and furthermore also the rate of molecular exchange by determining the amount of chlorid of sodium in the urine. The freezing points of normal urine vary between—1.3 and—2.2 degrees. After excessive libations or sudation the extremes may vary still more. By means of certain formulæ the total molecular diuresis, the diuresis of elaborated molecules, and the rate of molecular change, i. e., elimination, may be calculated and the normal standard established. Every cause that raises the arterial tension or the activity of the heart and thus accelerates the flow of blood results in an increase of molecular diuresis, but the rate of molecular exchange does not show a corresponding increase. In cardiac insufficiency and circulatory obstruction molecular diuresis falls while molecular exchange is favored if the kidney is normal. As regards the results of cryoscopy of the urine in the various forms of nephritis, the following general statements may be made: A low molecular diuresis indicates more especially glomerular impermeability, while a fall in the diuresis of elaborated molecules, i. e., elimination in the ordinary sense, points to changes in the renal epithelium, which hinder molecular exchange and prevent the elimination of detrimental substances. In uremia there is a marked diminution in the elimination of complex substances; this is also the case in chronic interstitial nephritis, and this grave prognostic omen may be detected by means of cryoscopy before the clinical symptoms lead one to suspect its existence. In the course of the disease there may be many ups and downs in the urinary condition.

In acute nephritis the interpretation of the phenomena is more difficult as the conditions vary according to the causes and the lesions. Enough work has not been done to divide the cases into groups; the clinical symptoms are often masked by the associated intoxication and infection, and cryoscopy throws a welcome light upon the condition of the renal function. In the subacute and chronic forms of nephritis, diffuse or parenchymatous, the pathological physiology is also subject to many variations, periods of insufficient elimination alternating with periods of functional activity, often exaggerated above the normal. Comparing cryoscopy with other methods of urinary examination it is notable that the chemical study of the toxic substances in the urine necessitates prolonged and delicate manipulations, which unfortunately are rarely directly applicable in clinical cases where immediate results are desired. The

1. La Cryoscopie des Urines, Paris, 1901.

authors point out that while the administration of methylene blue and the study of its elimination by the urine may throw much light upon the general condition of the renal function, cryoscopy distinguishes between glomerular insufficiency and impermeability of the epithelium of the urinary tubules.

It seems not unlikely, from what has been merely hinted at in the foregoing, that cryoscopy may clear up a number of points in the pathological physiology of the kidneys concerning which the clinician desires daily information. The condition of the renal permeability remains as the principal prognostic indicator, whatever the anatomico-clinical type of the renal lesion may be. From the standpoint of cryoscopy and pathological physiology the various forms of nephritis present marked analogies. The future must show to what extent the application of this method of physical examination may be rendered practically useful in clinical work. The work already done indicates the great value to medicine of all advances along chemico-physical lines.

## HEMORRHAGIC TYPHOID FEVER.

Hemorrhagic typhoid fever does not mean cases marked by intestinal hemorrhage, ordinary epistaxis, and petechial eruption, but certain infrequent instances in which there occur multiple hemorrhages in various parts of the body, especially the skin and some mucous membranes. It is the hemorrhagic putrid fever of the early French writers. Cases have recently been described by Nicholls[1] and Hamburgher.[2] Multiple hemorrhages are rare in typhoid fever. Hamburgher states that of 1900 cases in Basel only 3 showed hemorrhagic diathesis. The case he describes is the first in the history of the Johns Hopkins Hospital. Uskow observed 4 in 439 fatal cases, representing 6513 instances of typhoid fever. In Montreal 3 cases occurred among 543 patients. The hemorrhages occur oftenest in the skin, but may take place also from mucous membranes; there may be bleeding from the gums, epistaxis, hematuria, and bleeding from the vulva. Murchison saw fatal epistaxis. In some instances the hemorrhages are almost universal, post-mortem examinations showing hemorrhages in the serous membranes, the muscles, and internal organs. There are no other special symptoms characteristic of this form of typhoid fever. Possibly furunculosis is more pronounced in hemorrhagic cases. There seems to be no definite period for the onset of the hemorrhages, which may appear early in the attack, most commonly however as the fever subsides; they may come on during a relapse, as in the case of Hamburgher.

The causes are on the whole somewhat obscure. It has been claimed that the hemorrhagic diathesis is peculiar to some epidemics, and Trousseau speaks of this under the term "medical constitution," but just wherein this alleged epidemic influence resides is wholly undetermined. The appearance of hemorrhages corresponds in some cases to secondary infections of various kinds and localizations (Nicholls). In other instances the cachectic state to which the patients are reduced seems to explain the bleeding. Gerhardt is inclined to place some blame upon the cold-water treatment and the more or less exclusively nitrogenous diet; he thinks that the condition is not unlike scurvy. Idiosyncrasy in the patient is also suggested because Wagner saw hemorrhagic typhoid in three sisters and two brothers, but the idiosyncrasy may have been in the infecting organism just as well as in the infected patients. At all events the theory that the hemorrhagic diathesis results from the action of toxins circulating in the blood seems to harmonize best with the teachings of the present time. The exact source and nature of the toxins remain hidden however, though most likely bacterial in origin. This toxemia would be "the morbid condition that constitutes putridity," as Trousseau has it.

But little is known of the pathological changes that underlie the hemorrhages. Older writers place much stress upon changes in the blood, which they refer to under the indefinite term of "dissolutio sanguinis." When venesection was in vogue there were abundant opportunities to note alterations in the appearances of the blood, which was regarded as the seat of putrid changes. Nicholls found fatty changes in the smaller vessels and the capillaries. There is need of further complete histologic studies. There are no special gross changes in these cases.

Hemorrhagic typhoid is serious, as two-thirds of the patients die (Hamburgher). The treatment is largely if not wholly symptomatic. Gerhardt stops the cold baths and adds simple vegetables and vegetable juices to the diet in order to overcome the scurvy-like condition which he thinks is present. Hamburgher and Nicholls suggest calcium chlorid in order to increase the coagulability of the blood, which should be frequently tested as recommended by Wright.

1. Montreal Med. Jour., 1901, xxx, 51.
2. Johns Hopkins Hospital Reports, 1900, viii, 309.

## MUCOUS OR MEMBRANOUS URETERITIS.

Under certain conditions not yet perfectly understood, the secretion poured out upon the surface of mucous membranes undergoes, at times, a sort of coagulation, and as a result of this it may be discharged in irregular masses or shreds, or in the form of actual tubular casts. The disorder is most commonly encountered as occurring in the large intestine, giving rise to the symptoms of mucous or membranous colitis. The peculiar and characteristic materials discharged have been found to consist essentially of mucus, and they are considered to be the products of a secretory neurosis. They can be detached without loss of tissue, and they thus differ from diphtheritic membrane, which is an inflammatory product, with coagulation-necrosis, and which can be detached only with loss of tissue and some bleeding. Patients suffering from mucous colitis almost invariably present other evidences of a neurotic predisposition. An analogous disorder is occasionally observed involving

the bronchial tubes and, rarely, the ureter. A case has also been recorded in which a membranous cast of the gall-bladder and the bile-duct gave rise to attacks of biliary colic.

It may be conceived that in all of these affections the secretion of the mucous membrane is altered, both qualitatively and quantitatively, in consequence of some abnormality of innervation of local or of central origin, resulting in the formation of the peculiar mucous masses, shreds or casts. The condition is so unusual in being seated in the ureter that a case recorded recently by Dr. J. A. H. White[1] would seem worthy of special note.

The patient was a woman, 60 years old, of nervous temperament, who complained of repeated attacks of agonizing pain in the left loin, of gradually progressive intensity for twenty years. The pain was constant, though worse in paroxysms radiating from the loin down the front of the abdomen to the inner side of the left thigh. It was not increased on walking about or in riding, except during the presence of an attack. The attacks usually lasted two or three hours, were attended with sweating and vomiting and were followed by collapse. Micturition was increased in frequency, but blood had never been noted in the urine. Great tenderness was present below the left lower ribs posteriorly. Bimanual palpation of the kidney was difficult on account of great rigidity of the abdominal wall, and the kidney could not be distinctly felt to be enlarged. Tenderness and rigidity were noted also along the course of the ureter. The urine was neutral in reaction and contained a trace of albumin with a few leukocytes. That passed after an attack contained a larger amount of albumin and a few blood-cells, together with a number of semitransparent mucoid strings about an inch long and obviously derived from the ureter. Microscopically the structures last named were found to be hollow, elongated, cylindrical bodies of clear mucus, held together by a few threads of fibrin. Improvement followed the administration of an alkaline mixture containing 2 grains of potassium iodid. Reference is made to a similar case reported by von Jaksch, in which the expulsion of a renal calculus was followed by periodic attacks of colic attended with the passage of casts of the ureter 10 centimeters long. Relief was afforded by rendering the urine acid. It is thought that in this present case also an encysted renal calculus was present, which by irritation of the renal plexus caused nutritional disorder of the ureteral mucous membrane.

1. British Med. Jour., Jan. 5, 1901, p. 14.

## A CASE OF AUTO-CESAREAN SECTION.

That there is some as yet undiscovered fact or that in the individual case turns the scale for or against infection would appear all too obvious from an abundance of evidence. Of several persons equally exposed, a number will surely be attacked, while another will surely escape. Such susceptibility and immunity are observed not alone in medicine proper, but in surgery as well. The most scrupulous attention to every detail will not in some instances insure against wound infection, while in others the grossest carelessness or even the total want of every precaution will fail to be attended with any undesired result. This latter peculiarity is often strikingly illustrated in the mutilations practiced by the insane, in other self-inflicted injuries and in accidental lesions. A remarkable instance of toleration of this character, bearing the stamp of authenticity, has recently been reported by Dr. Robert Löffler.[1] A woman, 42 years old, the wife of a Turkish peasant, had been bedridden for eight months on account of great weakness and pain in the lower extremities. She was at the end of pregnancy, and as she feared that she would die before the child could be born, she concluded to secure relief from her own resources. Taking an ordinary pocket-knife that she had concealed for the purpose for three days, she cut open the abdomen, and became unconscious after seeing the child extruded. When consciousness returned after a time, the woman awakened her 13-year old daughter, sleeping in the same room, and bade her sew up the abdomen. This was done with the aid of a domestic needle and waxed hemp thread. When a physician was called, after an interval of two days, it was learned further that the woman had lost about two quarts of blood, that the daughter had ligated the umbilical cord and had thrown away the placenta.

On examination, the patient was found to be greatly emaciated and anemic, with signs of old pulmonary tuberculosis. The abdomen was slightly distended, the skin of the abdominal wall flaccid and the musculature atrophic. In the linea alba was an irregular, ragged incision 16 cm. long, beginning 4 cm. above the symphysis pubis and extending three-fingers' breadth above the umbilicus, the lips of which were approximated by a continued suture and healed by primary union in spite of the fact that it had been dressed with moss and a soiled rag. The uterus was enlarged and directed to the right, but not unduly tender. On digital examination the cervix was found spongy, the external os admitting three fingers and the internal os one finger. The mucous membrane of the uterus was also spongy. From the uterus a bloody-serous odorless flow took place. So far as could be learned no attention had been given to closing the uterus. Examination of the bony pelvis was painful, as was also movement of the lower extremities. There was no noteworthy pelvic contraction. The child was 49 cm. long, and weighed 3000 grams. This case is remarkable in several respects, first of all on account of the operation itself, certainly a most desperate and heroic measure; next on account of the absence of serious hemorrhage; then by reason of the spontaneous closure of the uterus; again by reason of the absence of infection; and finally, from the recovery of both mother and child.

1. Wiener Med. Woch., 1901, No. 10, p. 472.

### A SELF-CONFESSED FRAUD.

In spite of the advocacy of prominent politicians and officials another fraud has come to grief. The notorious Weltmer magnetic healing concern of Nevada, Mo., advertising over the whole United States and counting its dupes by the thousands, has been brought to confession by the Federal laws. The United States postal authorities investigated the methods of the managers and finally caused their indictment for fraudulent use of the mails. Nine separate counts were found against these men, and, notwithstanding their lawyers, they had to plead guilty and throw themselves upon the mercy of the court. It seems strange that conviction of such frauds as magnetic healers, and similar swindlers, can not be reached in state courts, but there is a satisfaction that when the United States courts are appealed to justice is obtained.

### SAN FRANCISCO'S PLAGUE.

Since the report of the Government Commission there has been no denial of the existence of plague in San Francisco, but notwithstanding the fact that the Chinese quarters are being fumigated, etc., a little more positive assurance of the thoroughness of the work would be welcome. It is being done by appointees of the State Board of Health, the dominating element of which had up to the Government's investigation emphatically denied the existence of the disease. One might reasonably prefer to have the work in other hands to feel a positive assurance of its thoroughness, for no halfway measures will suffice. We are informed by our San Francisco correspondent that at present no new cases of plague are being found and that remarkably few deaths from any cause are being reported in Chinatown, which leads to a suspicion that the Chinese are at their old tricks again, hiding their sick and clandestinely interring their dead. If this is a fact the methods of the State Board of Health are not what they should be. It is true that the work is nominally under the supervision of the U. S. Marine-Hospital Bureau, but that fact alone does not, under all the circumstances, lead us to feel a full assurance that the methods and details are absolutely what is demanded. There is reason to fear, moreover, that there may be other plague foci on the Pacific Coast and attention should be given to them also. California and its state authorities owe it to themselves and to the rest of the country to give evidence of no half-heartedness in the measures they take against the Oriental pest that has existed there. It is a misfortune that their acts heretofore have not been such as to insure full confidence.

### THE ANTIVIVISECTION QUESTION.

The antivivisectionists have at last been heard from in reply to Dr. Keen's cutting exposé of their unfair methods. The corresponding secretary of their Society, Mrs. Caroline Earle White, attempts a countercharge of misquotation. She says Dr. Keen misrepresents when he says that there were only two alleged instances of experimentation on the human subject mentioned in the humane society's pamphlet, whereas Dr. Wentworth admits performing forty-five experiments and Dr. Berkley admits experimenting on eight patients. What Dr. Keen referred to was charges of making such experiments, not the number of subjects employed; it made no difference whether the cases were one or five hundred so far as the point made by him was concerned. The other charge made against him is that he took advantage of a typographical error to make his case. He stated that a quotation from Tertullian was not to be found on pp. 430, 433, as averred in the pamphlet. Mrs. White says it was to be found on the second line of p. 431, and charges Dr. Keen with wilfully taking advantage of the printer's error of leaving out the dash between the figures. How could he know the omission of the hyphen was the printer's error? He simply looked up the references as given, and if the alleged typographical error had not occurred the reference would have been still ridiculously vague enough to deserve Dr. Keen's criticism. It would have been a curious way to give the reference. "pp. 430-433" for a quotation from the second line of p. 431, yet that is what it is claimed was intended to be done and Dr. Keen is charged with an "evasion of truth" because he did not find it and characterized it as vague and indefinite. The unreasonableness of the zoophile crank could hardly go much farther. These two countercharges, such as they are, are all the defense made to Dr. Keen's letter, a defense which amounts to a practical acknowledgement of the truth of his criticisms.

### THE AMERICAN ARMY HOSPITAL AT PEKIN.

The *British Medical Journal's* correspondent with the China expeditionary force, furnishes, in the April 13 issue of that journal, a very complimentary notice of the American army hospital at Pekin. The first fact realized, he says, is "that medical arrangements in the United States Army possess a far higher degree of importance than our own." While he thinks, apparently, that the American soldier is a generally rather coddled employee, he says it is not till he goes to the hospital that he really finds out how his country loves him. It would not be a serious exaggeration in this correspondent's opinion to say that the American hospital in Pekin could hold its own in comparison with most London hospitals. The furnishings, cooking, attendance, and staff all come in for commendation, and one or two disadvantageous comparisons are at least implied between British and American hospital management. The hospital corps men are particularly mentioned as efficient, and it is said that five of them, lent for a special emergency to the British naval hospital at Wei-Hai-Wei, fairly astonished the surgeons there by their wonderful training and efficiency. The correspondent attributes all these excellencies he observed to the very liberal policy of the U. S. Government as regards the army medical expenses. "The *tout ensemble* of the hospital suggested that the Government had given a free hand to a man with his heart in his work; no other explanation seemed forthcoming." Outside testimony of this character is the more satisfactory since yellow journalism at home is so apt to make the most of any possible deficiencies. There has never been any doubt that the Army Medical Department would be equal to any ordinary demands if given a chance, and the con-

ditions in China may be taken as a fair index to those in the Philippines. The American soldier is as well cared for as any in the world and better than most.

## THE KNEE-JERK IN CHOREA.

The diagnosis of developed chorea is not usually difficult. There are, however, occasional cases in which the symptoms are slight and doubtful and it is of some interest or importance to recognize the affection. Moreover, if chorea is an infectious disease, as is held probable by many, if not by most, neurologists, it is quite possible that our knowledge of all of its manifestations is not exhaustive. Any addition, therefore, is an advantage, especially if the symptoms noted are of diagnostic value. A peculiarity of the knee reflex in this disorder, described by W. Gordon[1] in a recent article, appears to be such a one, consisting in a retardation of the relaxation of the contracting muscles; the foot is jerked up as quickly as ever, but does not fall at once to its former position. There are varying grades of this sustained contraction, from a very slight sluggishness in the descent to almost a permanent extension of the limb. Gordon finds this symptom common though not present in every case, but he has never found it in a non-choreic and it occurs in unilateral chorea only on the affected side. This symptom has been previously noted in chorea apparently only by Risien Russell, who remarked that "in some cases the resulting contraction of the quadriceps muscle is unduly sustained"; other authorities apparently have given comparatively little study to the reflexes in this disease. It is probably well known that a somewhat similar phenomenon may be observed in some cases of organic brain disease, and also in some irritable neurasthenic states, but there the associated symptoms are different and the value of this symptom as a diagnostic sign of chorea is not affected. Gordon accounts for the symptom by assuming it to be an involuntary movement incited by the knee-jerk, due to a sort of overflow of impulse in the excitable central areas of localization. That such may occur in chorea is, he thinks, demonstrable, and he gives as an illustration the evoking or aggravation of choreic movements in the fingers of the uplifted hands by the putting out of the tongue, another delicate test of the presence of the disease. The hanging up of the knee-jerk seems to him to also point to the overflow of impulse. In whatever way we may account for it, the fact is an addition to our knowledge of the symptomatology of chorea and a possible aid to diagnosis in some less obvious cases of the disorder.

1. British Med. Jour., March 30, 1901.

## INFLUENZA AND GENERAL MORTALITY.

The Journal[2] editorially called attention to the fact that while the mortality from tuberculosis is decreasing that from pneumonia is steadily on the increase, and now, in many parts of our country at least, exceeds that from any other one cause. In the March *Bulletin*, just published, the Commissioner of Health of Chicago refers to the same facts and quotes the same figures that were in part noticed in our editorial. The point he emphasizes, however, is the "grip" epidemic that has intermittently prevailed during the past ten or eleven years, and to this he apparently refers not only the increase in pneumonia mortality but also a proportionately lesser increase in that from pulmonary tuberculosis. There is little question that the influenzal infection is largely responsible for the marked advance from 6.7 per cent. of total deaths in the 1881-1890 decade to 10.2 per cent. in that of 1891-1900. It is well that he calls attention to the fact, for if there is any epidemic scourge of the present responsible, directly or indirectly, for a greater mortality than is la grippe, it would be hard to say what it is. It is the more dangerous because it is insidious, rarely doing its evil work openly and under its own name, but through its life-sapping toxins destroying the vital resistance to the onset and morbidity of other disorders. As yet also we know too little of its natural history, and popular ignorance as to its infection enhances the danger. As Dr. Reynolds says, "influenza has apparently become domesticated with us," but we do not yet duly appreciate its baleful action as shown in the mortality statistics. Not only pneumonia, but cardiac disorders would also probably show increased mortality, and not only in this country from Canada to Mexico, but also in Great Britain and on the Continent of Europe the mortality records show its influence. It would probably be wrong to attribute the enhanced pneumonia mortality altogether to "grip" infection; Dr. Reynolds' figures show a steady increase from 3.98 per cent. in the decade between 1861-70 to nearly twice this figure before the disturbing element of la grippe intervened. Nor can we estimate this earlier gradual increase as altogether due to the higher percentage of those of advancing years in the general population; there are older communities where this factor can not be counted on, that also show an increase in the mortality from pneumonia prior to the advent of the "grip." How to meet the special dangers of this disease involves is a problem before us that we have yet to solve. The tuberculosis question is, as it at present appears, a comparatively simple one; the mortality it causes is steadily on the decrease, while that from acute pneumococcic infection, whether combined with the influenza virus or not, has passed it in the records of deaths it produces, and it may be we have not yet seen the worst.

2. April 14, 1900.

## DOES PRIMARY CARCINOMA OF BONE OCCUR?

If we take it for granted that carcinoma originates solely from cells of ectodermal or entodermal origin, then primary carcinoma can not develop in bones unless it should be from misplaced remnants of epithelial cells carried into the interior of bones either during embryonal development or as the result of pathologic or traumatic processes. Outside of the bones of the jaws, which occupy a peculiar position when looked at with this question in view, but very few primary carcinomas of bones have been described. An apparently authentic instance is the following by Carola Maier[1]: In direct sequence of a definite trauma without wound of the skin or fracture a squamous carcinoma developed in the interior of the radius. The patient had, at the time of the report, remained in perfect health after amputation

1. Beitr. z. Kl. Chirurgie, 1900, xxvi, 553-556.

three years previously, thus apparently excluding the possible metastatic nature of the tumor, which is regarded as springing probably from misplaced epithelial cells and as illustrating Cohnheim's theory. Fittig[2] describes an analogous case: A flat-celled carcinoma developed in the ulna in direct sequence to a definite trauma in an otherwise apparently healthy man. In this case, however, careful overhauling of the patient was rewarded with the discovery of a small ulcerating, symptomless carcinoma of the larynx, and so it became quite plain that the ulnar tumor was a metastasis. Similar cases, in which the correct diagnosis was made after the operation, if ever, are not uncommon. Helferich, Billroth, Leuzinger, Goldmann and other authors are cited by Fittig, and it is probable that the majority of the surgeons have had similar experiences. In many of the cases cited the primary tumor was apparently very insignificant because so small and free from local symptoms. The lip, the mammary gland, the thyroid, the prostate, the urinary bladder may be the seat of the primary growth. Perhaps it would be well, in view of the occurrence of osseous metastasis especially in latent tumors, to make a preliminary excision for diagnostic purposes of all bone tumors. From the foregoing it is evident that while the occurrence of primary carcinoma of bone can not be denied theoretically, yet actually it becomes exceedingly difficult to exclude the possible secondary character of osseous carcinomas. The fact that Carola Maier's patient lived at the end of three years after the removal of the tumor does not exclude a slowly growing primary but latent carcinoma in some other part.

2. Ibid., 1901, xxix, 703-712.

# Medical News.

## ARKANSAS.

**A new board of health** was organized at Hot Springs, April 11, with City Physician Henry C. Wallace as its medical member.

**Arkansas University medical department**, Little Rock, held its twenty-second annual commencement exercises April 12. Hon. Jacob Trieber delivered the address to the graduating class of twenty.

**A graduate** of the notorious "Independent Medical College," Chicago, has been arrested at Pine Bluff, charged with practicing medicine without proper credentials. In default of bond he was committeed to jail.

**Medical Bill Defeated.**—The bill providing for the regulation of the practice of medicine and surgery in the state, for the appointment of a state board of health, medical examiners and registration, to consist of seven members to serve for a term of four years, was defeated in the senate by a vote of 14 to 13.

## CONNECTICUT.

**The State Board of Medical Examiners**, at its last meeting in New Haven, issued licenses, to practice to seven candidates.

**Dr. Walter K. Scofield**, U. S. Navy, whose home is in Stamford, was placed on the retired list April 28, with the rank of rear admiral.

**Yale Medical School's** new building is assured. An anonymous benefactor has given the corporation $100,000 for this purpose, and the contract for the building has been awarded for $96,000.

**Typhoid in New Haven.**—The recent epidemic of typhoid fever in New Haven, where more than 300 cases have been reported, has been traced by Dr. Frank W. Wright, the health officer, to infection with typhoid germs of one of the city's sources of drinking water. The water from the infected reservoir was immediately shut off and the supply pipes flushed with water from other sources.

## GEORGIA.

**Dr. James N. Carter** has succeeded Dr. Jesse E. Wright as resident physician at the Macon City Hospital.

**Presbyterian Hospital**, Atlanta, has been granted a charter, and a location and the necessary funds are all that is required. Both of these essentials are progressing favorably, and the committee expects to be able to make a report recommending the erection or remodeling of buildings in a few days.

**"Christian Scientists" Denied Charter.**—Judge J. H. Lumpkin, of the superior court of Atlanta circuit, refused to grant the "Christian Scientists" a charter, April 19. This refusal was based on the law requiring all persons to be graduates of recognized medical colleges and to pass examination before the State Board of Medical Examiners before being allowed to practice medicine in the state. This decision puts this class of believers in the same class as osteopaths.

## ILLINOIS.

**The Kerr bill**, which required all manufacturers of patent medicine to print the formulæ of their productions on the bottle or wrapper, and also to designate whether the medicines contained any harmful drugs, was defeated in the senate.

**Appropriations for charitable institutions** are called for by the omnibus bill, and amount to $2,640,449.90, of which all but $375,000 is for the hospitals for the insane, homes for the deaf, dumb, blind and feeble-minded, and the eye and ear infirmary.

**Cuban Itch.**—Despite the many-times repeated experience all over the country, some physicians still diagnose cases of smallpox as "Cuban itch." Carelessness of this kind has been followed by an epidemic of the disease at Brockton, where there are 65 cases and at Dawson and Hume in the central southern part of the state. Six cases of the disease have also been reported from Lepo, Fulton County.

## Chicago.

**The Illinois Epileptics' Home** has received a gift of $500 from Theodore Oehne.

**Dr. Ira D. Isham**, who spent the fall and winter in foreign travel, returned to Chicago on April 29.

**St. Luke's Hospital** is a beneficiary under the will of the late Mrs. Jennie L. Young, to the extent of $5000.

**Dr. and Mrs. Silas T. Yount** have returned from a four-months' vacation tour to Jamaica, the Bahamas and Florida.

**A midwife** was found guilty of murder and sentenced to fourteen years in the penitentiary. The offense was the common one of criminal abortion, in which the patient died.

**The Woman's Medical College**, at the annual meeting, April 24, recommended Dr. Eliza H. Root for dean of the college during the absence of Dr. Marie J. Mergler, away on sick leave. Dr. John Ridlon was elected secretary of the faculty.

**The Week's Mortality.**—For the week ended April 27, the mortality was 17 per cent. lower than for the preceding week—457 deaths as against 551. Of these 151 were due to diseases of the respiratory system and 26 to violence. The death-rate equals an annual mortality of 13.55 per 1000. Reports from the laboratory show an almost total disappearance of the influenza germ, a very satisfactory condition of the water-supply and a much better quality of milk than is usual at this season of the year.

## INDIANA.

**Dr. Charles L. Armington**, Anderson, has been appointed a member of the State Board of Medical Examiners.

**Dr. Christian B. Stemen**, Fort Wayne, has been appointed a trustee of Purdue University, to succeed the late General Harrison.

**Garrett** is to have a new hospital under the charge of Rev. Father Young. The establishment of this institution will obviate the necessity of sending injured employees of the Baltimore and Ohio Railway to Chicago for treatment.

## IOWA.

**Dr. Lloyd L. Krebs**, Cedar Rapids, as a result of competitive examination, has been commissioned first lieutenant and assistant surgeon in the army.

**Dr. Charles S. James**, Centerville, has been appointed the state representative to the American Congress of Tuberculosis, to be held in New York City, May 15 to 17.

## MARYLAND.

**Dr. Frank H. Ruhl**, Lansdowne, has been appointed sanitary officer for the Thirteenth district, Baltimore County.

**Dr. Frank R. Rich**, Towson, has been appointed physician of the hospital for consumptives near Baltimore, succeeding Dr. G. B. Adams.

### Baltimore.

**Dr. Herman Westphal**, resident physician at the City Hospital for the past two years, will spend a year in study abroad.

**Dr. L. Ernest Neale**, at a recent meeting of a medical society here, exhibited a negro girl who had borne a child by an entirely normal labor at the age of 11 years, 8 months.

**A case of leprosy** was discovered last week of more than two years standing. The patient was formerly employed as a nurse, is married and has two children. The disease is of the mixed form.

**The second annual banquet** of the Society of the Alumni of the University of Pennsylvania in Maryland was held April 22. Drs. Thomas Opie and J. McP. Scott were elected vice-presidents, and Dr. Jos. C. Bloodgood, secretary.

**The College of Physicians and Surgeons** graduated sixty-one at the twenty-ninth annual commencement held April 27. Mayor Hayes delivered the address to the gradnates. Charles H. Brueckner of New Jersey received the first prize.

**Dr. Eugene H. Hayward**, of Howard County, won the gold medal for scholarship at Baltimore Medical College, the surgical and gynecological prizes. He will become resident physician of Maryland General Hospital May 1, succeeding Dr. Duncan McCalmon, whose resignation takes effect on that date.

**The appointments** made by the College of Physicians and Surgeons are as follows: City Hospital: Dr. L. H. Stick, resident physician; Drs. L. T. Owen and C. W. G. Rohrer, associates; Drs. J. M. Barry, F. T. Marr, Lewis J. Rosenthal, Joseph L. Sullivan, Homer B. Jester, and Albert F. Conrey, assistants. Assistant in Pasteur Department, Dr. E. T. West. Maternité Hospital: Drs. S. T. Lowry and W. B. Graves, residents. Bayview Asylum, Drs. W. B. T. Smith and J. A. Campbell, assistants.

**The University of Maryland's** school of medicine graduated a class of seventy May 1. Rev. W. A. Fletcher made the address. Gold medals were awarded to George W. Hemmeter and Nathan Winslow. The appointments to the University Hospital are as follows: Superintendent, Dr. George H. Stewart; assistant superintendent, Dr. A. A. Matthews; assistant resident surgeons, Drs. W. F. Hargrove, W. H. Smith, and W. R. Rogers; assistant resident physicians, Drs. J. M. B. West and G. W. Hemmeter; assistant gynecologists, Drs. H. A. Naylor and Nathan Winslow; pathologist, Dr. W. E. Kornegay; resident physicians at the Maternité, Drs. B. H. Dorsey, W. S. Rankin and R. P. Carman, assistant resident physicians at Bayview asylum, Drs. C. H. Lewis and E. D. Weems.

## MASSACHUSETTS.

**Dr. Joseph Proctor**, late city physician of Malden, has been appointed a state medical inspector of the State Board of Charity.

**The anti-spitting ordinance** at Worcester has been enforced for the first time, and a fine of $5 imposed on a violator who pleaded guilty.

**Dr. George E. Winslow, U.S.N.**, who has been medical director of the Charlestown Navy Yard for 2½ years has been placed on waiting orders.

**Dr. Augustus P. Clarke**, Cambridge, has resigned as dean and professor of gynecology and abdominal surgery in the College of Physicians and Surgeons, Boston.

## MICHIGAN.

**State Sanatorium for Nervous Diseases.**—A bill has been introduced in the legislature providing for an appropriation of $200,000 to establish a state sanatorium for nervous diseases. The object of this sanatorium is to provide an intermediate place between the home and the insane asylum, and thus to prevent an increase of insanity.

**Michigan's Smallpox.**—During the ten years, 1890-99, there occurred in Michigan 710 cases of smallpox, with 134 deaths, or about 19 per cent. During the single year 1900 there occurred 608 cases with 8 deaths, or a little over 1 per cent. At the close of the first quarter of 1901, final reports have been received of 77 outbreaks, showing that 500 cases occurred, including 7 deaths, a little less than 1.5 per cent.

**Delinquent Health Officers.**—Of the 1600 local boards of health, 206 health officers in 67 counties have failed to make to the State Board of Health their annual report for the year 1900. They have been three times asked to comply with the law, and the executive officer of the board has put the subject in the hands of the prosecuting attorneys in the 67 counties, asking that they see to it that the law is complied with and the annual reports of the health officers now delinquent are forthcoming.

## MINNESOTA.

**Dr. Charles D. Sidle** has been appointed resident physician of the Stillwater City Hospital.

**The State Board of Medical Examiners**, at its April meeting, elected Dr. Pierre A. Hilbert, Melrose, president, and Dr. Carl J. Ringwell, Minneapolis, secretary. Licenses to practice were also granted to ninety applicants.

**Smallpox Under Control.**—The State Board of Health reports that smallpox is now well under control. The total number of cases for March was 689, of which eighty-one were reported from the range and lumbering districts.

**State Sanitarium.**—The senate passed the Daugherty bill April 4. It provides for an appropriation of $1000, and a commission of three to be appointed by the governor to select a site for a state sanitarium for consumptives, in the northern pine woods.

## MISSOURI.

**Dr. Herbert A. Logan**, police surgeon of Kansas City, has appointed Drs. J. S. Snider and Charles L. Bell assistant surgeons.

**Centenary Hospital.** St. Louis, which is to adjoin Barnes Medical College, is to be a six-story structure 60 by 126 feet. It is to be non-sectarian and a private enterprise. Drs. Pinckney French and Alonzo R. Kieffer are members of the board of directors.

## NEBRASKA.

**Dr. B. F. West**, Tecumseh, was recently afflicted with a stroke of paralysis and is now confined to his bed, with the probability that his recovery will be slow.

**Omaha Medical College** graduated a class of twenty-three on April 24. Dr. E. Benjamin Andrews, chancellor of the University of Nebraska, delivered the doctorate address, on "Medicine and Morals."

**Dr. J. Cameron Anderson**, Omaha, surgeon-general of the state, has resigned that position and the chair of surgery in the Omaha Medical College, as well as his hospital appointments, and is about to move to New York City.

**The Omaha Medical Alumni Association**, at its meeting April 25, elected Dr. Willis W. Dean, Sioux City, president; Drs. George R. Gilbert and Henry A. Reichenbach, Omaha, vice-presidents; Dr. George Moqridge, Glenwood, Iowa, secretary, and Dr. Mary L. Tinley, Council Bluffs, treasurer.

## NEW YORK.

**The Albany Hospital** acknowledges receipt of donations aggregating $4506.25.

**Dr. and Mrs. Theodore D. Miles**, Middletown, and Dr. and Mrs. John T. Howell, Newburgh, sailed for the Mediterranean, April 13, on the *Hohenzollern*.

**Dr. George Blumer**, of the Bender Laboratory, of Albany, has been appointed director of the Bureau of Bacteriology and Pathology which is a new department.

**A bill** has been passed authorizing payment to the Pasteur Institute of New York for services in caring for poor persons in danger of infection with rabies.

**Smallpox at Cohoes.**—The State Board of Health reports twelve cases of smallpox at Cohoes, in the vicinity of the Harmony mills. The patients include children and adults. The disease was spread by a man who was taken ill about six weeks ago.

**Craig Colony for Epileptics.**—The legislature just adjourned passed a special appropriation bill which has been signed by Governor Odell, giving the colony $137,050. The chief item in the bill is one of $90,000 for additional cottages for patients. There are now twenty-eight cottages and buildings at the colony, occupied by 700 patients, and the new appropriation will provide for eight or ten additional cottages and

increase the epileptic population to 1000. An appropriation of $125,000 was also given for maintenance, beginning Oct. 1, 1901.

### Buffalo.

**Drs. Frederick Zingsheim** and Paul O. Luedeke have been appointed medical internes in the German Hospital.

**Drs. Tripp and Leonard,** of the class of 1901, University of Buffalo, have been appointed resident physicians to the Buffalo General Hospital.

**The commencement exercises** of the medical department of the University of Buffalo were held April 26. There were forty-five members in the graduating class. Dr. W. E. Ford, Utica, delivered the address to the graduates.

**The German Hospital Dispensary** has elected the following new members: Drs. Thomas Phillips, Frederick Milliner, Julian Riester, Abram Weil, Louis Beyers, Charles Mengis, Frederick Koehler, J. Leidler and A. Schweigert.

**Charity Hospital Patients.**—All of the Buffalo hospitals have combined in an effort to have the city increase the per capita maintenance of charity cases taken into the hospitals from $4 to $6 a week. The cost of maintenance averages over $9 per capita.

### New York City.

**The German Hospital** has received a bequest of $1000 from the late Colonel Henry Roehr.

**Seven new cases** of smallpox have been reported in the New York Foundling Hospital. The City Lodging House in First Avenue and Twenty-third Street was recently visited at 2 a. m. by two of the physicians of the health department, and the 493 inmates vaccinated.

**Health Board Statistics.**—For the week ending April 13 there was a decided decrease in contagious diseases. During the week ending April 6 there were 1620 cases. The greatest decrease was in scarlet fever, which dropped from 725 to 619 cases for the week ending April 13. Smallpox, however, increased two cases, the total being 44.

**Bequests to Hospitals.**—Joel Goldenberg has left the following bequests to hospitals: To the Mount Sinai Training School for Nurses, $5000; to the Montefiore Home, $4000; to the Mount Sinai Hospital, $3000; to the Presbyterian Hospital, $2000. The entire residuary estate is bequeathed to Mount Sinai Hospital for establishing and maintaining a special ward in the hospital, to be known as the "Joel Goldenberg Ward," and to be under the charge of his nephew, Dr. Herman Goldenberg.

**A New East Side Hospital.**—The Austro-Hungarian Hospital Association, after May 1, will begin to remodel the building now known as the East-side Dispensary. It is in future to be named the Austro-Hungarian Hospital and East-Side Dispensary. The capacity is to be from thirty to thirty-five beds. The money to change the buildings into a hospital has been given by members of the association and others in the colony. The Hungarian miners in Pennsylvania, many of whom are sent here for treatment, have also contributed. About $10,000 has been already raised.

**Ambulance Surgeon's Mistake.**—An ambulance surgeon of the New York Hospital has been severely criticised for wrongly diagnosing a case of apoplexy, occurring in a respectable and well-dressed woman, as a "plain drunk." The policeman who saw the woman fall in the street urged the surgeon to take her to the hospital, suggesting that she appeared to have some other trouble, but the ambulance surgeon refused. She was accordingly taken in a police patrol to the police station. There the matron insisted that the woman was dangerously ill, and the surgeon was again summoned. Even then it was with difficulty that he was persuaded to take her to the hospital. It was admitted at the hospital that her death there the following evening was caused by apoplexy, nevertheless the case was reported to the coroner's office as one of death from being run over in the street.

### OHIO.

**D. V. Burkett,** a senior student at Ohio Medical University, has been appointed assistant editor and business manager of the *Columbus Medical Journal.*

**Dr. Samuel E. Newman,** Cincinnati, has started for Vienna, where he will study for six months, returning in December for his interneship in the City Hospital.

**The State Board of Medical Registration and Examination** met at Columbus, April 18, and admitted 103 physicians to practice, without examination, under the provisions of the Love law.

**Toledo Medical College** held its twenty-first annual commencement exercises April 25. A class of eight was graduated, one of whom—D. W. Iford—was immediately commissioned captain and assistant surgeon, O. N. G. The address to the class was made by Rev. Campbell Coyle.

### PENNSYLVANIA.

**Dr. Alexander A. E. McCandless,** Pittsburg, has assumed charge as medical director of the Department of Public Safety.

**Allentown Hospital** has been given $35,000 for the purpose of adding an additional wing to the hospital, for the treatment of surgical cases. The name of the donor has been withheld.

**"Christian Science" Treatment.**—Willard Schellheimer, aged 26 years, of Sharon, a few days ago met with a railroad accident and was taken to the State Hospital at Mercer for treatment. Both he and his wife, it is claimed, were "Christion Scientists," and the wife insisted on his removal to his home. No regular physician was called in until two hours before his death. It is now claimed by the hospital physicians that death was hastened by his removal, while he was in such a critical condition, and an investigation will likely be held.

### Philadelphia.

**A eulogy** of the late Dr. Richard J. Dunglison, who was president of the Musical Fund Society for thirty-one years, has been adopted by members of that association.

**Whooping Cough a Contagious Disease.**—At a recent meeting of the Hygiene Committee of the Board of Education it was decided to add whooping-cough to the list of contagious diseases, this being a cause for exclusion from the public schools.

**Dr. Aloysius O. J. Kelly,** instructor in clinical medicine in the University of Pennsylvania, recently was elected professor of the theory and practice of medicine in the University of Vermont. He leaves Philadelphia shortly for Burlington to begin his professorial duties, but will return to Philadelphia in the early fall.

**Marine Hospital.**—Plans have been accepted for the erection of a new building and for remodeling the U. S. Marine-Hospital Service office adjoining the Custom House. The new building will be thoroughly equipped with all improvements for a dispensary, waiting-rooms, examination-rooms, for seamen of American vessels. The officer in command will be Dr. H. W. Austin, who is now in charge, and who devised the plans for the new building.

**Books as Contagion Carriers.**—In reference to the statement that contagious diseases may be communicated to persons reading the books at one of the free libraries of this city it has been stated that since the incorporation of the library in 1891 there have been about 10,500,000 books received and handled over and over again by the employees of this institution, and not a single one has contracted a contagious disease. Since March 15 there have been 492 cases of contagious diseases reported to the library, 13 in visitors to the library. Seven books were found in infected houses, and these were promptly destroyed.

**Philadelphia Polyclinic.**—At a special meeting of the board of trustees, held April 22, the resignation of Dr. Ralph W. Seiss as professor of diseases of the ear was accepted. Dr. Francis R. Packard is to be his successor. The trustees also elected Dr. B. M. Randolph, Richmond, Va., as dean of the college and director of the laboratories, to succeed Dr. T. S. Kirkbridge, recently deceased. At present Dr. Randolph is in charge of the Department of Pathology at the Richmond Medical College. He will assume his duties at the Polyclinic after a course of study in Europe.

**Removal of Insane Hospital.**—The medical faculty of the University of Pennsylvania and others have appeared before Councils for the purpose of urging the speedy removal of the almshouse and insane department of the Philadelphia Hospital (Blockley) to a more suitable location. As it is now arranged, the insane department and the almshouse militates against the institution as a source of great benefit to the thousands of medical students who annually come to Philadelphia. It is now believed that both these departments will be removed to a place near the house of correction, at Holmesburg Junction. Mayor Ashbridge has already signified his willingness to comply with the wishes of those who have asked for the removal of these departments. The sum of $200,000 has been made available for the erection of these new buildings, through the action of Councils.

## CANADA.

**The present smallpox** outbreak in Toronto has cost the city $1400 up to April 27.

**Dr. George A. Peters** has been given command of the new corps of mounted infantry, now being raised in Toronto. He will have the rank of major.

**Dr. Patterson,** Winnipeg, under instructions from the Dominion government, is visiting the northern Indian reserves in the territories, to inquire into the reported outbreak of smallpox.

**Dr. George Stirling Ryerson,** Toronto, has been created a Knight of Grace of the Order of St. John of Jerusalem, for services in South Africa. Mr. Frederick Treves and Mr. A. D. Fripp received similar honors at the same time.

**Appointment Asked.**—The National Council of Women is asking the state department of the Ontario government, in selecting the staff for the new Coburg asylum for female patients, to appoint a woman physician to the post of assistant medical superintendent.

**The suit** brought against the College of Physicians and Surgeons of Quebec, by some six applicants to practise medicine in that province, has been decided in favor of the appellants. The college was ordered to grant the licenses and pay $100 damages with costs in each case. An appeal has been entered.

**Yellow Fever on Shipboard.**—On April 19, H. M. S. *Condor* arrived at the Williamshead Quarantine Station, B. C., flying the yellow flag at her mast head. The vessel sailed from Acapulco on April 9. The exact number of cases of yellow fever among her crew has not yet been ascertained, but the vessel is still in quarantine and will be thoroughly disinfected.

**To Test for Tuberculosis.**—As a result of negotiations between U. S. Secretary of Agriculture Wilson and the Canadian Minister of Agriculture, an agreement has been reached between the two administrations by which Canada is to have a first-class veterinarian stationed in England to test, for tuberculosis, all British cattle shipped to the United States via Canada.

**Services Appreciated.**—At the recent meeting of the Canadian branch of the Red Cross Association a resolution of thanks was passed to Dr. Ryerson for work in South Africa, and $500 voted toward defraying his expenses. Letters were read from Lord Roberts and Surgeon-General W. D. Wilson, principal medical officer of the army in South Africa, commending Dr. Ryerson very highly for his valuable services.

**Attempt to Annul Degree.**—The College of Physicians and Surgeons of Quebec seeks to stop a party practising medicine in that province. It is alleged that at the examination of July, 1898, this man, a student, failed in his written examination. When the successful candidates were called to present themselves for their licenses, he went with them, gave his name, secured his title and walked out as an M.D., and he has been practising medicine ever since. The court took the matter *en délibre*.

**Physician Dies from Smallpox.**—The value of vaccination has just been brought home to the Toronto profession and the laity generally. Dr. Thomas H. Little, of Toronto, was called about ten days ago to attend a young man recently arrived from Cleveland, Ohio. The Doctor treated his patient, but unfortunately not for smallpox. He contracted the disease himself and a week after died from confluent hemorrhagic smallpox. He had never been vaccinated. All the other patients infected from the first case had the disease in a mild form. Dr. Little was 40 years of age and had been practicing in Toronto twelve years. He was a graduate of the Toronto School of Medicine.

**Health Precautions.**—Dr. Montizambert, director of public health at Ottawa, is having a strict watch kept in order to guard against the introduction of bubonic plague as well as the spread of smallpox in Canada. At the Pacific Coast all Orientals must undergo a bath at quarantine. With regard to smallpox, forty officers have been detailed for service along the western boundary line between the United States and Canada. A circular has been issued by the Dominion customs to collectors and subcollectors at seaports and inland water ports authorizing them to make careful enquiries into the possible presence of smallpox, and if necessary to call in the services of a medical man to inspect suspected persons.

**Toronto Branch, Victorian Order of Nurses.**—The annual meeting of this branch of the Victorian Order of Nurses was held in Toronto on April 27, Lady Minto having come up from Ottawa to deliver an address. Her Excellency, speaking of the good work the order was doing in Canada, told of recent encouragement for her cottage hospital scheme for the northwest territories. The Dominion government has promised a grant of $6000. Sir William Macdonald will supplement this with $3000, and there are other contributions of $4000. The report of the superintendent shows that during the past year the local branch treated 249 patients, to whom 4323 visits were made. Thirty-eight Toronto physicians have been added to the list of those employing these nurses throughout the city. The fees for the year amounted to $472. During the past three months the nurses have made 1142 visits and had 95 new patients. Fourteen new physicians have been added in that time, and $152 collected in fees. Dr. James Thorburn presided, and a number of medical men attended the meeting and spoke of the good work the Order was doing in Toronto.

**Smallpox in Ontario.**—The past week might truly be called "smallpox" week so much has the disease been discussed throughout the province of Ontario during that time. The quarterly meeting of the provincial board of health was held at the secretary's office—Dr. P. H. Bryce—and nothing but smallpox discussed. The disease has broken out among the Mohawk Indians on the reserve on the Grand River, at the city of Brantford, Ont., and the braves are being subjected to a rigid quarantine. The present outbreak in the province is the worst in twenty years, as regards the number of municipalities affected. Several doctors in New Ontario had obstructed the work of the provincial board and the secretary has called on the medical council of the province to discipline these members of the profession who persist in calling the outbreak "chicken-pox." An important resolution was adopted by the board that all the unorganized settlements along the lines of communication by railway and water be required to appoint and pay sanitary inspectors. The compulsory vaccination of all employees of lumber and mining camps was also insisted on. Although the disease is so widespread, only two or three deaths have been recorded. Dr. Little's death being the first that has occurred in Toronto since 1888.

## FOREIGN.

**Glasgow's Smallpox** admissions for the week ending April 14 were 33 and the patients under treatment 190.

**Dr. Metchinkoff,** of the Pasteur Institute, Paris, has been awarded the Wilde gold medal, by the Manchester (Eng.) Literary and Philosophical Society.

**Bizzozero's Death.**—The eminent Italian pathologist, Giulio Bizzozero, died April 8, in his fifty-sixth year. His friends say that every discovery, every achievement in histology or biologic research in Italy of late years is directly due to his untiring, fostering care of the infant science of histology and the enthusiasm he inspired in his associates and students.

**Italian Institute for Scientific Research.**—Professor E. Maragliano announces that he has founded and opened an institute for the study and cure of tuberculosis and other infectious diseases, modeled on the Pasteur Institute of Paris. Opportunities are offered physicians for special research and the production of serums, etc., and infectious diseases are cared for free of charge.

**Progress of the Plague.**—At Capetown, S. A., for the week ending April 6, the records are: Cases admitted: Europeans, 20; colored, 22; Malay, 4; Indian, 3; natives, 13; total, 62. Deaths: Europeans, 3; colored, 17; Malays, 3; Indians, 3; natives, 5; total, 31. On April 16 7 new cases of plague were recorded, including 3 in Europeans and 4 persons found dead, 1 of the latter being a European. The matron of the plague hospital has succumbed to a severe attack. A native case has been discovered in Port Elizabeth. For the week ending April 13, 43 cases and 23 deaths were reported—a considerable diminution as compared with the two preceding weeks. An unsatisfactory feature is that dead bodies are discovered from time to time, showing that the people are witholding information. The total number of cases up to April 13 was 392, of which 152 were fatal. The disease is confined to the Cape Peninsula, with the exception of a few cases imported therefrom into adjacent districts. In India, for the week ending March 23, no fewer than 11,560 deaths from plague occurred, an increase of 2731 over the previous week. In Bombay City, during the week ending March 23, there were 1092 deaths, a diminution of 111 over the previous week. In Calcutta there were 1040 deaths, an increase of 221 over the previous week. Calcutta has never suffered so seriously before and is almost in the same plight as Bombay. But in spite of the magnitude of the epidemic there is no sign of panic as there was three years ago, when the people ran away from the epidemic. In Australia, from Queensland, a case is reported at Pinkenba, at the mouth of the Brisbane River. In West Australia plague exists in a more or less sporadic form.

## LONDON LETTER.

### British Vital Statistics.

The registrar-general's annual report for 1899 has just been issued. The marriage rate shows a further increase. It was 16.5 per 1000, the highest since 1876, and 1.1 above the mean rate for the ten years, 1889-98. On the other hand the birth rate was 29.3 per 1000, .01 per 1000 below that of the previous year, which had been the lowest on record, and 1 below the mean rate of the ten years, 1889-98. More boys than girls were born, in proportion of 1039 to 1000. The death rate was 18.3 per 1000, against an average of 18.4 in the preceding ten years. The total number of deaths was 581,799, of which 89,235 were attributed to zymotic diseases, 174 to smallpox, 9998 to measles, 3722 to scarlet fever, 6304 to typhoid, 9295 to diphtheria, 10,129 to whooping-cough, 12,417 to influenza, 30,971 to diarrheal disease, 26,325 to cancer, 42,408 to consumption and 18,665 to violence. The deaths of 2121 men and 723 women were attributed to suicide; 143 males and 148 females were victims of homicide. The death-rate from cancer was the highest on record, 829 per million living of the population, in males 672, in females 977.

### Lateral Sinus Pyemia and Cerebellar Abscess: Cheyne-Stokes Respiration: Cessation of Respiration Under Anesthesia: Recovery After Two Operations.

At the Medical Society of London, Mr. H. F. Waterhouse recently described this interesting case: A dental surgeon was admitted to hospital April 17, 1899, with lateral sinus pyemia. For the greater part of his life he had suffered from double otorrhea, and for many years from tuberculous abscesses near the right hip. In 1895 he was operated on for a large right supramastoid abscess, and shortly before admission two abscesses of the right hip had been opened. On April 11 he fell ill; the temperature was 100. On the 12th he had a rigor, on the 13th another of half an hour duration and a temperature of 103 F. On the 15th a consultation was held and lateral sinus septic thrombosis was diagnosed, but on which side could not be decided. The temperature was 104.2 F. There were no pupillary changes and no optic neuritis. From this time to April 28 there were repeated rigors and the highest temperature was 105.2 F. A systolic murmur developed after continuous pain over the base of the heart, and there was cough with sputa of the color of prune juice. The condition became profoundly toxemic and apparently hopeless. Much valuable time was lost in waiting to determine upon which side the sinus was affected. At last, on April 28, as the time for interference was passing away, the left lateral sinus was opened and the internal jugular vein divided between two ligatures. A septic thrombus was cleared out of the former. Recovery took place, but on May 1 streptococci were found in the blood. On June 8 there were headache and vomiting and the pulse fell to 50. Drowsiness increased and on June 10 the patient was comatose and there were double optic neuritis, Cheyne-Stokes respiration and a pulse of 50. It was then decided to explore the temporosphenoidal lobe and cerebellar fossa on the left side. Unfortunately the former was first attempted with negative result. Respiration ceased entirely under even partial anesthesia. Artificial respiration was performed. The pulse became imperceptible. As the patient was obviously near death, the exploring syringe was made to perforate the tentorium cerebelli from above. An ounce of fetid pus was obtained and the respiration and pulse recovered at once. The left cerebellar fossa was now rapidly trephined and several drams of pus evacuated. Progress henceforth was satisfactory, although there were for many days word-deafness from injury of the temporosphenoidal convolutions. The patient is now in better health than before his illness and is in practice as a dental surgeon.

## PARIS LETTER.

### Treatment of Syphilis.

Dr. Brocq, physician at the Broca Hospital, who is considered the most thorough skin specialist in France, recently wrote an essay on the treatment of syphilis by mercury, the following being a synopsis: It has always been an important principle in therapeutics that to act with efficacy drugs must be in a state of dissolution. Since 1888 Dr. Brocq has applied this principle to the use of mercurials administered by the mouth, and he has always preferred using Van Swieten's solution of biniodid in an aqueous solution or as a syrup. He has sometimes given mercury in massive doses, for instance every morning before the first breakfast, or else half the daily dose before the two principal meals of the day. But he has generally preferred giving it in small doses, for instance four to six times a day. After a first period, during which subcutaneous injections were discussed, they have at last come into current use. On the other hand, the method of mercurial frictions has been extended, regulated and made more precise. It would seem that the treatment by gastric absorption had been more or less discredited. It is quite true that this latter means of administering the drug presents serious defects, especially when it is given in the form of pills, as the absorption takes place much less readily in such cases, and the active principle has sometimes an injurious action on the mucous membrane of the intestine. Dr. Brocq admits that this plan of treatment offers certain disadvantages. There is to be taken into consideration the irritating effect produced on the stomach and intestines by the use of pills. When given in the form of a dilution, this is much less to be feared, and, according to Dr. Brocq, milk or Vichy water should be used as a means of administering the drug. When mercury is given in small doses he rarely had occasion to notice any unfavorable symptoms, the digestive functions being sometimes ameliorated. Whenever there is any colic or diarrhea, Dr. Brocq uses paregoric, which he has found most beneficial in such cases. As for the distaste shown by some patients, it is found with very few of those who suffer from intense forms of syphilis, and the preparation can in such cases be flavored to suit the patient's taste. There is a last argument against the use of this solution: it is the bother caused to the patient by having to take his medicine in public. Dr. Hallopeau, of the St. Louis Hospital, has recommended the use of little pellets, which can be allowed to dissolve in the patient's mouth, or else a graduated bottle may be employed, so that the patient may easily determine how much of the solution he should pour out.

The advantages of this method are numerous, according to Dr. Brocq: exact determination of the quantity given, very slight irritation produced, and efficacy of relatively smaller doses of the drug. Dr. Brocq has found that this method produced excellent results in all cases of syphilis, with the exception of certain psoriasiform syphilids of the palms of the hands and the soles of the feet, and in such cases injections of calomel had better be used immediately. Dr. Brocq has been applying this method for the last 3½ years at the Broca Hospital, where he has charge of one of the large venereal services of Paris, and he has treated some 2000 patients with Van Swieten's solution, obtaining a good result in such cases. His article concludes as follows: "It is best not to suppress the gastric method in the treatment of syphilis; just as much as other methods, it has its indications, advantages and usefulness. It is of undoubted advantage in a physician's city practice, where the patient can not afford the expense of subcutaneous injections, but to be efficacious, mercury should not be given in the form of pills, but in a solution and in small doses."

# Correspondence.

### Implantation of the Ureters.—A Reply.

CHICAGO, April 29, 1901.

*To the Editor:*—It gives me great pleasure to be afforded an opportunity of replying to Dr. Fowler's criticism (see last week's JOURNAL) of certain conclusions appearing in my article on "Ureteral Anastomosis" recently published in THE JOURNAL (Feb. 16-March 23).

The particular conclusion objected to is the third among the General Conclusions, and reads as follows: "All efforts to prevent ascending renal infection in animals or man, where the ureter has been implanted (into the intestine) without its vesical orifice have proved futile."

In order to show this conclusion false, Dr. Fowler points to his case of uretero-rectal implantation, where the patient has survived bilateral uretero-rectal implantation by the Fowler method 4½ years and is to-day *apparently* in perfect health.

What grounds have I for assuming that this patient's kidneys, as a result of the operative procedure, have been infected, "but that the infection has been overcome with resulting contracted kidneys?" 1. One or both ureters, minus the vesical orifices, have been implanted into the bowel in a comparatively large number of animals, yet *in every* instance where accurate postmortem findings have been given the kidneys were shown to be infected, or to have recovered from an ascending infection.

2. After a most careful search through the literature I have been unable to find a single case of ureteral implantation in the human being which did not correspond in its results with similar experiments made upon animals. The post-mortem findings show infection in every case.

3. In February, 1899, I implanted both ureters into the bowel of a dog, using practically the same method employed by Dr. Fowler in his case, except no mucous valve was made (THE JOURNAL, March 16, p. 738). The dog remained in perfect health for over a year and probably would have been living yet if she had not been killed for the purposes of my article. In this case of bilateral implantation of the ureters there were no more signs of kidney infection than in Dr. Fowler's case, yet the postmortem examination showed healed pyelonephritic lesions in the form of contracted kidneys. Whenever the other animals experimented upon lived long enough to overcome the primary renal infection connective tissue changes ensued. Why then is it not reasonable and far from being either "gratuitous" or "unwarranted" to assume that the same changes resulted in the kidneys of the boy operated on by Dr. Fowler?

4. It is certainly fair to assume that the danger of ascending infection after implantation of the ureters into the bowel was considered by Dr. Fowler to be particularly great, since he concludes his article by setting forth certain advantages to be derived from his operation as follows: "1. An efficient permanent valve with a mucous surface applied to the mouths of the ureters, is provided. This valve is so situated that it is closely applied to occlude the open ends of the ureters as the rectum becomes filled with urine or when the fecal matter descends from above. 2. Placing the ureters in the submucous space of the rectal wall for a distance of three or more centimeters above the point where these enter the cavity of the rectum affords an additional safeguard against renal infection. In this situation the circular muscular fibers of the bowel wall compress the ureters and secure occlusion at this point during the act of defecation."

Now my experiment upon the dog, where the Fowler technique was employed, showed that the mucous valve and that portion of the ureter projecting into the bowel soon sloughs away, hence can have no effect in preventing ascending infection.

A study of my other experiments will show that the ureters were buried underneath the muscular coat of the bowel as advised by Dr. Fowler, yet kidney infection resulted in every case. It is a beautiful theory to assume that the circular bowel muscles will act upon the ureters and prevent ascending infection, but like so many theories it is not substantiated by facts. So another "important feature" of the operation in question must be considered worthless as a preventive of infection.

5. It is hardly just for Dr. Fowler to make use of italics in calling attention to the fact that no bacteriologic nor microscopic report was made on the mucous valve specimen. The gross specimen differed in no way from many others which I reported in my paper at great length. It clearly showed pyelonephritis, and as my chief object in performing the experiment was to ascertain the fate of the mucous valve within the gut cavity, I did not think it necessary to ask the pathologist to repeat his work on this specimen.

I would also call Dr. Fowler's attention to the fact that I am not even guilty of the inaccuracy ascribed to me in his letter when he says his case "is still living and enjoying the best of health at the end of 4½ years—not 3½ years as stated by Dr. Peterson." At the time my paper was written and Dr. Fowler was kind enough to report upon the condition of his patient, 3½ years had elapsed since the operation. I can only congratulate the doctor that the boy has been able to add another year to the score.

6. Among the cases of bilateral uretero-intestinal implantation given in abstract in my article is one by my friend, Dr. Carl Beck, of Chicago. Dr. Beck also devised an operation whereby ascending renal infection could be prevented. The patient on whom he operated survived for some months and was shown before the medical societies as free from infection after ureteral implantation. I challenged this statement in open society, and the autopsy some months later showed marked renal infection.

In conclusion, when I am shown either in animals, or man, a kidney free from infection, where the severed ureter has been implanted in the bowel, then and then only will I feel justified in thinking that Dr. Fowler's case has proved the exception to the universal rule and escaped infection.

REUBEN PETERSON, M.D.

## Immunity Against Zymotic Diseases.

CHICAGO, April 28, 1901.

*To the Editor:*—In THE JOURNAL of April 27 there appeared a letter by Dr. Corban E. Judd, relating to an article recently published by me in which I had formulated a theory in regard to acquired immunity. Dr. Judd states that Dr. O. P. Davis, of Topeka, Kan., had presented a paper before the Medical Science Club of Topeka, on Feb. 18, 1901, which, to use Dr. Judd's words, "embraced all that Dr. Class sets forth and more." As my paper was published April 13, 1901, a claim for priority is made in favor of Dr. Davis. Priority squabbles are usually not very edifying, and in this case of no particular moment; still, I would like to state my position. Dr. Judd states that Dr. Davis's theory embraced all that I set forth and more. Dr. Davis, by saying "more," made his theory different from mine inasmuch as he says that during the time that immunity continues the attenuated germs continue to reside in the protected body. This statement shows that his theory is not identical with the one formulated by me as I state that the immunity is due to the presence of the antitoxin without saying anything about a continued presence of the micro-organisms. In fact, I think the continued presence of a large variety of pathogenic organisms in the human body would not be borne out by research and is illogical. Even if the two theories were identical the question of priority would not be open for discussion as my paper was written during September, 1900, and was on the program of the Chicago Pathological Society for the meeting held Oct. 18, 1900. Circumstances prevented me from reading it at the time. Shortly afterward I sent it to the publishers in whose hands it was for a long time before Dr. Davis read his paper. If Dr. Judd wishes to investigate the matter further I will be pleased to send him the exact data. As it is I do not lay claim to any special originality in the matter, as the fundamental fact upon which the theory rests was illustrated very forcibly when vaccination came into vogue. However, I tried in my theory to show its application to a wide class of diseases and to elucidate this applicability. I believe similar views have been held by others before, but like the venerable egg trick of Columbus, they needed a practical demonstration. Respectfully,

W. J. CLASS, M.D.

## Lavage of Stomach in Constipation.

PITTSBURG, PA., April 27, 1901.

*To the Editor:*—In Dr. Spivak's paper on "Lavage of the Stomach as a Therapeutic Agent in the Treatment of Habitual Constipation" (THE JOURNAL, April 13), among other things he says: "The fifth indication, habitual constipation, of which I claim to be the originator until some one claims priority," etc. I desire to state that I have been treating chronic constipation by lavage of the stomach for the past two years, and, I might add, with good results. On May 8, 1900, I read a paper before the Washington County Medical Society of this state, and in it I placed particular stress on the good results obtained by lavage of the stomach in chronic constipation. The following are a few extracts from my paper: "You will note that some of the medicated water which must escape through the pyloric orifice, has a twofold action on the intestines, first as an antiseptic, and second, as a stimulus to peristalsis, thereby helping to overcome constipation which you will nearly always find associated with chronic stomach disease." . . . "I wish to bring to your notice a particularly interesting case which came under my care some months ago, inasmuch as he had been operated on for appendicitis due to chronic constipa-

tion." The history and diagnosis was given, and in closing I said: "The stomach symptoms disappeared, but what I wish to show in this case is the complete disappearance of the constipation, the patient's bowels moving regularly once and twice per diem." I still have the original paper from which these quotations are taken. Very truly yours.

E. R. GARDNER, M.D.

### Mark Twain and "The Doctor" in Innocents Abroad.

CHICAGO, April 23, 1901.

*To the Editor:*—Every little while there appears a statement in one of our medical journals concerning some doctor who is or was—for this statement usually appears in an obituary notice "the original of Mark Twain's doctor in 'Innocents Abroad.'" There is, accordingly, a possibility that the original doctor of "Innocents Abroad" may become as numerous as the original Uncle Tom of Mrs. Stowe's famous novel. I have no doubt that these statements are all made in good faith; the explanation doubtless being that the particular person of whom the statement is made has been such a jovial, clever good fellow that he might have been the original of Mark Twain's doctor even if he is not, and so the tradition had gradually grown up around him.

In order to settle the question I wrote to Mr. S. L. Clemens (Mark Twain) a few days ago calling attention to the number of the originals of his doctor, and asking him to let me know who, if anybody, was the original. The following reply from him answers that question:

NEW YORK, April 15, 1901.

*Dear Sir:*—It is true, as you say, that doctor is multiplying from year to year. I have six of him on my list already. I do not remember the one which you enclose. The real one was Dr. A. Reeves Jackson, of Chicago, whose too early death I still lament. Very truly yours. S. L. CLEMENS.

Wm. Allen Pusey, Esq., Chicago, Ill.

It must be a source of some satisfaction to those who knew Dr. Jackson, with all his charming and original qualities, to know that these have been immortalized in Mark Twain's famous character. Yours truly, WM. ALLEN PUSEY, M.D.

### Brewer's Yeast in Tuberculosis.

BUFFALO, N. Y., April, 27, 1901.

*To the Editor:*—I was interested in the editorial on "General Secondary Infection in the Course of Chronic Pulmonary Tuberculosis." It is important to know that these secondary pyogenic infections occur in tuberculous cases, and they, more than the primary bacillary infection, have to do with many of the annoying symptoms, namely: chills, morning and evening rise of temperature, hectic flush, increasing pallor, night sweats, etc. Many remedies have been recommended to combat these symptoms, especially the night sweats, with but little effect. Some time ago, being interested in the subject of tonsillar infection, I saw, through the courtesy of Dr. Charles Carey, of Buffalo, a case in which, through a pyogenic infection of the tonsil, there followed a retropharyngeal abscess and a pyemia with many metastatic abscesses. Dr. Roswell Park opened the retropharyngeal abscess, but the metastatic ones appeared from time to time in various parts of the skin-surface.

Large quantities of brewer's yeast were given the patient 2 to 4 ounces every three or four hours. It was well tolerated and the patient has made a good recovery. Since this time I have used the brewer's yeast to combat the secondary pyogenic symptoms of ulcerating tubercular cases, and in the two cases in which there were chills, hectic flushes, morning decline, evening rise of temperature has remained normal. There are no further chills, no hectic flushes and no night sweats.

The remedy is easily obtained fresh from any brewery. It may be taken in a tumbler without the addition of other liquid, and my experience is that it is well borne. If the stomach can not tolerate it a rectal enema of double the quantity may be given.

It has been shown by Vaughan and others that the nucleins of the body have much to do with giving to an organism its immunity. The various organs generating neutro-albumin and nucleinic acid give to the body a substance which is destructive to micro-organisms and their toxins. Brewer's yeast contains nucleinic acid and therefore is an excellent therapeutic measure, and one which to my knowledge I have not seen recommended as such for pyogenic infection, whether a pyemia, septicopyemia, or the secondary infections in tuberculosis, diabetes, typhoid, carcinoma, etc. I have noticed yeast nuclein recommended to be given hypodermically in septicemia, but have not seen brewer's yeast mentioned.

JULIUS ULLMAN, M.D.

## Association News.

### Annual Announcement.

The fifty-second annual session (54th year) of the AMERICAN MEDICAL ASSOCIATION will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, commencing on Tuesday at 11 a. m.

#### DELEGATES.

The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies as are recognized by representation in their respective state societies, from the medical department of the Army, the Navy and the Marine-Hospital Service of the United States, and from oral and dental societies in good standing. *Provided*, however, that no state, county or other auxiliary body sending representatives shall receive into its membership any one who may, after 1901, have received the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent requirement.

Each delegate shall hold his appointment for one year, and until another is appointed to succeed him, and shall participate in all the business and the affairs of the ASSOCIATION.

Each state, county and district medical society, entitled to representation, shall have the privilege of sending to the ASSOCIATION one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number. *Provided*, however, that the number of delegates from any affiliated society shall not exceed the ratio of one in ten of the members of such society. The Army and Navy, and the Marine-Hospital Service of the United States shall be entitled to the same proportionate representation as that of affiliated medical societies.

No individual who shall be under sentence of expulsion or suspension from any state or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by such state or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the AMERICAN MEDICAL ASSOCIATION.

No one expelled from this ASSOCIATION shall be received at any time thereafter as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed.

#### PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the ASSOCIATION. Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the ASSOCIATION, so long as they shall continue to conform to its regulations, but without the right of voting.

#### MEMBERS BY APPLICATION.

Members by application shall consist of such members of the state, county, and district medical societies entitled to repre-

sentation in this association as shall make application for admission, in writing, to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the annual fee, $5. They shall have their names on the roll, shall have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms.

MEMBERS BY INVITATION.

Members by invitation shall consist of distinguished practitioners of foreign countries who may be invited by the officers of Sections or of the ASSOCIATION. They shall hold their connection with this ASSOCIATION until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of delegates, but without the right to vote.

RIGHT TO VOTE.

Every member-elect, prior to the permanent organization of the annual meeting, or *before voting on any question*, after the meeting has been organized, *must exhibit his credentials to the proper committee*, and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment.

DELEGATE BADGES.

*No one can be registered as a delegate without a certificate as called for by the above clause in the Constitution. Delegates will be furnished with delegate badges on presentation of their credentials.*

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

ADDRESSES IN SECTIONS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall not occupy more than twenty minutes.

LENGTH OF PAPERS.

No paper, the reading of which occupies more than twenty minutes, shall be read before any Section.

## A Suggestion as to the American Medical Association.

We have, of course, the sincerest desire that the ASSOCIATION may grow more and more powerful, and to that end we would, in the most friendly spirit, offer a suggestion which we believe would have the effect desired. It is that, without losing the democratic or representative control of the business and decisions—the direction and fate of the organization—some plan may be devised whereby a small number of delegates should thresh out all propositions and decide them according to their combined wisdom and judgment; the general meetings would thus be kept for purely scientific business. If the referendum is instituted, it should be without discussion, by the general body which must vote yea and nay at once upon presentation of the question of supporting the committee's decisions. When in earlier days the ASSOCIATION was made up of a small number, the town-meeting plan of legislation was possible; now that it has grown so large and will continue to grow still larger a manner of expediting the transaction of business should be instituted. A mob can not legislate, can not deliberate dispassionately, and several thousand people even of the best, will be subject to the laws of the psychology of crowds. This representative body might be called the senate. Each senator should be elected by his state organization and represent a stated large number of members and should devote his entire time, to the exclusion of section work, to the business of the ASSOCIATION.—*Am. Med.*, April 27.

## Meeting Places at St. Paul.

The halls for meeting places for the general sessions and Sections of the AMERICAN MEDICAL ASSOCIATION are announced as follows: General Sessions, Metropolitan Opera House; Section on Practice of Medicine, Legislative Hall, State Capitol; Obstetrics and Diseases of Women, Small Masonic Hall; Surgery and Anatomy, Large Masonic Hall; Hygiene and Sanitary Science, Masonic Armory; Ophthalmology, Elks' Hall; Diseases of Children, Ryan Annex, Builders' Exchange; Stomatology, Ryan Hotel; Mental and Nervous Diseases, Committee Room of State Capitol; Cutaneous Medicine and Surgery, Masonic Banquet Hall; Laryngology and Otology, Elks' Dining-Room; Materia Medica, Pharmacy and Therapeutics, Senate Chamber, State Capitol; Physiology and Dietetics, Builders' Exchange, Ryan Annex; Pathology and Bacteriology, Ryan Annex.

## Trip to the Yellowstone National Park.

The arrangements for this trip are not yet complete, though practically so. The special train, or trains, will leave St. Paul on the afternoon or evening of the fourth day of the ASSOCIATION meeting, Friday, June 7, the trip taking about thirty hours. As President McKinley and his party are to be at the Park a day or two preceding our visit everything will be in a most promising condition. The total expense of the trip will be $85, which includes railroad fare, sleepers, hotel expenses and conveyances through the Park. The total time occupied will be between eight and ten days from St. Paul. The rate is remarkably low when it is considered that the regular charge for the five and one-half days in the Park is $49.50. Those desiring to take the trip are requested to notify Dr. J. F. Fulton, St. Paul, Minn.

## Next Year's Meeting of the Association.

At a special meeting of the Memphis Medical Society, held April 16, a resolution was adopted to the effect that an invitation be tendered to the AMERICAN MEDICAL ASSOCIATION to meet in Memphis at its regular annual meeting in 1902, and that every effort be made toward securing the same. It is believed by the Memphis people that the ASSOCIATION should go south next year, and that Memphis, with its population of over 110,000, is thoroughly able to entertain the ASSOCIATION. Saratoga Springs, N. Y., is also preparing to advocate at St. Paul the meeting of the ASSOCIATION at the Springs in 1902.

## Delegates.

Columbia County (Pennsylvania) Medical Society has elected the following delegates to the meeting of the AMERICAN MEDICAL ASSOCIATION, with power to substitute: Dr. Geo. L. Reagan, Berwick; Edward L. Davis, Berwick; and J. Elmer Shuman, Jerseytown.

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## Program for the Section on Surgery and Anatomy.

TUESDAY, JUNE 4—AFTERNOON SESSION.

SURGERY OF THE BRAIN AND SPINAL CORD.

Remarks on the Surgery of the Spinal Cord, with Illustrative Cases. Andrew J. McCosh, New York City.

Spina Bifida, with the Report of an Interesting Case. Paul F. Eve, Nashville, Tenn.

The Methodical Exploration of the Brain for Fluid. Christian Fenger, Chicago.

The Immediate and Remote Effects of Brain Injury. D. S. Fairchild, Clinton, Iowa.

Cases of Trephining for Pathological Lesions of the Brain. John C. Munro, Boston.

Discussion opened by W. W. Keen, Philadelphia.

WEDNESDAY, JUNE 5—MORNING SESSION.

The Mortality of Appendicitis. John B. Deaver, Philadelphia.

Some Unusual Features of Appendicitis and Their Treatment. Ernest Laplace, Philadelphia.

Abdominal Contusions Associated with Ruptnre of the Intestine. Homer Gage, Worcester, Mass.

The Knot Within the Lumen, in Intestinal Surgery, with Report of Eight Cases. P. Gregory Connell, Chicago.

Surgery of the Colon. H. O. Walker, Detroit, Mich.

Fallacies in the Treatment of Urethral Diseases. Robert Holmes Greene, New York City.

Discussion opened by Willis G. McDonald, Albany, N. Y., and D. A. K. Steele, Chicago.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

THE SURGICAL ASPECT OF CARCINOMA.

The Nature of the Cancerous Process. Roswell Park, Buffalo, N. Y.

The Present Status of the Carcinoma Question. Nicholas Senn, Chicago.

Early Diagnosis of Carcinoma: Methods. Charles A. Powers, Denver, Colo.

The Pathology of Breast Carcinoma and its Relation to Early Diagnosis and Treatment. J. C. Bloodgood and M. B. Tinker, Baltimore, Md.

Carcinoma of the Cecum. Wm. J. Mayo, Rochester, Minn.

Improved Method for Resecting High Rectal Carcinoma. Robert F. Weir, New York City.
Method of Operating on Carcinoma of the Tongue. J. Collius Warren, Boston.
Treatment of Malignant Diseases by Surgical Operation. Frederick S. Dennis, New York City.

THURSDAY, JUNE 6—MORNING SESSION.

Hemostasis in Amputation at the Hip-Joint, a Résumé of 262 Cases by the Author's Method. John A. Wyeth, New York City.
Autoplastic Suture in Hernia and other Ventral Wounds. L. L. McArthur, Chicago.
A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. L. E. Schmidt and G. Kolischer, Chicago.
Prostatotomy versus Prostatectomy for Prostatic Hypertrophy. Ramon Guiteras, New York City.
Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction. Eugene Fuller, New York City.
A Further Report on Permanent Catheterization. J. R. Eastman, Indianapolis, Ind.

THURSDAY, JUNE 6—AFTERNOON SESSION.

THE SURGERY OF THE CHEST.

Pneumectomy and Pnenmotomy. J. B. Murphy, Chicago.
Insufflation of the Lungs and its Application to Pulmonary Surgery. Rudolph Matas, New Orleans, La.
Removal of Foreign Bodies from the Trachea and Bronchi. DeForest Willard, Philadelphia.
Treatment of Empyema. James H. Dunn, Minneapolis, Minn.
Penetrating Wounds of the Chest. Joseph Ransohoff, Cincinnati, Ohio.
Decortication of the Lung. George Ryerson Fowler, Brooklyn, N. Y.
Discussion opened by Frederick W. Parham, New Orleans, La.

FRIDAY, JUNE 7—MORNING SESSION.

ABDOMINAL SURGERY.

Abdominal Surgery. Maurice Richardson, Boston.
The Indications for and Against Total Removal of the Human Stomach. G. Childs Macdonald, San Francisco, Cal.
Diagnosis and Treatment of Kidney Stone. Arthur D. Bevan, Chicago.
The Surgery of the Gall-Bladder and Gall-Ducts. Alexander H. Ferguson, Chicago.
Acute Infective Cholangitis and Cholecystitis as a Complication of Gall-Stones. Daniel N. Eisendrath, Chicago.
Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine. James B. Bullitt, Louisville, Ky.
Experimental and Clinical Observations on the Therapeutics of Abdominal Surgery. George W. Crile, Cleveland, Ohio.
Discussion opened by Howard A. Kelly, Baltimore, Md., and Frank D. Smythe, Memphis, Tenn.

FRIDAY, JUNE 7—AFTERNOON SESSION.

The Roentgen Rays in Differentiating between Osseous Cyst, Osteosarcoma and Osteomyelitis with Skiagraphic Demonstration. Carl Beck, New York City.
A Simple Operation for the Treatment of Hemorrhoids. J. Rawson Pennington, Chicago.
Fracture of the Femoral Neck. C. E. Ruth, Keokuk, Iowa.

# Married.

CASSIUS CLAY ROGERS, M.D., to Miss Rena B. Richards, both of Chicago, April 17.

WILLIAM H. ROBIN, M.D., to Miss Emma Meyer, both of New Orleans, La., April 17.

C. C. BARNARD, M.D., Oakville, Ind., to Miss Amy Leslie, of Arcadia, Ind., April 5.

EDWARD L. LYONS, M.D., to Miss Minnie McMahon, both of Troy, N. Y., April 10.

J. HOMER PUMPHREY, M.D., to Miss Anna Moorehead, both of Salem, Ohio, April 3.

O. H. RADKEY, M.D., Manor, Texas, to Miss Sadie Hewlett, of Austin, Texas, April 2.

ROBBINS F. LILLY, M.D., to Mrs. Bessie Baxter Volk, both of Circleville, Ohio, April 24.

FRANK F. SMITH, M.D., to Miss Nannie Miller, both of Cumberland, Md., April 3.

PRINCE C. PAGE, M.D., Bangor, Me., to Miss Ida May North, of Riverdale, Md., April 18.

J. B. GUTHRIE, JR., M.D., New Orleans, to Miss Sara Hall, of Little Rock, Ark., April 9.

HARRY H. RITTENHOUSE, M.D., Chicago, to Miss Lilias V. Wood, of Cairo, Ill., April 30.

JAMES DAVIDSON MCDOWELL, M.D., to Miss Hattie Spencer, both of Yorkville, S. C., April 3.

SYLVESTER A. PRESTON, M.D., Beemer, Neb., to Miss Ellen Bonine, of Omaha, Neb., April 10.

ORTHELLO S. LANGWORTHY, M.D., to Mrs. Minnie E. Sheldon, both of Hamilton, N. Y., April 17.

H. F. SCHROEDER, M.D., Marinette, Wis., to Miss Mary Cecilia Consadine, of Philadelphia.

ARTHUR P. HERING, M.D., Baltimore, to Miss Agnes Louise Kinney, at Staunton, Va., April 10.

WARREN L. CAMERON, M.D., Medford, Ore., to Miss Katharine C. Vail, of Chicago, April 25.

CHARLES L. REESE, M.D., New York, N. Y., to Miss Harriett Stedman Bent in Baltimore April 10.

A. W. HON, M.D., Bloomington, Ind., to Miss Cora McFadden, of Harrodsburg, Ind., April 10.

WILLIAM MCILWAIN THOMPSON, M.D., Chicago, to Miss Anna Caruth Hill, of Boston, Mass., April 24.

THOMAS H. JAMIESON, M.D., Wellington, Kan., to Miss Laura J. Bixby, of Hutchinson, Kan., April 24.

WILLIAM A. BRITTIN, M.D., Auburn, Ill., to Miss Anna Painter, formerly of Streator, Ill., April 9.

CHARLES EDGAR AUCALT, M.D., Fredericksburg, Va., to Miss Lydia Florence New, at Baltimore, April 10.

JOHN J. EARGLE, M.D., Proctor, Texas, to Miss Louis Lee, of Lexington, Okla., at Purcell, Ind. T., March 18.

BERNARD LAWRISTON HARDIN, M.D., Washington, D.C., to Miss Rosalie T. Scott, of Warrenton, Va., April 11.

ARTHUR H. HAWKINS, Cumberland, Md., to Miss Louise Bland Brokenbrough Price, at Orange, Va., April 10.

STUART W. CASSARD, M.D., Baltimore, to Miss Mary Elizabeth Jenifer, at Towson, Baltimore County, Md., April 24.

FREDERICK L. CLARK, M.D., New Bedford, Mass., to Miss Myra Allen Dwelley, of Fairhaven, Mass., at New Bedford, April 8.

CHARLES W. BROWN, M.D., of Philadelphia, to Miss Florence Thomas, daughter of Dr. Bruce Thomas, of Kensington, Md., April 17.

DR. HOWARD H. HOPKINS, JR., M.D., to Miss Alice Eleanor Griffith Wood, both of Newmarket, Frederick County, Md., April 10.

ALEXANDER MCK. CAMPBELL, M.D., Grand Rapids, Mich., to Miss Annie Maclean, daughter of Dr. Donald Maclean, of Detroit. The former pupils and intimate professional associates of the bride's father presented a handsome antique silver tea and coffee service to the bride.

# Deaths and Obituaries.

**Thomas Hepburn Buckler, M.D.,** University of Maryland, Baltimore, 1835, died in Baltimore, April 20, rather suddenly, aged 89. From 1840 to 1850 he was physician to the City Almshouse and wrote a history of the epidemic of cholera there in 1849. The waters of the Gunpowder River were introduced into Baltimore on his suggestion, and for many years he strenuously, although unsuccessfully, urged the filling up of the "basin," or inner harbor of Baltimore. He introduced the phosphate of ammonia in the treatment of gout and the uric acid diathesis, and the succinate of iron and chloroform as gall-stone solvents. From 1866 to 1890 he practiced in Paris under a license from the French government, and represented the state of Maryland in 1878 as Commissioner to the French Exposition. He returned to Baltimore in 1890, but had not practiced since that time.

**William Henry Draper, M.D.,** College of Physicians and Surgeons, 1855, died at his home in New York, from pneumonia, aged 70, April 26. He was born in Battleboro, Vt., 1830, was graduated the head of his class in Columbia College, and after receiving his medical degree studied in Paris and London. He was an authority on skin diseases, was a writer of ability, an acute diagnostician and a popular teacher. Always claiming to be only a general practitioner, probably no one stood higher than he in many circles of influence. He was made professor of diseases of the skin in the College of Physicians and Surgeons in 1869, and eleven years later assumed the chair of clinical medicine. He was made professor emeritus in 1898.

**Prof. Giulio Bizzozero,** Turin, the prominent Italian pathologist, best known from his researches on the blood, bone-marrow, lymphatic glands, etc., died April 8, after a brief illness, from double pneumonia, aged 56. He was one of the most prominent teachers in medicine in Italy, and his name is familiar throughout the world. Among his students were many of the younger pathologists of Italy, including Golgi, Tizzoni and others. He was a member of most of the Italian and many foreign medical societies, and was a senator of the Kingdom of Italy.

**Charles Kerns Dease Tanner, M.D.,** died at Reading, April 21, from consumption, aged 51. He had represented the Irish Nationalists of the Middle Division of Cork County in parliament since 1885. He was a practising physician of Cork and received his education at Queen's College, Cork, besides pursuing his studies at the Universities of Leipsic and Dublin. Although an habitual obstructionist in the House of Commons, he was personally very popular.

**Frederick J. Brockway, M.D.,** College of Physicians and Surgeons, New York, 1887, of New York City, died at Brattleboro, Vt., April 21, aged 41. He was assistant demonstrator of anatomy and secretary of the faculty in the medical college of which he was a graduate. Besides being a fellow of the New York Academy of Medicine, he belonged to many other scientific bodies.

**Charles H. Kenegy, M.D.,** College of Physicians and Surgeons, Keokuk, Iowa, 1877, who had practiced at Plum River, Morseville and other places in Jo Daviess County, Ill., died suddenly from apoplexy, at Scales Mound, Ill., April 21, aged 51.

**Edward M. Schaeffer, M.D.,** University of Maryland, Baltimore, 1880, died from a self-inflicted gunshot wound, April 21, at his home in Baltimore, Md., aged 45. He had been a sufferer from melancholia for some time.

**Elmer E. Barr, M.D.,** Rush Medical College, Chicago, 1893, colored, who practiced in Chicago until 1898, died from consumption at Los Angeles, Cal., where he had gone for his health, April 14, aged 33.

**Richard C. Baker, M.D.,** New York University, 1874, of Brooklyn, E. D., N. Y., died April 24, at Otigo, N. Y., aged 47. From 1888 to 1894 he was secretary and superintendent of the Brooklyn Board of Health.

**Charles Dana, M.D.,** a son of Dr. Charles H. Dana, who died in Florida, March 25, was burned to death while endeavoring to rescue some hares from a burning barn at Tunkhannock, Pa., April 17, aged 45.

**Frederick J. Bricker, M.D.,** University of Wooster, Cleveland, Ohio, 1876, who had practiced for twenty-three years at Aurora, Neb., died at his home in that place, April 22, from meningitis, aged 48.

**Edward Watts Morris, M.D.,** Medical College of Virginia, 1885, died at his home in Birmingham, Ala., April 23, from pneumonia, aged 36. He was a member of the AMERICAN MEDICAL ASSOCIATION.

**Edwin D. Swift, M.D.,** New York University, 1849, who had practiced in Hamden, Conn., for fifty-two years, died at his home near that place, from Bright's disease, April 18, aged 76 years.

**Frederick A. Larkin, M.D.,** Rush Medical College, Chicago, 1892, of Chicago, a member of the AMERICAN MEDICAL ASSOCIATION, died in Philadelphia, after a surgical operation, April 23.

**James H. Woodburn, M.D.,** University of Louisville, Ky., 1857, of Indianapolis, Ind., formerly superintendent of the Central Hospital for the Insane, died suddenly, April 23.

**Charles Kelley Gardiner, M.D.,** Medical College of Virginia, Richmond, 1880, died at Huntington, W. Va., April 14, from the effects of an overdose of laudanum.

**George W. Cox, M.D.,** Medico Chirurgical College of Philadelphia, 1887, died suddenly from exhaustion following a severe attack of la grippe, April 19, aged 60.

**Almon V. Belding, M.D.,** College of Physicians and Surgeons of the Western District of New York, Fairfield, died in Rochester, N. Y., April 18, aged 94.

**B. F. Hill, M.D.,** who practiced at Mexico, Mo., until two years ago, died from consumption at his father's home in Bardstown, Ky., April 16, aged 45.

**George S. Cogswell, M.D.,** Dartmouth Medical College, Hanover, N. H., 1820, died at his home in Haverhill, Mass., April 21, aged 93.

**James S. Carradine, M.D.,** University of Pennsylvania, 1858, of New York City, died from pneumonia, at East Orange, N. J., April 23.

**William Harrell, M.D.,** Louisville (Ky.) Medical College, 1870, died at his home in Tifton, Ga., from pneumonia, April 10, aged 60.

**Leonard Howard Moxim, M.D.,** Medical School of Maine, Brunswick, 1855, died at his home in Hartford, Maine, April 15, aged 71.

**Roy Inglis, M.D.,** College of Physicians and Surgeons, New York, 1890, of Jersey City, N. J., died at Denver, Colo., April 23.

**Ira J. Fuller, M.D.,** University of Vermont, Burlington, 1888, died at his home in Sprague ville, N. Y., April 19, aged 43 years.

**John J. Durand, M.D.,** a veteran physician of Chattanooga, Tenn., died from apoplexy at his home in that city, April 16, aged 72.

**Lewis R. Kirk, M.D.,** Jefferson Medical College, Philadelphia, 1853, died at Rising Sun, Md., April 19, of heart trouble, aged 69.

**Alfred H. Hiatt, M.D.,** Medical College of Ohio, Cincinnati, 1846, died at his home in Chicago, April 26, aged 77.

## Miscellany.

**A Christian Science Miracle.**—The *New York Med. Jour.*, April 13, is responsible for the following: It is related that Charles Lamb and Douglas Jerrold were once discussing the extent to which animals could be domesticated, when Lamb in support of his argument told the story of a tame oyster which used to follow him up and down stairs. To this Jerrold retorted that the oyster had one advantage at least over Lamb. "What is that?" asked Lamb. "It knows when to shut its mouth," tartly responded Jerrold. At the recent dedication of a new Christian Science meeting house it was officially stated that a granite corner-stone had been duly carved with an inscription wrongly given under a mis-apprehension, and that the day before it was to be laid the mistake was discovered too late to admit of alteration. The omnipotent witchery of Christian Science methods, the mental concentration and focussing of "truth" upon this "error of mortal mind" enshrined in granite, was brought to bear by the undaunted devotees, when, lo! upon uncovering the block it was found that the erroneous carving had disappeared and an unexceptionable inscription had taken its place. We are curious to know whether the engraver was guilty of a fortunate disregard of his instructions, or the error therein was discovered and corrected in time, but secretly for the sake of subsequent "effect," or the narrator——. But, no. Let us rest content with recommending the moral of the Lamb-Jerrold story to the notice of the votaries of Christian Science.

**The Refracting Optician.**—The *Providence* (R. I.) *Med. Journal* for April says: "Not long ago the following letter was received by an oculist in this city from one of the enterprising opticians who flourish in the rich soil of Rhode Island fertilized by an inefficient medical practice act: 'Dr. ——. Dear Sir: I wish to make a proposition to you. For every prescription you send to me I will give you one-third of the profits, send your statement and money the first of every week. This is to be strictly confidential. Hoping to have some of your work, I remain very truly yours, ——.' It is strange that

any one should expect to find a physician so false to his professional honor that he would for a moment consider such a proposition. It is both insulting and degrading and, would it serve any good, the name of the writer would be appended to the letter; but it serves as a text to speak of a growing evil in our city and state. The daily papers, both city and county, are filled with advertisements of jewelers and opticians, opticists and refractionists, who fit all eyes, correctly measure for glasses and cure headaches, nervous affections and even more serious ailments. At any rate, one would be justified in assuming that they could do all this if credence is given to the advertisements. As a matter of fact, aside from the mechanical part of refraction, which is easily learned, the majority know nothing of physiological optics and are wholly unfitted to deal with either refractive errors or muscular anomalies. The old argument against all law regulating the practice of medicine that every man shall treat his own as he desires, or shall not treat them at all, is inoperative. No man can be allowed by an error of judgment to do himself personal injury, or by parental or marital authority allow harm to come to his family. The State has a right to demand of its citizens compliance with laws which regulate its well-being. This is recognized by both adherents and opponents of the proper regulation of the practice of medicine, on one hand by the interpretation of existing laws and on the other, as in Massachusetts at the present time, by an attempt to pass legislation which will legalize the pseudo-profession of opticists. We may take it for granted, therefore, that some restriction is needed if it can be found that harm results from the present practice of allowing wholly incompetent persons to prescribe for the welfare of the eyes."

## Societies.

### COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
North Dakota Medical Society, Fargo, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Laryngological Association, New Haven, Conn., May 27-29, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.
American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 18-20.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

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**American Proctologic Society.**—The third annual meeting of this Society will be held at the Ramsey County Library, St. Paul, Minn., June 4 and 5.

**Central (Ky.) Medical Association.**—At the April 19 meeting of this Society, at Danville, Dr. George Cowan of that city was elected president, and Dr. Steele Bailey, Stanford, secretary.

**Nebraska State Medical Society.**—The thirty-third annual meeting of this Society will take place May 7, 8 and 9, at Lincoln, under the presidency of Dr. Harry M. McClanahan, Omaha.

**Cecil County (Md.) Medical Society.**—At its annual convention, this Society elected Dr. Joseph Veasey Wallace, Chesapeake City, president; Dr. John H. Jamar, Elkton, treasurer, and Dr. Harry P. Hinchliffe, Elkton, secretary.

**Hartford County (Conn.) Medical Association.**—The one hundred and ninth annual session of this Association was held April 17. Dr. George Clary, New Britain, was elected president; Dr. Nathan Mayer, Hartford, vice-president, and Dr. William G. Craig, Hartford, clerk.

**Ohio State Medical Society.**—The fifty-sixth annual meeting of this Society will be held at Cincinnati, May 8, 9 and 10, at the Scottish Rite Cathedral, Broadway near Fourth Street. Dr. Frank D. Bain, Kenton, will preside.

**Golden Belt (Kan.) Medical Association.**—This Association, at its meeting in Abilene, April 18, elected Dr. John C. McClintock, Topeka, president; Dr. John D. Riddell, Enterprise, treasurer, and Dr. E. B. LeFevre, Abilene, secretary. The next meeting will be held in Topeka in July.

**Tolland County (Conn.) Medical Association.**—The one hundred and ninth annual meeting of this Association was held in Rockville, April 16. Dr. Thomas F. O'Loughlin, Rockville, was elected president; Dr. Eli P. Flint, Rockville, vice-president; and Dr. Edwin T. Davis, Ellington, clerk and treasurer.

**Walla Walla (Wash.) Medical Society.**—A society to further the interests of the physicians of the city and county has been organized with Dr. Elsworth E. Shaw, president; Dr. Nelson G. Blalock, vice-president; Dr. Samuel A. Owens, secretary and Dr. William Van Patten, treasurer.

**Central of Georgia Railway Surgeons' Association.**—The annual meeting of this organization occurred in Augusta, April 17, and the following officers were re-elected: Dr. Hunter P. Cooper, Atlanta, president; Dr. Benjamin R. Dostor, Blakely, vice-president, and Dr. Wm. Darracott Travis, Covington, secretary and treasurer.

**Shreveport (La.) Medical Society.**—The annual meeting of this Society was held April 13, when the following officers were elected: Dr. T. Edgar Schumpert, president; Dr. William L. Egan, vice-president; Dr. Greene C. Chandler, corresponding secretary; Dr. Fred J. Frater, recording secretary, and D. John J. Scott, treasurer.

**Austin Flint Medical Society.**—The spring meeting of this Society was held at Hampton, Iowa, April 11, and the following officers elected: Dr. Daniel W. Crouse, Waterloo, president; Dr. J. Clinton Powers, Hampton, vice-president, and Dr. Lester C. Kern, Waverly, secretary-treasurer. The July meeting will be at Clear Lake.

**Georgia State Medical Association.**—The fifty-second annual meeting of this body was held in Augusta, April 17-19, Dr. Samuel C. Benedict, Athens, in the chair. Savannah was selected as the next place of meeting, and the following officers were elected: Dr. James B. Baird, Atlanta, president; Drs. Thomas R. Wright, Augusta, and Jefferson D. Chason, Bainbridge, vice-presidents; and Dr. Louis H. Jones, Atlanta, secretary and treasurer.

**Jo Daviess County (Ill.) Medical Society.**—The first anniversary meeting of this Society was held in Elizabeth, April 25. Dr. Henry T. Godfrey, Galena, was elected president; Dr. G. E. Miller, Hanover, vice-president; Dr. Domer G. Smith, Elizabeth, secretary, and Dr. T. J. Stafford, Galena, treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The Society was entertained at a banquet, by Drs. William Hutton and Domer G. Smith, Elizabeth.

**Alabama State Medical Society.**—At the annual meeting of this Society, held at Selma, April 16-19, the following officers were elected: Dr. Edwin L. Marechal, Mobile, president; Drs. William T. Pride, Madison Station, and Matthew B. Cameron, Sumterville, vice-presidents; Dr. George P. Waller,

Montgomery secretary; Dr. Henry G. Perry, Greensboro, treasurer, and Dr. Edwin B. Ward, Selma, orator. Birmingham was selected as the place for the next annual meeting.

**Medical Society of the State of California.**—The annual session of this Society was held at Sacramento, April 16-18. A proposition to establish a monthly journal as the organ of the Society was voted down. San Francisco was selected as the next meeting place. The following officers were elected: Dr. William J. G. Dawson, St. Helena, president; Drs. Frank B. Carpenter, San Francisco, and Frank L. Adams, Oakland, vice-presidents; Dr. George H. Evans, San Francisco, secretary; Drs. Z. Taylor Malaby and William F. Barbat, San Francisco, assistant secretaries; Dr. Elmer E. Kelley, San Francisco, treasurer, and Drs. Charles C. Wadsworth, San Francisco, Dudley Tait, Ventura, Cephas S. Bard, Ventura, David Powell, Marysville, and Daniel E. Osborne, St. Helena, board of medical examiners.

**Erie County (N. Y.) Society for the Prevention of Tuberculosis.**—An informal meeting of this newly organized Society was held April 18. Encouraging letters were read from other societies with a like purpose. The lines of work laid down are as follows: 1, promulgating the doctrine of the contagiousness of the disease; 2, instructing the public in practical methods of its avoidance and prevention; 3, advocating the establishment of institutions for its early treatment; 4, co-operating with boards of health in such measures as may tend to the prevention of the disease; 5, advocating the enactment of proper legislation, and 6, taking such other measures as from time to time may be deemed necessary to check the ravages of tuberculosis.

**South Carolina Medical Association.**—The fifty-first annual meeting of this organization was held in Florence, April 17 and 18. Dr. Wharton Sinkler, of Philadelphia, delivered the annual address. The application of graduates of the class of 1900-01 of the South Carolina Medical College, for membership were held over till the next annual meeting for consideration, or until they comply with the requirements of the law. The following officers were elected: Dr. Theodore G. Croft, Aiken, president; Drs. Curran B. Earle, Greenville, W. Price Timmerman, and John T. Darwin, Blacksburg, vice-presidents; Dr. William Weston, Columbia, corresponding secretary; Dr. T. Prioleau Whaley, Charleston, recording secretary, and Dr. Barnard E. Baker, Charleston, treasurer. Dr. Walter P. Porcher, Charleston, was chosen as a member of the Board of Medical Examiners, to succeed Dr. Robert L. Brodie.

## DETROIT MEDICAL SOCIETY.

*Meeting held April 3.*

### Hydrocele of Round Ligament.

DR. FRANK D. SUMMERS exhibited a very rare and interesting hydrocele tumor of the round ligament. It was about four inches in length and the size of a large Frankfurt sausage. The upper portion had been constricted by the left inguinal ring so that a cyst tumor about the size of a large walnut was within the abdominal cavity. The lower end of the tumor was attached in the left labium majus.

About ten years ago the woman called a surgeon to reduce for her an inguinal hernia, and it had to be done under chloroform. Following his advice she wore a truss until about three months ago. On Saturday, March 30, her attention was attracted to the left inguinal region by a sudden sharp pain, followed by a chill, at which time she discovered the swelling; and considering it the same old hernia that had come out before, she thought she could probably reduce it herself. By the next day (Sunday) her pain was so intense that she called Dr. Summers, and he found a tumefaction that would not reduce and ordered her to St. Mary's Hospital and operated at once with the above results. He dissected out the tumor very carefully, with a portion of the round ligament attached to each end, and closed up the inguinal ring completely, which is healing by first intention.

### Elasticity of the Skull.

DR. ANGUS MCLEAN read a paper on this subject and exhibited specimens. This was demonstrated on the cadaver by placing clamps over the lateral and anteroposterior regions. In lateral compression this diameter was decreased half an inch and in longitudinal three-eighths of an inch before the cranium fractured. When one diameter was diminished the others were increased. The calvaria was removed while the clamps were in position, and comparison made. The superior-inferior measurements were made by boring gimlet holes through the vertex and passing small graded steel rods to the base. The skull did not fracture at the points of compression, but through the anterior base. Serious endocranial lesions might be produced without any bone lesion.

## CHICAGO ACADEMY OF MEDICINE.

*Meeting held March 22.*

Dr. W. X. Sudduth in the chair.

### Intrauterine Periods of Stress.

DR. JAMES G. KIERNAN read a paper on this subject. After some introductory remarks, he said: The law of economy of growth governs the relation of the organs to each other and the operation of the process whereby one structure is sacrificed for the development of another. Since the evolution of organs certain parts disappear, certain ones through suppressive economy, and since the disappearing and developing tendency of necessity centers around the time when certain functions are to be lost by the disappearing, and others gained by the developing, periods of stress occur around which the law of economy of growth centers the struggle for existence between parts of organs and between organs themselves. Because of this, physiologic atrophies and hypertrophies occur. Nearly all conditions of physiologic disturbance may result at these periods of stress from the influence of maternal nutrition or environment, or of hereditary factors.

While the fetus may pass through all periods of stress, a seeming replica of its immediate ancestors, still since nutriment assimilable by a given organism is limited, a check of development at certain stages often turns the nutriment in the direction of organs or cells or functions which should disappear at that particular stage. Man passes through the polyphyodont potentiality before reaching the diphyodont, which is the dental characteristic of the race. Arrest of development at the period when polyphyodont potentialities are present implies the dentition found in the Sauropsidæ, where teeth continually disappear to be continually replaced. Through such arrest a child may develop successively several hundred teeth. Since teeth are among the most variable structures in evolution, upon them is peculiarly evident the effects of stress. The struggle between the diphyodont and the polyphyodont condition early in human embryogeny may result in jaw atrophy and tooth increase in size. On the other hand, tooth decrease in size and jaw hypertrophy may occur. In the first case, decided irregularity of the teeth occurs in a comparatively normal subject. In the second case, seeming absence of irregularity will occur in a hereditarily defective subject. Jaw decrease as well as arrest of the face has been determined by general surrender of the system to brain growth. The development of the face in vertebrates is checked in man, because the upright position renders it unnecessary to bend the head as in quadrupeds, and because the enormous cerebral development has rendered necessary brain cavity enlargement by extending the cavity over the nose region, in addition to enlarging the skull. Normal vertebrate development of the face is therefore arrested in man at an embryonic stage. The long jowl, an advance in face development, does not occur in man. The skull is a development partly of the vertebræ, and partly of dermal bones. The dermal bones are the frontals, the parietals, the nasal bones, the pterygoids, palatines, maxillaries, premaxillaries and mandibles. The fontanelles in the child are spots in which dermal bones are yet to be formed. Development of the brain depends upon the growing power of the secondary skull formed by the dermal bones. These considered as bones are degenerate remains of the outer skeleton of the head which in early fish and reptiles emulated the lobster. Because of their very degeneracy they have been utilized to aid in covering the brain.

Dr. Kiernan then enumerated some of the conditions of fetal life corresponding to permanent phases in the lower animals, and said that as the power of passing through the fetal period

of stress will depend on the condition in which the fetal organism is at the time of the period of stress, and as this condition of the fetal organism will depend partly on factors inherited and partly on the material condition, it must be obvious that defect in either at these periods of stress may so disarrange the struggle for existence between the fetal organs that reversionary conditions will gain the ascendancy.

The fetal periods of stress of the organism as a whole, which most deserve attention, are those of the senile (or simian) period of intra-uterine life (which occurs about 4½ months after conception) and the period of sex differentiation. Arrest at the senile period through any of the processes which check development, exercises marked influence on extra-uterine development. When produced by syphilis—which so frequently causes the senile appearance of new-born children—the child, because of organs which have undergone premature senescence, fails to pass through the first dentition, or readily falls a victim to secondary infections. Precocity, whether of the intellectual or physical type, is an expression of senile arrest of development, which causes the child to pass through growth and senescence rapidly. Minor expressions also occur, involving the skin alone, while the rest of the system is comparatively unaffected.

The truth of the popular opinion of precocity—early ripe, early rotten—is illustrated very frequently. Cratemus, a brother of Antigonus, was an infant, a youth, adult, married, begat children, and senile in seven years. Louis II, of Hungary, was crowned in his second year, at 14 had a complete beard, at 15 was married, at 18 had gray hair, and at 20 died. One boy had external marks of puberty at 12 months, and died senile at 5. Of six cases of early puberty in boys cited by Gould, one, virile at 1 year, died senile at 5. Cazaeux reports the case of a girl who menstruated at 2, became pregnant at 8, was a grandmother and senile at 25. Another child of 3, with the breasts and genitals of a woman, and menstruation of a nubile girl, had a senile appearance.

Premature senility may evince itself in atheroma of the arteries at the periods of extra-uterine stress. This has been observed rather frequently in the children of vegetarians and after the essential fevers.

Sex is not inherited, but the result of various factors acting not only at the time of impregnation, but at various times thereafter. Long after impregnation, when the embryo is already developed, nutrition is still influential and may change the tendency even after the sexual organs have developed. Poor maternal nutrition may arrest female development, causing reversion to the male type. The psychic side of sexual differences should normally, as it often does, remain undifferentiated until adolescence. Adolescence is affected by the atavistic tendency to simian senility, which implies its early onset.

The biologic facts stated show that there is a factor at work in intra-uterine life independent of heredity and operating only at certain periods. Heredity, so far as its working forces are concerned, consists of immediate heredity from the parents, of immediate atavism or type heredity and of remote atavism. These forces are usually in conflict. Type heredity and immediate heredity offset remote atavism, as a rule. Deficiency, either immediate heredity or type heredity brings remote atavism into full play, and is the source of degeneracy. Strong type heredity may, however, offset the evil influence of defective immediate heredity. The question of the sway of these factors turns on the etiologic moment of the period of stress when either the organism balance or some structure or function may be checked to give undue play to a structure or function useless or worse under the present biologic status of man. Heredity, therefore, is modified by an etiologic moment occurring at the period of stress. Malign heredity is often destroyed or diminished by the immediate effects of type heredity. Hence, in even the most hereditarily defective families sound members are found. Variations are often introduced by the struggle between the hereditary forces at the periods of stress which prove beneficial under a favoring environment. Hypertrophy due to degeneracy may thus place the subject in a higher position than the ancestor under the favoring influence of environment.

DR. ALFRED C. COTTON stated a firmly grounded belief in the influence of maternal impressions had not as yet been shaken either from the lay or professional mind. During intra-uterine or embryonic life certain influences produce, at times, more perfect impressions than at others. Efforts directed toward the stress periods of embryologic existence are in the nature of pioneer work to prepare the way for systematic observations. Postmortem findings demonstrate that environment more than heredity may influence the status of the infant. The persistency of the senile type of infant led Henoch to call the state infantile atrophy, a pathologic condition which had never been satisfactorily described histologically and pathologically. Senility makes an early impress upon many cases that are called infantile atrophy.

DR. CHARLES S. BACON said that it is fairly well established that periodicity exists in growth and changes. This is noticeable when the earliest forms of cell development are studied. When the fertilized ovum is studied under the microscope, a quiescent state is noted until suddenly the nucleus and cell divide and in the course of a short time, the homogeneous mass assumes another shape. In the child an important cycle occurs at puberty, and later, both in male and female, are cycles corresponding more or less to monthly changes. Periodicity then becomes a well-established fact. The importance of sound balance for the developing organism, at those periods, is undoubtedly great. The intra-uterine being is quite independent of the mother. The child may be fairly well nourished, although the mother is improperly nourished. In starving mothers the child is often well developed. So the periods of the child's development are not so dependent on the mother's condition as might at first appear. While important periods occur in the development of the child, it does not follow that those periods should coincide with the mother's period.

DR. EUGENE S. TALBOT stated that perhaps no structures in the body are so much affected by the law of economy of growth as the face, jaws and teeth. Under this law is exerted a natural force causing brain development and resultant jaw recession. The jaws are not now required for the purpose they were originally, hence an arrest of development is taking place. Originally the jaws measured 2¾ inches across; now the average one measures only about two inches. On some adult patients the jaws only measure three-quarters of an inch. The senile stage occurs at about 4½ months of fetal life, a period in which the teeth are more readily affected than any other structures of the body. If change should occur about the fourth month of fetal life, the teeth are liable to alter in shape and structure. Teeth without enamel are frequently found, sometimes slight amounts of enamel may be found on some teeth. Occasionally children are born who have no teeth throughout life. These changes are the effect of the swaying between the diphyodont normal state and the polyphyodont state of reptiles at a period of stress.

Absorption of the alveolar process is an expression of polyphyodont physiology. Were a man to live long enough, he would lose his second set of teeth by osteomalacia or senile absorption. Senile absorption may occur at any period in the life of the individual. It is more frequently noticed in degenerates, neurotics, deaf-mutes, congenitally blind and idiots. To this senile condition is due the transitory nature of the alveolar process. Decay of the teeth is a natural process.

DR. SANGER BROWN believes that there is no warrant for designating the changes described as periods of stress, because they did not take place properly. Physicians are not warranted in regarding those periods in which changes are observable as of more importance than those that are imperceptible between the manifestations observed. While a law of observable periodicity is perhaps admissible, yet this is not equivalent to proving that observable manifestations are more important or exert more influence upon development than the periods when so much activity can not be observed.

DR. WILLIAM L. BAUM believes that there are periods of stress. One of the greatest examples of the influence of these in modern times was the remarkable number of defective children born immediately after and during the siege of Paris.

Anatomic changes must not be considered alone. Those which occur at certain periods during intra-uterine life reflect in the individual the consequences of nutritional change. This is very well shown in the syphilitic child. At one time the elder Ricord claimed that the child could not be infected from a syphilitic mother if she became infected later than the third month of pregnancy. This period has now been extended to the sixth month. This was true not only of syphilis, but of congenital ichthyosis. The same changes appear in ichthyotic children when development of the teeth takes place. Dermatology furnishes many examples which, from knowledge of embryology, can be attributed to certain periods. These periods often coincide with periods of altered nutrition in the mother. Hence it is obvious that the periods of stress have some influence not only upon nutrition temporarily, but upon the future of the child. There are cases of congenital hairy individuals, showing at the period of the evolution of the hair follicle that there must have been some nutritional change at that time. Many congenital dermal growths demonstrate that at one time there must have been some localized nutritional change in the fetus itself, such as are evinced in the various types of nevi. About fifty different dermatoses of congenital origin sometimes interfere with the future of the child.

DR. KIERNAN, in closing, defined what he meant by periods of stress. He had simply grouped biologic laws and embryologic facts together. Had they been nosologic facts their validity would have been recognized. The fetus was regarded as an organism subject to certain developments like those of the child in the period of the first dentition, in the period of second dentition, in the period of puberty, and subject furthermore to maternal environment. When a child is prematurely born with certain monstrosities, Dr. Bacon recognizes that this is arrest of development. If, however, under certain conditions some of its organs are arrested while the child is viable and lives for a certain time, Dr. Bacon could not, under the dictum laid down, regard these arrests of development, provided the child was apparently well nourished. A congenitally well-nourished infant is not necessarily a perfectly-developed one. The children of phthisical, syphilitic mothers, as also of mothers with other defects, may be well nourished at birth, yet break down at the first dentition, the second, during puberty, or even later, because of congenital defects. Luetic children may be apparently well developed, yet have, as Fournier has shown, defects simply due to arrest of development.

### Suturing of Large Blood-Vessels.

DR. A. E. HALSTEAD read a paper on this topic, reporting the case of Mrs. S., aged 43, operated on by him in the latter part of May, 1900, for advanced mammary carcinoma. At this operation, the whole mammary gland, with both pectoral muscles and their fascia and the axillary glands and fat were removed in one mass by sharp dissection. The infraclavicular glands were slightly enlarged, and were also removed. No change in the cervical glands was noted at this time. Four months later the glands along the posterior border of the sterno-cleido-mastoid began to enlarge and were removed. They were found to be carcinomatous. About the middle of October, a small nodule began to grow at the outer end of the clavicle, which was somewhat deep-seated and painful. In two weeks the pain disappeared, and the nodule appeared to diminish in size. In the latter part of November the tumor again became painful and rapidly increased in size. On December 14 she presented herself for examination, when a tumor, about the size of a walnut, could be felt deeply seated, just below the coracoid process. The patient was advised to have this tumor removed, and accordingly was sent to the Policlinic Hospital, where, on December 14, under ether anesthesia, an incision was made parallel with the old line of incision, curving downward and outward from the middle of the clavicle to the floor of the axilla. The tumor was found to have originated in the short stump of the small pectoral muscle which was left attached to the coracoid process. It had pushed up the inner fibers of the deltoid to which it had become adherent and had involved the upper part of the coraco-brachialis and the capsule of the shoulder-joint. The coraco-brachialis with the inner third of the deltoid were dissected from below upward, and with the tumor and the part of capsule, about two inches of the axillary vein were removed. Just before the dissection was completed the axillary artery was found adherent by its fascia to the tumor at a point about on a level with the insertion of the pectoralis minor muscle. By means of sharp, curved scissors, the artery was being freed from its attachment to the tumor, when the vessel was accidentally cut obliquely through about two-thirds of its circumference. The violent hemorrhage that immediately followed was controlled by placing the index finger of the left hand under the artery and pressing it up against the clavicle. The operative field was then sponged dry and the wound of the vessel inspected. At the time of the first operation, all the branches of the axillary artery, excepting the circumflex had been divided. While removing the recurrent growth, the anterior circumflex had been cut so that there was practically no chance for collateral circulation to be established. Under the circumstances the only chance of saving the arm was to suture the artery. Accordingly, while the circulation was controlled by pressure of the left index finger, four interrupted catgut sutures were passed through the two outer coats of the vessel and tied. This effectually closed the wound in the vessel so that no hemorrhage followed removal of pressure from the artery. To support these sutures, the perivascular connective tissue was sutured longitudinally with a fine catgut suture. The tumor was then dissected from the vessel and the wound closed in the ordinary way. The radial pulse was immediately restored and was as full as that of the opposite side. The patient made a good recovery from the immediate effects of the operation, and had at no time any disturbance of the circulation of the arm. She left the hospital at the end of two weeks. Two months after the operation there was still a radial pulse on the left side of a volume equal to that on the right.

Dr. Halstead then referred at considerable length to the work, experimental and otherwise, of Muscatello, Tichow, Orlow, Nitze, Bruci, Doerfler, Abbey, Zoege von Manteuffel, Murphy, Lindner, Ziegler, Kuemmel, Garrie and others. The indications for arterial suture are: 1. In all cases of injury to a vessel or vessels, where a ligature might bring about serious nutritional changes to the part supplied by the injured vessels. This is especially apt to occur when the corresponding vein is injured at the same time. In such cases an effort should be made to repair both vessels, although if the arterial circulation is established, the necessity of restoring the continuity of the vein is not so imperative. 2. In all wounds of large vessels produced by puncture, gunshot, or laceration. 3. Operation wounds of large vessels, accidental or intentional, as, when for any reason a part of the vessel must be sacrificed.

In dealing with the technique of suture of wounds of blood-vessels, the means of securing temporary hemostasis, the suture material to employ, and the manner in which the sutures are to be introduced should be considered.

Since operating on the case reported, in doing experimental suture of arteries on dogs, he has secured temporary control of the circulation by passing a loop of tape around the vessel and twisting it until the lumen of the vessel is closed, then holding the tape by means of an artery forceps applied close to the vessel. With this method, the wall of the vessel is not injured, and the ligature can be quickly removed after the suture is completed. This method also has an advantage over digital compression, in that it excludes from the field of operation the hands of an assistant that are in the way and may be a source of infection.

DR. KIERNAN referred to the possibility of embolism following the suturing of vessels, and asked whether in a case in which there was a thrombotic tendency suturing of the artery would not be contraindicated. It seemed to him that in suturing the carotid or vertebral artery in neurotic conditions there would be a slight tendency to thrombosis.

DR. HALSTEAD stated that theoretically it had been claimed that a mural thrombus forms, but actual experiments have shown that it is not so, even with through-and-through suture, and the formation of a thrombus does not occur except under very exceptional circumstances.

# Therapeutics.

### Treatment of Dysentery.

Dr. W. J. Buchanan, Superintendent Central Prison, Bhagalpur, Bengal, as noted in *Brit. Med. Jour.*, has employed the saline treatment in dysentery in 855 cases, with only 9 deaths. The formula he used is as follows:

| | | | |
|---|---|---|---|
| R. | Sodii sulphatis | ʒi | 4 |
| | Aquæ fœniculi q. s. ad | ʒi | 32 |

M. Sig.: One such dose to be given six or eight times a day, as the case may require.

The saline should be continued until every trace of blood and mucus has disappeared. This treatment will relieve the tenesmus. Dr. Buchanan advises the use of salines in acute cases only. He does not consider it a safe method for chronic or collapsing cases with ulceration of the colon. In those patients he uses only one or two doses and then continues to treat the case with soda and bismuth or with salol, with an occasional dose of castor-oil.

H. B. T. Symons, of Sorrento, Italy, in the same journal advises the following local treatment in the amebic variety of the disease:

| | | | |
|---|---|---|---|
| R. | Acidi tannici | ʒss | 2 |
| | Aquæ destil. | Oi | 512 |

M. Sig.: Use as a douche every four hours. The water should first be warmed.

He states that he has found it of great benefit in rapidly diminishing the number of evacuations and speedily mitigating the distressing tenesmus. Hot hip baths are of value in relieving the abdominal discomfort and local smarting. This treatment with small doses of opium by the mouth, rest in bed, and a strictly milk diet comprises an outline of treatment which generally affords prompt and permanent relief.

It is recommended by Dr. Potilov in *Les Nouveaux Rem.*, that ichthyol be used in treatment of dysentery. He uses the following formula:

| | | | |
|---|---|---|---|
| R. | Ichthyoli | ʒvii | 28 |
| | Aq. destil | Oii | 1024 |

M. Sig.: Use an injection every other day. An effort must be made to get the enema as high in the bowel as possible, when the pains will subside quickly. The enema should be preceded by a dose of oleum ricini.

### Treatment of Measles.

The following combination is of service by aiding the elimination of the toxic substances and reducing temperature:

| | | | |
|---|---|---|---|
| R. | Potassii citratis | ʒiii | 12 |
| | Tinct. aconiti | m. vi | 36 |
| | Spts. etheris nitrosi | ʒiss | 6 |
| | Syr. tolutani | ʒi | 32 |
| | Aquæ q. s. ad | ʒiii | 96 |

M. Sig.: One teaspoonful every three hours for a child of 6 years or older.

For the bronchitis the following:

| | | | |
|---|---|---|---|
| R. | Codeinæ sulphatis | gr. iss | 09 |
| | Syr. ipecacuanhæ | m. xxx | 2 |
| | Syr. pruni virginianæ | ʒss | 16 |
| | Aq. aurantii q. s. ad | ʒii | 64 |

M. Sig.: One teaspoonful every two hours for a child 4 years of age or older.

### A Dressing for Varicose Ulcers.

| | | | |
|---|---|---|---|
| R. | Glycerini | | |
| | Zinci oxidi | | |
| | Gelatin. (albus), ää | ʒi | 32 |
| | Aquæ destil. | ʒiii | 96 |

M. Sig.: Heat in a water bath. Apply several coats with a brush to protect the ulcers.

A DUSTING POWDER FOR ULCERS.

| | | | |
|---|---|---|---|
| R. | Iodoformi | | |
| | Salol, ää | ʒss | 16 |
| | Bismuthi subnitratis | ʒvi | 24 |
| | Pulv. carbo. ligni (charcoal) | | |
| | Pulv. cinchonæ | | |
| | Pulv. benzoini, ää | ʒi | 32 |

M. Sig.: To be used as a dusting powder.

### Intensive Guaiacolization in Phthisis.

This is the title of a communication presented by A. Weill and Berger, at the International Medical Congress. They aim to administer guaiacol by every possible route. 1. A small rectal injection of a quarter of a glass of milk to which 40 or 50 drops of guaiacolized oil have been added. 2. Application of the same substance externally to the thorax every day, restricting the application to an extent of surface 8 by 10 cm. square, and passing to other portions of the thorax. 3. Guaiacol pills every three or four hours during the day only, made according to the following formula:

| | | | |
|---|---|---|---|
| R. | Guaiacol (synthetic) | gr. 1/6 | 01 |
| | Crys. terpin. hydratis | gr. 1/3 | 02 |
| | Acidi benzoici | gr. ss | 03 |
| | Ext. belladonnæ | | |
| | Ext. hyoscyami, ää | gr. 1/600 | 0001 |

M. ft. pil. No. i. Sig.: One such every three or four hours.

This intense guaiacolization should be kept up for several months, suspending it for eight or ten days every three weeks.

### A New Local Treatment for Erysipelas.

G. Lenox Curtis, in an article in *Med. Record*, states that he has derived very gratifying results from the external treatment of the disease by first cleansing the parts affected very thoroughly. A sufficient quantity of sodium sulphate is mixed with cold distilled water to make it of the consistency of a thick paste, the diseased part is covered with a single layer of the gauze or coarse cheese-cloth, and over this is spread a thick layer of sodium sulphate, care being taken that it extends considerably beyond the margin of the disease. Ice water must then be applied to the poultice to produce cold and moisture as well as to reduce the inflammation. He states that within six or eight hours, all the germs will have been destroyed.

TREATMENT OF ERYSIPELAS BY UNGUENTUM CREDÉ.

Max Stalber, as noted in *Med. Summary*, has used this ointment in erysipelas with success. The treatent consists in rubbing the ointment in with gentle friction over the affected and inflamed area. The rubbing should be continued for 20 or 30 minutes until the ointment is completely absorbed. Forty or fifty grains of the ointment can be used with each inunction for adults, and proportionate doses for children. The ointment contains about 15 per cent. of soluble metallic silver.

### Spermatorrhea.

| | | | |
|---|---|---|---|
| R. | Cornutinæ citratis | gr. ii | 12 |
| | Ergotin | ʒii | 8 |
| | Ext. nucis vom | gr. v | 30 |

M. Ft. capsule No. xl. Sig.: One capsule twice daily.

When spinal hyperesthesia is present:

| | | | |
|---|---|---|---|
| R. | Potassii bromidi | ʒiv | 16 |
| | Tinct. hyoscyami | ʒiv | 16 |
| | Tinct. nucis vom | ʒss | 2 |
| | Syrupi zingiberis | ʒii | 64 |
| | Aquæ camphoræ q. s. ad | ʒiv | 128 |

M. Sig.: One teaspoonful three times a day.—*Mercke's Archives.*

### Comparative Effects of Urotropin upon the Urine.

Dr. F. Suter, in *British Med. Journal*, has experimented with the following preparations in order to obtain some knowledge of their relative antiseptic properties upon the urinary tract: Benzoic acid 10 grains, boric acid 15 grains, salol 15 grains and 40 grains, and urotropin 15 grains. The preparation was administered at night and an examination was made of the first urine passed in the morning. The decomposition was retarded by several days only by large doses of urotropin and salol. It produces best effects in ammoniacal decomposition and is of value in disease of the prostate gland with consequent retention of the urine. It can be given in daily doses of 15 to 25 grains. It is not of great value in gonorrheal cystitis.

### Treatment of Pneumonia.

Porter, in *Phila. Med. Jour.*, states that in his clinical work venesection is ordered as soon as the diagnosis is established. Usually from 8 to 12 ounces of blood will be sufficient. Immediately after this procedure, subcutaneous injections of salt

solution is administered. The solution is prepared according to Jenning's formula as follows:

| | | | |
|---|---|---|---|
| R. | Sodii chloridi | gr. xxx | 2 |
| | Potassii chloratis | | |
| | Sodii sulphatis, āā | 3i | 4 |
| | Sodii phosphatis | gr. xl | 2 66 |
| | Sodii carbonatis | 3i | 4 |
| | Aq. destil. q. s. ad | 3vi | 192 |

M. Sig.: Use one part of this solution to sixty of distilled water subcutaneously.

### To Abort Pneumonia in Children.

Illoway recommends the following:

| | | | |
|---|---|---|---|
| R. | Tinct. veratri viridis | gtt. vi | 36 |
| | Tinct. aconiti rad | gtt. ii | 12 |
| | Aq. destil. | | |
| | Syr. tolutani, āā | 3ss | 16 |

M. Sig.: One teaspoonful every half-hour for five doses, then a teaspoonful every hour.

### To Relieve the Pain in Carious Teeth.

| | | | |
|---|---|---|---|
| R. | Codeinæ sulph. | gr. ½ | 03 |
| | Ol. caryophylli | 3ss | 2 |
| | Chloroformi | 3ii | 8 |

M. Sig.: Soak a small pledget of cotton with the solution and place in the decayed cavity.

### Gonorrhea in Women.

Dr. Marshall, in *Internat. Med. Mag.*, states that he has derived most satisfactory results in treating gonorrhea in women, from the use of tampons and pessaries. He advises against the employment of douches in these cases as being not only unsatisfactory but harmful, as douches may leave the cervix and upper vagina untouched. He prefers the pessaries made in one-inch test-tubes, of gelatin-glycerin as a basis. When ready for use the tube can be heated in hot water, when the pessary will slide out. This gradually melts when placed in the vagina. The active ingredient may be one of the following: Iodin ½ per cent.; ichthyol 2 to 5 per cent.; hydrargyri bichloridum 100 to 500; argonin 5 per cent.; lysol 2 per cent.; formalin 2 per cent. The best results have been obtained by him with iodin and ichthyol.

We should advise care in the use of formalin on account of the great tendency to irritate.

## Medicolegal.

**Eighty-five Hundred Dollars for Injury to Foot.**—The Supreme Court of Washington holds, in the personal injury case of Uren vs. the Golden Tunnel Mining Company, that where a young man working in a mine had his foot mashed to such an extent that he had to have a portion of the bones of the foot removed, and, according to the testimony, was permanently maimed, it can not be said that a verdict in his favor for $8500 damages was excessive.

**North Carolina Provisions as to Care of Insane.**—The Supreme Court of North Carolina, in the case of the State Hospital at Raleigh vs. Fountain, interprets the law of that state as showing that it was the paramount purpose of the legislature to care for the indigent insane, with the proviso that the board of directors of an insane asylum may, if there be sufficient room, admit other than indigent insane persons upon payment of proper compensation, and allowing the directors to furnish private apartments, extras, or private nurses, if practicable, for the use and comfort of those patients who are able to pay for it. Nor does it consider the law as thus written in conflict with the state constitution. The constitutional declaration, as amended in 1879, that "the general assembly may provide that the indigent deaf-mutes, blind and insane of the state shall be cared for at the charge of the state," it holds empowers the general assembly, in its wisdom and discretion, to provide for the indigent at the charge of the state or otherwise, and, being silent as to the expense to be borne by those of sufficient property, it must be concluded that it was not intended that any requirement should be put upon the legislative department as to them. An indigent insane person it defines as an insane person whose property is insufficient to support himself and his family immediately dependent upon him.

**Calling Physician as Witness a Waiver of Privilege.**—The Court of Appeals of New York holds, in the case of Holcomb vs. Harris, that where, in an action against an executor, the latter called his testator's physician as a witness, and asked him a question calling for a disclosure of professional information, it was an express waiver of the provisions of section 834 of the Code of Civil Procedure, which forbids a physician to disclose necessary information acquired in attending a physician professionally, such as a legal representative is allowed to make by section 836 of the Code. It says that it is difficult to imagine a clearer act of waiver than for the legal representative of a deceased patient to call his former physician to the stand, and ask him to disclose professional information falling within the provisions of section 834 of the Code. Nor does it think that either court or counsel was misled in this situation, in this case, notwithstanding that the executor did not state in so many words that he desired or intended to exercise his right under section 836, as the other side contended that it was his duty to indicate.

**Post-Graduate School Not Liable for Malpractice.**—In the case of Collins vs. the New York Post-Graduate Medical School and Hospital, it appeared that the plaintiff, being ruptured on the left side, applied for admission to the defendant's hospital for the purpose of undergoing an operation, bringing with him a card from his own physician stating that fact, and giving the true location of the hernia. The house physician examined him and confirmed his doctor's diagnosis. The second day he was placed under the influence of an anesthetic, and the operation performed in the presence of the students, after a preliminary lecture to the class by one of the attending physicians. The operation was performed on the right side, which was in a perfectly healthy and normal condition, and the plaintiff was obliged to and did afterward submit to another operation at another hospital for the removal of the hernia diagnosed by his doctor. The surgeon who performed the operation on the wrong side had been subjected to a competitive examination before being accepted by the defendant's board of examiners, and, before that operation, was regarded by the defendant as skillful and competent. The defendant by its answer denied the negligence alleged, and asserted, by way of a separate defense, that its hospital was a charitable institution; that the medical and surgical attendance and ministrations furnished the plaintiff were furnished free; and that they were so accepted by him. True, he paid $8 weekly, during the four weeks he was in the hospital, but the testimony showed that was a charge made those able to pay it for room, board, nursing, medicines, dressings, and the services of the house staff—everything except a medical fee, nothing ever being charged for medical services, though gifts to the hospital might be made in lieu of payment of such fees by emergency patients. Under these circumstances, the second appellate division of the Supreme Court of New York holds that the complaint was properly dismissed. It says that, however opinions may differ on the question of the policy of exempting charitable institutions from the ordinary rule of respondeat superior, or "let the principal answer," the law is too well settled in that state to permit a recovery against the institution for the wrong committed by the surgeon who operated upon the plaintiff gratuitously. While the precise question does not yet appear to have been passed on by the court of appeals, it has been decided adversely to the right of action a number of times at the circuit and the general terms. It says, too, that many of the cases cited from other jurisdictions in harmony with this view are authority for the proposition that the fact that the institution receives pay patients does not change its status as a charitable organization. And it holds that the fact that the defendant charged tuition fees, and that the operations were a necessary incident to successful teaching, and that in that sense the defendant might be said to have been paid for the operation, did not change the relation of the parties to each

other. In the performance of the operation, so far as the plaintiff was concerned, the defendant was engaged solely in charitable work; and its corporation must therefore be regarded as a charitable institution, as to him, in that respect. When it had furnished a surgeon selected with proper care, and with no reason to believe him to be negligent or incompetent, it had fulfilled its duty, and, as it did not control him in the performance of the operation, it must be held free from liability for his want of care.

**Practice in Another State—Good and Bad Diplomas.**—When the case of the State of Kansas vs. Wilson was first before it, the Supreme Court of Kansas held that a person of good moral character, who had practiced medicine continuously for ten years or more before the taking effect of "An act to protect the people from empiricism, and to elevate the standing of the medical profession" (chapter 68 of the Laws of 1870; sections 2302, 2303, General Statutes of 1899), is deemed to be qualified and to have complied with the provisions; but continuous practice for ten years in violation of law, after the act was passed, confers no right or authority on the practitioner. And now it holds, on the second appearance of that case before it, that it is no defense to a prosecution under the act to prove that the person charged with unlawfully practicing medicine in violation of its provisions has been, since the passage of such act, continuously engaged in the practice of medicine for a period of ten years or more in another state, as, for example, in Nebraska. The contention on behalf of the defendant was that, having practiced without the state of Kansas during a period of ten years, he could not be said to be one who had been engaged "for ten years in violation of law." But the supreme court answers that, in the absence of proof to the contrary, it will be presumed that the laws of the other state referred to (Nebraska) are the same as those of Kansas. Besides, it says, it is known of all men that throughout the civilized world schools, colleges, dispensaries, hospitals, and institutions for clinical instruction are maintained at public and private expense for the education of those men and women to whom are committed the responsible duty of ministering to the health and endeavoring to prolong the life of human beings. All, or nearly all, of these institutions issue certificates or diplomas reciting the term and course of study which has been pursued by the student therein. And those colleges whose curriculum includes a complete course of those studies which are regarded as requisite for a physician and surgeon to pursue do uniformly issue to one who has completed such course, and exhibited proficiency therein, a diploma reciting such facts, and evidencing that by reason thereof the graduate has been made a doctor of medicine. Wherefore, the court makes a point of the fact that in this case the defendant did not claim to have attended any of these schools of special learning, nor claim that he had devoted any time to the study of any of the branches of this learned profession, nor avow that in Kansas or elsewhere he ever submitted to an examination before a board of competent members of the profession which he sought to follow, and the court holds that the purpose of the statute would not be carried out, and the evident intent of the legislature would not be given effect, by holding it sufficient that he had practiced in another state for more than ten years. In such a case as this, it devolves upon the defendant, the court holds, to produce evidence tending to show that he has attended two full courses of instruction and graduated in some medical college in this or some foreign country, or a certificate of qualifications from some state or county medical society, as such evidence is not accessible to the state, and is peculiarly within the defendant's knowledge and under his control. To this, the court adds that if the defendant should show, on the new trial, which it orders because the judge usurped the functions of the jury in practically directing it to return a verdict of guilty, that he had attended two full courses of instruction, and graduated in some medical college of this or some foreign country, then, in the absence of some evidence raising a question about it, the presumption would be that such college was respectable. To avoid misunderstanding, however, with reference to the facts of this particular case, it says that it thinks the trial court would have been justified, for reasons appearing on the face of the documents themselves, in excluding from the jury the paper, which counsel for the defense called a "diploma," issued by the so-called Independent Medical College of Chicago, and the other paper purporting to have been issued by a physio-medical society in Illinois (which latter was excluded), because neither of these papers proved, nor tended to prove, that the defendant had attended any course of instruction in either institution, or had graduated at either, and because neither of them can be regarded as a diploma, nor as such a certificate as is contemplated by the Kansas statute.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## New York Medical Journal, April 20.

1 *The Early Diagnosis of Ectopic Gestation. Andrew F. Currier.
2 *The Use of Hot-water Vaginal Injections. James H. Burtenshaw.
3 A Case of Cystinuria Ending in Recovery. John Reid.
4 *Acute Spinal Ataxia (Non-tabetic), and its Relation to Other Forms of Acute Ataxia. Charles L. Dana.
5 Pathology of Intranterine Death. (Concluded.) Neil MacPhatter.
6 Grippe, Pneumonia, and Insanity. Emile Aronson.
7 Notes on the Treatment of Diphtheria, Based on the Methods of the New York City Hospital. William L. Somerset.

## Philadelphia Medical Journal, April 20.

8 *The Localization of Brain Tumors Especially with Reference to the Parietal and Prefrontal Regions. Charles K. Mills.
9 *Non-Surgical Treatment of Fibroid Tumors of the Uterus. Augustin H. Goelet.
10 Akromegaly, with Report of Two cases. W. G. Shallcross.
11 *A Clinical Note on Infantile Scorbutus. Wm. M. Mastin.
12 Susceptibility to Disease and Physical Development in College Women. Arthur MacDonald.
13 *Operative Treatment for Prostatic Hypertrophy. Ramon Guiteras.

## American Medicine (Philadelphia), April 20.

14 *How to Deal with the Vermiform Appendix. Some Forms of Complicated Appendicitis. Howard A. Kelly.
15 The Good and Bad Effects Obtainable from Digitalis Used as a Therapeutic Agent. William Henry Porter.
16 Congenital Deformity of Wrist; Osteotomy of Radius. De Forest Willard.
17 *The Logic of Hydrochloric Acid Therapy, Restoration of Lost Gastric HCl secretion by medical and Surgical Methods. John C. Hemmeter.
18 *Metatarsal Fracture. Carl Beck.
19 *Some Remarks on Inguinal Colostomy. William J. Mayo.
20 The Prevalence of Streptococci in Cow's Milk. D. H. Bergey.
21 Case of Congenital Form of Hernia of the Appendix Vermiformis in Conjunction with Cyst of the Canal. G. Childs MacDonald.

## Boston Medical and Surgical Journal, April 18.

22 *The Opinion Evidence of Medical Experts. John D. Mc Laughlin.
23 The Umillian Murder. Herbert B. Perry.
24 Upon What Sort of Information Shall a Medical Examiner Hold a View? H. M. Culls.
25 *Leucocytosis and Typhoidal Perforation. Colin K. Russell.
26 Contusion of the Abdomen; No External Wound; Ruptnre of the Descending Colon; Fecal Abscess; Drainage; Suture of Ruptured Gut; Recovery. Charles L. Scudder.

## Medical Record (N. Y.), April 20.

27 *The Toxemia of Pregnancy: Its Diagnosis and Treatment. S. Marx.
28 Faith Cures and the Law. John B. Huber.
29 Report of Three Cases of Malignant Endocarditis: One Following Measles, Another Typhoid Fever in a Child and Simulating Splenic-Lymphatic Leukemia, and another Terminating in Recovery. Albert E. Roussel.
30 *Strangulated Hernia in Infants; Description of a Hitherto Unrecognized Cause and Seat of Strangulation. Alexis V. Moschcowitz.

## Medical News (N. Y.), April 20.

31 An Historical Sketch of the Department of Medicine and Surgery of the University of Michigan.
32 *Some Errors in the Examination of Urine. Louis Heitzmann.
33 Acute Traumatic Malignancy. (Concluded.) William B. Coley.
34 Epistaxis. Charles N. Cox.

## Cincinnati Lancet-Clinic, April 20.

35 Some Truths in Medicine. Brose S. Horne.
36 Thoracoplasty. Hal C. Wyman.
37 Old-Time Practice. Geo. J. Monroe.

St. Louis Medical Review, April 20.

38 *Indications for Operation in Floating Kidney. G. Frank Lydston.
39 The Treatment of Diphtheria. W. L. Downing.

Post-Graduate (N. Y.), April.

40 Wounds and Injuries of the Eye. Edgar S. Thomson.
41 A Foreign Body in the Bronchus Contrasted with a Case of Incipient Tuberculosis. William Henry Porter.
42 Tecto-Colonic Enteroliths and Concretions. Samuel G. Gant.
43 Indications for Renewal of Plaster of Paris Jackets in Tubercular Spondylitis. Dexter D. Ashley.
44 Report of Clinics (Convergent Squint, Diseases of Children). St. John Roosa, A. E. Davis, and Dr. Caille.
45 Case of Cerebellar Abscess, the Result of Chronic Suppuration of the Middle Ear. D. B. St. John Roosa.
46 Notes from the Clinics. (Hernia). W. B. De Garmo.

American Journal of Medical Sciences (Philadelphia), April.

47 *Primary Splenomegaly. With a Report of Three Cases Occurring in One Family. N. E. Brill.
48 *Enteroptosis. James R. Arneill.
49 *Estimation of the Urinary Sulphates and of the Fecal Fat in the Diagnosis of Pancreatic Disease. David L. Edsall.
50 *Premature Infants. Vanderpoel Adriance.
51 Contribution to Study of Fatty Infiltration of Heart Secondary to "Subpericardial Over-Fatness." J. M. Anders.
52 *Multiple Neuritis and Hematorporphydrinuria Following the Prolonged Ingestion of Trional. Stuart Hart.

Canadian Practitioner and Review (Toronto), April.

53 A Case of Tic. R. D. Rudolf.
54 Tendon Transplanting in Paralytic Deformities. Clarence L. Starr.
55 A Comparison of Antiseptics. E. Ralph Hooper.
56 Clinical Experiences with Chloretone and Mercurol. C. E. Darche.

Physician and Surgeon (Detroit and Ann Arbor), March.

57 *Some Reflex Disturbances from Disturbed Pelvic Mechanism of Genital Dislocation. Byron Robinson.
58 *Diabetes Mellitus: A Study in Therapeutics. George Dock.
59 A Basis for the Study of Insanity. Hiram A. Wright.

A SYMPOSIUM ON ENDOCARDITIS.

60 Etiology and Pathology. William M. Donald
61 Symptomatology. William R. Chittick.
62 Diagnosis and Prognosis. George W. Wagner.
63 The Treatment. F. Lydston Newman.
64 *A Medicolegal Study of Euthanasia. Noah E. Aronstam and Louis J. Rosenberg.
65 Better Compensation for Local Health Officers. Henry B. Baker.

Northwestern Lancet (Minneapolis), April 15.

66 *Pancreatic Disease. H. L. Staples.
67 If Operative Technique be Perfect, Can Sepsis Occur? George C. Barton.
68 *Blood Examination in Surgical Diagnosis. A. Elton Williams.
69 Operations for Relief of Epilepsy. F. A. Dunsmoor.
70 Report of a Case of Erysipelas Treated with Antistreptococcic Serum. F. M. Archibald.

Cleveland Journal of Medicine, March.

71 Congenital Dislocation of Hip-Joint with Especial Reference to Lorenz's Bloodless Reduction. Walter G. Stern.
72 My Experience with Some of the Surgical Diseasea of the Thyroid Gland. Aug. F. House.
73 Aortic Aneurysm. F. C. Herrick.
74 Some Proofs that Vaccination Prevents and Mitigates Smallpox. Charles L. Webster.
75 Sypbilitic Disease of Facial Bone. C. A. Hamann.
76 Persisting Fetal Type of the Appendix. N. S. Scott.

Brooklyn Medical Journal, April.

77 *Pediatric Malaria. William A. Northridge.
78 *The Treatment of Club-Foot. Arthur H. Bogart.
79 *The Present Status of the Thyroid Extract in Therapeutics. Hiram Elliott.

Medical Summary (Philadelphia), April.

80 Meckel's Diverticulum as a Source of Intestinal Obstruction. J. F. Purviance.
81 Receding Diseases. Frank R. Brunner.
82 Comments on Geisemium. Ralph St. J. Perry.
83 Some More Don'ts. D. H. Keller.
84 Camp and Hospital Life Under Red-tape Rule. C. W. Canan.
85 Is Malarial Hematuria Produced by the Administration of Quinin? B. P. Wilson.
86 Treatment of a Case of Tuberculosis of Left Lung in First Stage. S. D. Sour.
87 Good Health. Geo. J. Monroe.

Cleveland Medical Gazette, April.

88 *Nephritis and the Nervous System. Henry S. Upson.
89 Etiology of Chronic Non-Exudative Nephritis. S. L. Bernstein.
90 Prognosis in Chronic Non-Exudative Nephritis. Norman C. Yurlan.
91 Treatment of Chronic Non-Exudative Nephritis. J. B. McGee.
92 Spontaneous Fracture of the Humerus Due to Sarcoma, with History of a Case and Presentation of Specimen. H. W. Quirk.

St. Paul Medical Journal, April.

93 *The Differential Diagnosis of Acute Febrile Diseases which may Simulate Typhoid Fever. Henry Jackson.
94 *Death from Drowning. Howard Lankester.
95 *A Report of 245 Cases of Anesthesia by Nitrous Oxid Gas and Ether. Alice Magaw.
96 *General Massage. Haldor Sneve.
97 State Sanatoria for Consumptives. H. Longstreet Taylor.
98 Erosions and Ulcerations of the Triangular Cartilage of the Septum. Jacob E. Schadle.
99 Suprapubic Cystotomy, Tenotomy of Tendo Achillis, Recovery. Oscar A. Fliesburg.

Peoria Medical Journal, April.

100 Nasal Hemorrhage in Septicemia. William Niergarth.
101 A Case of Aortic Aneurysm. B. M. Stephenson.
102 Considerations Relative to Typhoid Fever. H. H. Fletcher

Canadian Journal of Medicine and Surgery (Toronto), April.

103 Some Successful Cases of Operation at the Samaritan Hospital, Montreal. (Ventrofixation, etc.) A. Lapthorn Smith.
104 *Experiments in Climatology—The Tropical Winter. Ezra H. Stafford.

Occidental Medical Times (San Francisco), April.

105 *The Report of the Government Commission on the Existence of Plague in San Francisco.
106 Address, San Joaquin Valley Medical Society. W. J. Maupin.
107 *The Etiology of the Skeletal Deformities of Rachitis. Harry M. Sherman.
108 Eye-Strain. L. E. Felton.
109 The Tuberculin Test. F. E. Twining.

American Medical Compend (Toledo, Ohio), April.

110 Hemorrhage After Removal of the Ovaries and Tubes; Malignant Disease of the Uterus; Pyosalpinx and Hydrosalpinx with Fibroid Uterus. E. E. Montgomery.
111 Gynecology—Its Range. Byron Robinson.
112 Sudden Profuse Hemorrhage Before the Birth of the Child and the Manner of Treating it, with Report of Three Cases. H. E. Noble.
113 The Treatment of Cystitis with Aminoform. W. W. Grube.

Merck's Archives (N. Y.), April.

114 Therapeutics of Ipecac. W. H. Blake.
115 *Atropin in Algid, Pernicious Malarial Fever (Congestive Chill). I. L. Van Zandt.
116 *Scalds and Dry Burns. A. D. Blinkerd.
117 An Essay on Opium and its Alkaloid Morphin, and Their True Value in Modern Therapeutics. Adolfo Luria.

Illinois Medical Journal (Springfield), March.

118 *Chronic Inflammation of the Tear Passages. Willis O. Nance.
119 *Rheumatic Diseases of the Eye. H. W. Woodruff.
120 Sympathetic Ophthalmia, with Reports of Cases. A. L. Adams.
121 Pneumonia. W. S. Caldwell.
122 *Relation of the Physician to the Public Schools. K. Miller.
123 *Mental Overwork and Lack of Interest in Physical Development and Hygienic Care of School Children a Menace to the Future of the Race. E. A. Edlen.
124 Diet, or Some Phases of it that Our Forefathers Did Not Have to Meet. W. J. Eddy.
125 Slight Ailments. L. L. Leeds.

Medical Herald (St. Joseph, Mo.), April.

126 *Intubation of the Larynx as an Emergency Operation. F. E. Sampson.
127 Treatment of Cancer by Escharotics. Chas. Ott.
128 Malaria and Mosquitoes on the West Coast of Africa. Hans Ziemann.
129 Hydrophobia—Report of a Case. A. Herring.

Alabama Medical Journal (Birmingham), April.

130 The Use of Forceps in Childbirth. Hugh Boyd.
131 Use and Value of Proprietary Medicines. S. M. C. Howell.
132 *Some Unusual Reflexes Resulting from Lacerations of the Cervix. W. G. Harrison.
133 *The Duration of Life. R. C. Rankston
134 Acute Uremia Successfully Treated with Intravenous Saline Solution. J. M. Mason.
135 Vaccination in Alabama—What Does it Prove? W. H. Sanders.
136 Hypertrophic Elongation of the Cervix Uteri, with Complete Eversion of the Vagina from Fibroid Tumor of the Cervix. Restoration by Supravaginal Amputation of the Cervix and Inversion of the Vagina. George Henry Noble.

Denver Medical Times, April.

137 Neglect of a Great Opportunity for the Advancement of Medicine and Surgery in Denver. Henry Sewall.
138 Thoughts Suggested from an Attendance at the Pan-American Medical Congress. T. A. Stoddard.
139 Bad Effects (?) Following Vaccination. E. P. Hershey.
140 A Visit to Padua and Bassini. R. W. Corwin.
141 Ambiyopia from the Use of Wood Alcohol. Edward Jackson.

Memphis Medical Monthly, April.

142 The Metric System in Prescription Writing. Wm. Krauss.
143 *Follicular and Perturethral Abscess in the Male. William F. Bernart.
144 Urban Sanitation with Special Reference to the City of Memphis. Edwin Williams.
145 Suburban and Village Sanitation. B. F. Turner.

146 Adenoid Vegetations of the Nasopharynx and their Removal. George S. McReynolds.
147 *Shall We Use Quinin in So-called Malarial Fevers? J. M. Williams.
148 A Case of Endocarditis, Terminating in Embolism of the Cerebral, Pulmonary and External Iliac Artery. Robt. W. Tate.

## AMERICAN.

1. **Ectopic Gestation.**—The symptoms which determine the diagnosis of tubal disease may be divided into ordinary and extraordinary. The ordinary ones are those of usual pregnancy at different periods. The absence of one of more of these, however, may mislead the physician. The point which Currier wishes to make is that when gestation occurs normally or abnormally it causes certain changes in the tissues, and a general condition characteristic of the pregnant state. These should be carefully sought. There are certain conditions which seem to predispose to tubal gestation and their etiologic importance should be considered when arriving at a diagnosis, such as retroflexion, precedent sterility, diseases or dislocation of tubes, bicornate uterus, previous tubal gestation, etc. These are noticed in detail. The most important of the extraordinary signs is hemorrhage. It is seldom externally manifest. It is most likely to occur and occurs most early if the seat of the ovum is in the fimbriated extremity of the tube, and is less likely to occur when it is near the middle. In the first case it rarely progresses to the end of the first month without rupture, and hemorrhage is frequently fatal. The comparative absence of tumor may mislead the physician, so that he may temporize until it is too late. In any other portion of the tube rupture is usually observed between the sixth and twelfth week and the signs of such tumor would usually exclude the fimbriated or terminal variety. It does not necessarily imply the complete rupture of the fetal sac with escape of its contents, but may be simply rupture of the blood-vessels and distended tissue. The signs of hemorrhage from tubal rupture are not easily mistaken, the weakness of collapse, flickering pulse, the pinched face, and the shallow breathing can have but one significance. Next to hemorrhage the most important extraordinary sign is pain, which is usually paroxysmal, sharp and darting, often associated with hemorrhage, though not always. The third sign is tumor, which is usually best determined by examination per rectum, the thighs being flexed upon the abdomen, and anesthesia is necessary in most cases. The passing of decidua by the vagina, uterine hemorrhage, etc., are of minor importance. In many cases the surgeon is not called until it is too late, and Currier doubts whether operation is justifiable, as a rule, in extreme cases, except as it is understood to be only a last resort. The diagnosis of tubal gestation is not always conclusive even when the abdomen is opened, tumor of the tube discovered and blood found. The case is not one of tubal gestation unless the fetus is found within or without the tube or a microscopic examination of the mucosa reveals the presence of decidual cells.

2.—See abstract in The Journal, xxxv, p. 1572.

4. **Acute Spinal Ataxia (Non-Tabetic).**—The summary as given by Dana, of his article, is as follows: Acute ataxia occurs occasionally in tabes dorsalis, but is associated usually with characteristic symptoms. Acute non-tabetic spinal ataxia occurs as a manifestation of spinal syphilis or senile arterial changes, and shows itself by a sudden onset of temporary motor weakness and bladder troubles, great ataxia, and minor sensory disorders. It may affect only one extremity, but usually affects the lower limbs. The tendency is to nearly complete recovery. Acute bulbar or bulbocerebellar ataxia occurs as a sequel of some acute infection, and is usually the beginning of a form of multiple sclerosis. Acute neuritic ataxia occurs as the results of multiple neuritis of the sensory type. It is seen usually in the non-alcoholic forms of neuritis, especially those due to metallic poisons, like arsenic, or to diphtheria.

8. **Brain Tumors.**—From a number of cases here reported Mills deduces the following: The diagnosis of the existence of a brain tumor can sometimes be made even in the absence of most of the general symptoms, such as optic neuritis, headache, vertigo, and vomiting, chiefly by the close study of localizing and invasion symptoms. Emotional states, even hysterical stigma, are sometimes present in cases of brain tumor, and must not be given too much weight in differential diagnosis. Tumors of the posteroparietal region, and especially of the superior parietal lobule (parietal of Wilder), give as their most important localizing symptoms disorders of cutaneous and muscular sensibility, and especially astereognosis; other symptoms often present in such cases are the result of compression or invasion of adjoining regions. Tumors and other lesions implicating the angular gyre, and the regions adjoining (the subparietal, first temporal and mediooccipital convolutions, give as their main localizing symptoms word deafness and word blindness, with the usually accompanying speech disturbances, lateral homonymous hemianopsias and disorders of cutaneous and muscular sensibility, including astereognosis. Although it is possible that these disorders of sensibility in the case cited may have been dependent upon invasion of the superior parietal lobule. Just as the centers for hearing, vision and speech are more highly differentiated in the left hemisphere, so it is probable that the stereognostic sense is more highly evolved in this hemisphere. A tumor strictly confined to the motor regions does not give objective sensory phenomena of a persisting character; the localizing symptoms of a growth so situated are motor, chiefly paralysis and monospasm, with also exaggerated deep and superficial reflexes. In tumors of the motor subcortex tonic spasticity is usually a marked symptom. Paresis or paralysis, and exaggerated reflexes, with monospasm or unilateral convulsions, may also be present. Tumors of the prefrontal region, by which is meant the region entirely cephalad of the motor zone, chiefly give psychic symptoms of an especial character; when the tumor is situated on the left side, motor agraphia (or orthographia) and motor aphasia are usually present because of the compression or invasion of the posterior portion of the second frontal and of the third frontal convolutions; paralysis and other motor symptoms are often present late because of encroachments upon the motor region.

9. **Uterine Fibroids.**—The class of tumors where non-surgical treatment may be supposed to suffice are fibroids and myomatous growths of the interstitial variety, which have not obtained sufficient size to cause the uterus to rise in the abdomen above the umbilicus. Goelet believes in active measures in the arrest of these growths, even when they give no marked symptoms though non-surgical treatment may be a necessary alternative when operation is refused. He thinks that electricity in its various forms may have a certain palliative effect, and some observations have led him to believe that the moderate-sized interstitial fibroids may disappear under the influence of electricity aided by such remedies as iodin, ergot, etc. In this latter respect he has changed his views formerly expressed.

11. **Infantile Scurvy.**—Several cases of infantile scurvy illustrating the troubles of diagnosis, etc., are reported by Mastin. They show that the errors in diagnosis are not confined entirely to rheumatic affections, but may involve the incorrect diagnosis of surgical disorders, tubercular bone lesions, etc., spinal diseases and even hereditary syphilis. They also show that scurvy may arise during the use of several of the most popular artificial or prepared foods, and in addition that it occurs in the use of sterilized milk.

13. **Prostatic Hypertrophy.**—Guiteras believes the Bottini operation the one of choice where there is damage to the kidneys, while prostatectomy may be performed with healthy kidneys, and if the prostate is of a large size, as felt per rectum. He describes the technique of the Bottini operation, and also a method of prostatectomy by perineal enucleation, which he thinks is of great value. The bladder is first washed out with boric acid solution, through a catheter allowed to remain *in situ* and plugged when the bladder has been well distended and pushed up to avoid perineal folds. The abdominal wall having been cut through above the symphysis, the fingers of the left hand are thrust into the prevesical space where the prostate can be felt between them. The plug is now removed from the catheter. The fluid drawn off, the bladder collapses, after which the catheter is withdrawn. A staff is now introduced through

the urethra, a perineal urethrotomy performed, the membranous urethra being cut through the apex of the prostate at which point the prostatic capsule is incised. The forefinger of the right hand is inserted between the capsule and the gland and enucleation commenced, counter-pressure being brought to bear by the index and middle fingers of the left hand in Retzius's space. Having thus enucleated the prostate, control of the gland by the fingers is almost as complete as if it were in the bladder. After the lobes have been enucleated through the perineal opening, a large perineal tube should be pressed up into the bladder, and drainage kept up for three weeks or more. This avoids a suprapubic opening, which is less simple and more dangerous. The after-treatment consists in an enema of a pint of hot saline solution at 120 F., to be retained, administration of 1/30 gr. of strychnia, and the application of hot bottles to the feet; all this for shock. After the patient comes out from under the effects of ether, a little hot water, soup or bouillon should be given, and water pushed *ad libitum*. Strychnin should be given every four hours hypodermically, and it is well to repeat a hot saline enema every four hours with bouillon or water by the mouth. It is well, before and after the operation, to give a urinary antiseptic, and a diet of milk up to two or three quarts a day. The bowels should be moved by some saline water on the second day.

14. **Appendicitis.**—Kelly recommends the cutting off of the appendix at its base in cases where it is diseased and densely adherent at its tip. The distal freed portion is wrapped for protection in a bed of gauze, while the opening in the bowel is sewed up and is later dissected out of its bed with much greater facility than when both ends are anchored. This is especially the case when it is attached to a pyosalpinx or ovarian or fibroid tumor. When it is imbedded in strong old adhesions, he detaches the organ at its base and catches the free end with a pair of artery forceps and circumcises it just below the forceps, going through the peritoneal and external muscular coats. A longitudinal incision including only these two coats may also be carried down the dorsum as far as visible, and the appendix is now stripped out of its bed by pulling it out; if it begins to break, it is grasped again by the forceps and stripping continued. There is often no bleeding, and when there is, it is easily managed. When the end of the appendix enters an abscess cavity surrounded by adherent intestines which can not be stripped off with safety, he has grasped the appendix close to the abscess, with a pair of forceps on either side, then split it open and followed its lumen as a guide by using a grooved director and pair of open scissors with one blade in the appendix. In this way he has been able to reach the abscess and open, clean it out and sterilize it without doing any damage to the intestines.

17. **Hydrochloric Acid Therapy.**—Hemmeter holds that the supplementing of HCl in deficient secretion is rational, even if we can not supply the deficit, because the amount necessary thereto could not be expediently administered. If we can not give sufficient HCl to make the chyme distinctly acid, we can at least add enough to exert a disinfecting influence and free it from a part of its germs, and perhaps produce some of the preliminary stages to peptone. He reports the case of a physician who suffered from extensive stomach dilatation with absence of HCl, which was unimproved by treatment until the operation of gastroplication was performed. This was done successfully and then free HCl was detected after the test meals. The glandular layer had not been destroyed by the disease, but the peptic cells had simply been exhausted, and when this condition was remedied and the normal amount of functions restored their normal secretions was recommenced.

18. **Metatarsal Fracture.**—After first calling attention to the probable nonrecognition of many cases of this condition and the symptoms of neuralgia, metatarsalgia, etc., that may follow, Beck points out the different methods of treatment for the different forms of this fracture. If there is no displacement present in the fracture of any of the second, third or fourth bones, simple plaster-of-Paris dressing meets all the requirements, the patient being kept in bed the first week, and later a solid plaster-of-Paris dressing from the toes up to the lower third of the leg being used. If the first or fifth metatarsus is broken and no displacement is noticeable, a small strip of moss-board, slightly moistened, is placed alongside the outer or inner margin of the foot before the plaster-of-Paris dressing is applied. The ambulatory dressing should not be chosen for this type before two weeks. If there is displacement of the second, third or fourth metatarsal bone in either direction, up or down, pressure will usually reduce the fragments and they are easily kept in place by co-aptation splints, preferably also consisting of moss-board and protected by plaster-of-Paris dressing. If the displacement, however, is sideways, the reduction is somewhat more difficult. It is best accomplished by grasping the fragments as firmly as possible near their epithelial ends and alternately turning and shifting them until reposition is perfect. Sometimes considerable counter-pressure is required. To hold them in place is still more difficult and there is danger of consolidation between the bones with functional impairment. Experience has taught him that metacarpal fragments are invariably held in place by elastic pressure. The same principles apply to metatarsal fracture. He therefore uses rubber drainage-tubes of moderate size lightly pressed into the adjoining interosseous space at the dorsum, so that they fill them up to a certain extent. These are kept *in situ* by adhesive plaster strips, and recurrence of displacement is prevented. The dorsum is surrounded then by a moss splint which adapts itself to the foot like a cast. Plaster-of-Paris dressing is then used, reaching from the toes to the lower third of the leg. The patient then remains in bed for ten days, after which ambulatory dressing is applied. When skiagraphed through the plaster-of-Paris dressing, the displaced fragments must be found in exact position. If not they must be replaced and redressed. He thinks that with this method, metatarsalgia and its companion affections will become very rare.

19. **Inguinal Colostomy.**—The following are the conclusions of Mayo's article: 1. Colostomy is not now a rival of excision of the rectum for malignant disease, and should only be employed in hopeless cases presenting obstructive phenomena. 2. For a permanent colostomy, the combination of Wyeth and Bailey's methods gives a satisfactory result. 3. Colostomy preliminary to excision of the rectum should be located high on the colon to give sufficient length of sigmoid to permit restoration of the continuity of the bowel. 4. For ulceration and other conditions in which the upper limit of the disease is not definitely known, the interior of the bowel should be explored through the inguinal incision in order to determine the proper site of the opening. 5. Right-sided colostomy has an increasing field of usefulness, as in amebic dysentery, chronic colitis, etc.

22. **Opinion Evidence.**—McLaughlin reviews the methods of opinion expert testimony here and abroad, and while he does not recommend the adoption of continental methods, he thinks the reform must be to make the expert the partisan of neither side and that we should go back beyond the common law to Roman jurisprudence for the principles to follow.

25. **Leucocytosis and Typhoid Perforation.**—A number of cases are reported by Russell, from which he deduces the following conclusions: That leucocytosis occurs in perforation, but in widely varying degrees, and that the leucocytes, while appearing as a rule early, may not be at all marked until general peritonitis and collapse have supervened. There may be an utter absence of leucocytosis with marked perforation and peritonitis. The cells may be lower than normal, and with typical signs of perforation and a definite leucocytosis there may be no such complication present. Leucocytosis to a marked degree may occur in other complications, such as bronchitis, cholecystitis, etc., but with pain and tenderness, however, in the abdomen, coming on suddenly during typhoid, and in the absence of cholycystitis or other definite complications, a distinct leucocytosis, even without other symptoms of perforation, an exploratory operation is justifiable and advisable.

27. **Toxemia of Pregnancy.**—Marx's conclusions are as follows: 1. Toxemia of pregnancy is a complex condition depending on more than one factor. 2. Many women go to term with albuminuria, without symptoms referable to toxemia.

When such symptoms arise they are not caused by the albumin present, but by faulty urea secretion. 3. In the most desperate and malignant cases there is found neither albumin nor casts. 4. Urea is always found markedly diminished in the so-called true toxemias of pregnancy, or urinemias. 5. There should be a regular and methodical course of urea estimation in all cases of toxemia, or the relegation to secondary importance of the time-honored examination for albumin. 6. Progressive diminution of urea excretion, with or without albuminuria, is the sole indication for the induction of premature labor, which is especially indicated when conscientious medical treatment fails.

30. **Strangulated Hernia in Infants.**—Moschcowitz reports two cases which he thinks represent a hitherto unrecognized cause and seat of strangulation, viz., in the descent of the testicle the processus vaginalis may begin the shutting off of the normal tunica vaginalis, but the process may stop before it is entirely completed. The result will be a sac of the usual congenital variety, but constricted in the lower portion. He finds a case which appears to indicate this possibility, reported by Russell, and which seems to corroborate the findings in his own case here reported, though he has not found anything in the literature which positively thus accounts for the occurrence of this form of strangulation low down in the scrotum, which appeared in his case.

32. **Urinary Examination.**—Some errors in urinary examination are noticed by Heitzmann, such as assuming too much importance from the presence of albumin, which may be only a sign of the presence of pus corpuscles. A microscopic examination should be employed in addition to this test and this is not less important than the chemical examination. Hyaline casts are often described as being present when they are not; they are simply cylindroids or mucus-casts, that is, mucous threads resembling casts, which may be derived from any portion of the genito-urinary tract, and entirely independent of nephritis. Granular casts are often diagnosed from conglomeration of harmless bacteria on mucus. He also thinks the use of the centrifuge is productive of errors in this way. The diagnosis of nephritis does not necessarily depend upon the presence of casts: pus-corpuscles, red blood-corpuscles, and kidney epithelia are sufficient. The latter are never voided in healthy individuals, and if care is taken to look for pus-corpuscles, which are always the smallest granular corpuscles, mistakes can not be made.

38. **Floating Kidney.**—Lydston protests against indiscriminate operation in movable kidney, and advises a more conservative attitude. If the psychic disturbance in exceptional cases is such as to warrant operation, he believes that the operation of splitting the fibrous capsule, separating it from the cortex in such a manner as to fashion three or four triangular flaps to be stitched to the margin of the wound, with subsequent packing of the wound for three or four days with iodoform gauze and permanent suture on the removal of the latter, will give the most satisfactory results.

47. **Primary Splenomegaly.**—Three cases of enlarged spleen occurring in one family, and all in the same generation, have been under Brill's observation for fifteen years. There was enormous enlargement of the spleen and liver accompanied with profuse perspiration, tendency to hemorrhage, discoloration of the skin, conjunctival thickening, and nevertheless a comparative well-being and general comfort which does not seem to correspond to the condition. The cases can be easily distinguished from splenic anemia. The author does not attempt to give a thorough explanation of the condition, but suggests that it is a peculiar form of family disease characterized by enlargement of the spleen. When the physiology and pathology of the spleen becomes better known the pathology of these cases may be explained.

48. **Enteroptosis.**—According to Arnell this is an extremely common condition, seldom recognized or examined for by the average doctor, but a better knowledge of which will be of great worth to the profession and of untold value to suffering women. He describes the methods of examination, including palpation and auscultation, and use of the acid and soda method of gastric dilatation with which he has been rather successful. He gives tabulated statistics of 80 cases, 69 women and 11 men. In 28 of these there was a high degree of gastric dislocation, the entire organ lying below the umbilicus. In 41 the prolapse was of a moderate degree. In a few cases there was both dislocation and dilatation. The stomach contents were analyzed and the blood examined in a number of cases. The symptomatology was extremely varied. In a few there were no symptoms other than loss of weight, strength and "just run down." In a much larger proportion nervous symptoms predominated, a depressed, excitable state with irritable and hysterical phenomena, often with palpitation. Some patients were nervous wrecks, and in another group there were, in addition to the neurasthenia, derangements of the kidneys and gastralgia. In nearly all chronic constipation and sick headache were constant symptoms. In most cases there were uterine displacements and some had mucous colitis, probably secondary. He thinks that there is no etiologic connection between enteroptosis and chlorosis. Gastric subacidity was more often present than hyperacidity. He considers congenital predisposition important, but not the direct cause: child-bearing, constipation, etc., are mentioned. As regards the prognosis and treatment the statements must be guarded. Operation is advisable in cases accompanied with hydronephrosis and Dietls' crises where we have purely mechanical disturbances resulting from kinking or twisting of the kidney vessels, which could occur only when this organ was dislocated. Abdominal bandages may help in some cases, and where the stomach symptoms are prominent, gastric lavage and the use of hydrochloric acid are useful if there is subacidity. Exercise and massage of the abdominal muscles are of great value, but seldom satisfactorily carried out. Tincture of nux vomica has been of great value in many cases. There must be a great deal of individualizing in the treatment of the condition.

49. **Pancreatic Disease.**—Edsall reports two cases which seem to indicate that the reduction of ethereal sulphates may be a sign of value in the diagnosis of severe disease of the pancreas. This is not, however, conclusive, he thinks, and from a review of the literature he considers the test likely to be only an inconstant aid in the diagnosis and to be of real value only when positive. Even the positive results of the test would not always be conclusive since all varieties of ethereal sulphates have been observed as a result of hyperacidity, diarrhea, etc. He would not say, however, that it is entirely worthless. As to the importance of fatty stools in the diagnosis of pancreatic disease he considers the general clinical teaching that they are an indication of the condition. He quotes Osler's conclusions to the contrary effect and points out that Walters and others have demonstrated definitely that fatty stools can be seen in most cases of icterus in which the pancreas is entirely uninvolved. A case is reported as bearing on this point.

50. **Premature Infants.**—Adriance gives the characteristics of premature infants, their defective organism, difficulty of raising them, and the indications in their treatment. The greatest task is the maintenance of animal heat and only careful watching and great attention to details will succeed. The incubator alone can not be relied on; we should have as nearly as possible the conditions experienced *in utero*. Every effort must be made to assimilate this environment. If possible it would be better to forbid any disturbance whatever, but the matter of toilet demands a certain amount of handling; the simpler the clothing, the fewer the pins, the less the manipulation the better. The food should be given in very small amounts. A weak digestible food with special precautions against overtaxing the stomach is the best. The mother's milk can not be depended on, but a wet-nurse should be secured who has had a healthy infant at full term, at least two weeks, or better a month old, so that the characteristics of the colostrum period may be lost in the milk. The weight should be recorded at rather infrequent intervals on account of the disturbance that might be produced. The attacks of cyanosis should be promptly treated by administration of oxygen and minimum doses of whisky, and if they seem to be caused by

the food finding its way into the larynx it should be promptly removed by inverting and patting the back. Small doses of castor-oil are necessary to prevent fecal stagnation in the intestines.

52. **Trional.**—Hart reports a case of trional poisoning in which the amount given was apparently not excessive, viz., 450 gr. during two months. The symptoms were at first those of gastrointestinal poisoning. Following this was an acute degeneration of the kidneys, and hematoporphyrinuria. The first of the nervous manifestations were neuritis of the vagus and subsequent trophic disorders of the heart muscle resulting in dilatation and valvular insufficiency. With improvement in the muscle tone these last disappeared, leaving a normal heart. Trophic changes such as extreme emaciation and marked thickening about the joints of the fingers persisted after recovery. The possible fatal effects should be kept in mind. Several cases from the literature are noticed. Hart is inclined to favor the theory that disturbance of the function of the kidney was secondary to changes in the nervous system, as the urinary changes did not appear until some time after the development of nervous symptoms, and probably after elimination of the drug. The cumulative action of trional as shown by Marro is remarked upon: it should not be given continuously and the bowels and kidneys should be kept active during its use.

57. **Genital Reflexes.**—Robinson describes the sympathetic nerves of the female genitals and calls attention to the reflexes which occur from their dislocation. He specially mentions the stomach reflexes, asthma, cough, etc. The general treatment, he thinks, must be long continued and systematic, and local treatment of the skin, bowels and kidneys employed. We should use vaginal douches, gradually increasing in heat to the bearable point, and employ the boroglycerin tampon three times weekly. It may take a long time to accomplish a permanent result, but the future of medicine depends on physicians accomplishing more by non-surgical methods. The universal rule is now to sacrifice only hopelessly diseased tissue.

58. **Diabetes Mellitus.**—Dock remarks in regard to the tests for sugar, and thinks that the copper reduction tests should not give as much trouble as they do, though they have many sources of error. A control test is, therefore, indicated, and he prefers the phenyl-hydrazin test. The directions given in the text-books are unduly complicated. He finds satisfactory the method used in Ultzmann's poliklinik and recommended by Williamson, viz., putting phenyl-hydrazin hydrochlorate and sodium acetate into a test-tube to the height of .5 centimeter each and filling the tube one-third with the urine to be tested, boiling to dissolve the reagents, repeating the boiling several times; then allowing the tube to stand fifteen minutes and examining the sediments in the usual way. As a further control, and as a convenient, and for clinical purposes a sufficiently accurate quantitative test, he uses the fermentation method. The determination of the presence of sugar, however, is only the beginning of the study of diabetes. The further details of carbohydrate metabolism, the relation of the glucose excreted to carbohydrates ingested and the existence and amount of glucose in serious cases independent of carbohydrates, must be known. We should watch for the appearance in the urine of such substances as acetone, diacetic acid, etc., which indicate intoxication foreboding diabetic coma; and for diacetic acid the ferric chlorid reaction of Gerhardt is fairly useful. For oxybutyric acid there is no easy method suitable for the purpose, but one will probably be found. It is important in all cases to use the Gerhardt test. All organs of diabetics must be thoroughly investigated at the beginning and at frequent intervals, always with the thought that the whole metabolism of the diabetic is different from that of normal man. The prognosis must always be guarded, the patients are obliged to avoid nervous strain, and regular habits of life and diet are important elements. The treatment, if there are no symptoms requiring medication, may be purely dietetic and should be arranged on the ground of carbohydrate tolerance, the idea being to give as much carbohydrates as may be assimilated without damage. The diet is of much wider range than formerly, and mild cases can frequently get along with 100 grams of bread or its equivalent without discomfort. Fat in all forms, cheese, etc., are of value. A good rule before prohibiting or ordering any food is to ascertain the amount of carbohydrate contained to the proportion to be used.

64.—This article appeared in THE JOURNAL of January 12, p. 108.

66. **Pancreatic Diseases.**—Staples describes the symptoms of disease of the pancreas and holds that many cases loosely diagnosed as dyspepsia, biliousness and liver disease, and some of the cases diagnosed as chronic appendicitis, are really cases of pancreatic disease.

68. **Blood Examination in Surgical Diagnosis.**—The conclusions of Williams's article are, in substance, that the leucocyte count in inflammatory diseases is not reliable for determining the presence or absence of pus. It is of value: 1, in arriving at a preliminary diagnosis; 2, in prognosis; 3, as a guide to the course of pathologic or healing processes. The red count and hemoglobin estimation and observation of the character of red cells are often of value to the surgeon. The study of stained specimens is occasionally of value. Undue reliance upon special methods of diagnosis should be avoided, but it is incumbent on every practitioner to carefully observe and regard the progress of blood examinations in relation to diagnosis and prognosis.

77. **Pediatric Malaria.**—Northridge points out that the malarial germ, when it attacks a young child, produces different symptoms from those in the adult, as a rule. The quotidian instead of the tertian is the more common type, chill is often not readily detectable, the sweating stage is often absent or very slight, and the nervous system is especially liable to be affected, which is not the case with the adult. The older the child the more nearly do the phenomena approach the adult type, while the converse is also true. In infantile diseases where the diagnosis is in doubt and fever and periodicity are present, the presence of the hematozoon should be suspected. Quinin is the specific remedy, arsenic is next. Children bear both of these drugs very well.

78. **Clubfoot.**—Bogart believes in manipulating to relieve clubfoot, rather than in extensive operations, other than tenotomy of the tendo Achillis. He advises careful preparation of the part, as if it were to be a general operation, overcorrection and fixing by plaster-of-paris. He is satisfied that reduction by manual force readily applied, and retention by plaster-of-paris, is the best method, and when we add to this tenotomy of the tendo Achillis, and subcutaneous division of the plantar fascia, the great majority of cases can be satisfactorily treated and permanently cured. The open incision and tarsal resection and osteotomy he would reserve for those extremely rare cases which can not be corrected by other means. He doubts whether these occur under 12 years.

79. **Thyroid Extract.**—The experience with thyroid extract, reported by Elliott, leads him to sum up by saying that thyroid extract is a powerful alterative, possessed of some toxic properties, which may disappear under better methods of obtaining the drug. It has specially proven itself to be of value in the treatment of insanity, in those cases that are curable after the acute symptoms have passed away and there are beginning signs of chronicity. In other words, we should administer thyroid late rather than early in mental disorders.

88. **Nephritis.**—Upson discusses the relations of nephritis to certain symptoms, and believes that uric acid is the substance appearing in the urine which seems to be in close relation with nervous diseases, especially functional ones on the one hand and organic kidney diseases on the other. The relationship is a complicated one, the most of its problems still to be solved.

93. **Diagnosis of Typhoid.**—The febrile affections which may simulate typhoid, enumerated by Jackson, are febricula, which explains itself by its short duration, malaria, that may give difficulty in its estivo-autumnal type, and general tuberculosis, of all perhaps one of the most embarrassing forms, and in regard to which he says a case of continued fever with pros-

tration and rapid pulse and absence of Widal reaction should always arouse the suspicion of some hidden focus from which the agent of tuberculosis has invaded the system. Pneumonia may also run a rather latent course and the diagnosis may be difficult when lobar pneumonia complicates the early stages of typhoid. Cerebrospinal meningitis is another disease which, as is well known, may give rise to difficulty. Typhus fever is mentioned, and especially septic conditions, including those connected with appendicitis. Malignant endocarditis is possibly equal in importance to general tuberculosis in the differential diagnosis of typhoid fever. Its initial symptoms are often obscure and indefinite, the pulse is rapid, chills are frequent, but are combined with leucocytosis, which is not the case with uncomplicated typhoid. The physical signs from the heart may determine the diagnosis. Petechiæ occur in about one-third of the cases, and may be a clinical phenomenon to clinch the diagnosis of doubtful cases of typhoid with cardiac murmurs. The Widal reaction is not reliable in the early stages of the disease, and may not always be available, but leucocytosis occurs in all forms of sepsis and is available before the positive Widal reaction.

94. **Drowning.**—Lankester holds that death from drowning rarely occurs from asphyxia, and it is not scientific to say that the victim died of cramps or convulsions. In all probability he met his death from the absorption of some uneliminated material which may or may not have been formed partially or wholly during his immersion. The water is merely a mechanical factor in the process, not the direct cause, apart from the fact that it brought about faulty elimination, hence the failure to resuscitate the patient. So-called drowned people do not come to their death, except in a few cases, by water acting in a mechanical manner, hence resuscitation in these cases of so-called accidental drowning after prolonged immersion is so rare, while in those who have simply fallen in and the lungs have not become damaged by the churning of the liquid, it is the rule. This question of toxins is merely a theory, but he thinks it is the best explanation of death by drowning.

95. **Anesthesia.**—Magaw advises the use of nitrous oxid and ether in combination as having the following advantages: The initial excitement is avoided, which is a great comfort to the patient. The time for producing anesthesia is also considerably shortened and the amount of ether required greatly diminished.

96. **Massage.**—After describing the various methods of massage, together with the Swedish movements in the beginning of the treatment, Sneve says that its physical effects are generally increased metabolism in all the tissues, increase of the temperature temporarily, frequency of respiration, body weight, number of red blood-corpuscles, increase and changes in the character of the urine; toxic substances are set free for elimination, and it is of special value in improving mal-nutrition from any cause. To relieve insomnia, prevent atrophy, hasten convalescence, favor elimination and as a reconstructive it is also of value. It is useful in diseases of the blood, such as anemia and chlorosis, and wherever nutrition is below par it acts as a tonic and reconstructive. He concludes with the following special points to be observed: The treatment is usually given but once a day, but may be employed with advantage in the morning and at bed time. Always cover up each limb well after it has been manipulated. Do not use, as is recommended by some authors, an alcohol or other bath after massage, because you will be defeating the purpose of the whole treatment; when the treatment has been given in the morning and the patient wishes to be relieved of the cocoanut-oil or other fat, this should be removed an hour or two afterward by means of a little bay rum, eau de Cologne, or alcohol on a rough towel. Avoid unnecessary talking. Do not use enough force or hurt your patient.

104. **Jamaica as a Health Resort.**—Stafford's article is a description of Jamaica and a recommendation of it as the best locality in the Caribbean as a health resort. Among the advantages he recommends the stability of the government and the conveniences of modern civilization which are largely absent in other neighboring regions.

105. **The Plague.**—This is the complete report of the Government Commission on the plague in San Francisco, which appeared in The Journal for April 20 and 27.

107. **Rickets.**—Sherman considers structural weaknesses in the bone the cause of the skeletal deformities of rachitis. The active cause is muscular action or too great superincumbent weight or pressure. The bone always yields in the direction in which the greater force is working, and this is often determined by the natural shape of the bone, the tendency being to increase normal curves. In some cases there is hypertrophy of the deformed bone to antagonize the deforming force. Symmetrical deformities are characteristic.

115. **Atropin.**—Van Zandt, in his early practice, met with congestive chills in the malarial regions, and on failure of the ordinarily recommended treatment reasoned that if he could render the cold, blue and moist skin of his patients red, hot and dry, it would possibly have a good effect. Belladonna occurred to him as an agent suitable for trial, and he used it with success, later substituting atropin sulphate. He gives 1/60 gr. of atropin, and more in twenty to thirty minutes if no visible effects are produced, in some cases supplementing these with strychnia. Under this medication, he finds that reaction occurs and vomiting and purging ceases, generally in a few minutes.

116. **Burns.**—The first indication when called to treat a burn is to relieve the pain, and Binkerd finds the best agent for this purpose is a mixture of carbolic acid and glycerin; 1 part and 2 parts respectively. He says it may be applied to any burn with the best results; the pain will disappear in five minutes. He has had a large experience with these injuries, and he would apply this preparation, thoroughly rubbing the dressing on several times in the twenty-four hours, paying attention to the excretions and secretions and using careful cleanliness. After the angry swelling has begun to subside he changes to an antiseptic ointment composed of yellow wax, 1 oz., and olive-oil 3 oz., heated together, and then a dram each of carbolic acid and bismuth subnitrate with 2 to 4 drams of tannin thoroughly incorporated in the ointment. He applies this on a small piece of lint, warm, after first dusting with tannin and subnitrate, equal parts. He claims this is the very best and most satisfactory method of treating extensive and painful burns.

118.—This article appeared in The Journal of February 9, p. 363.

119.—Ibid., xxxv, p. 1086.

122.—See abstract in The Journal, xxxiv, p. 1491.

123.—Ibid., p. 1490.

126. **Intubation.**—Sampson's article insists on the importance of intubation and gives directions and illustrations how to make and use the apparatus, together with a table of dimensions for the tubes. He makes his tubes, in cases of emergency, out of lead or solder, pieces of wood, bamboo pipe-stems, or any substance which can be shaped and hollowed out to suit.

132. **Cervical Lacerations.**—Harrison calls attention to some peculiar reflexes observed by him in connection with lacerations of the cervix. Cases of supraorbital headache, of lumbago, of nausea, of palpitation, of choking sensation whenever the patient attempted to walk and aggravation by every irritation of the lower lesion of the cervix are reported. These were all relieved by operation and treatment.

133. **Duration of Life.**—Bankston reviews the life expectancy tables and the average duration according to occupation, and discusses the chances of longevity under ordinary conditions. He asks what should be the normal duration, and using the period required for maturity as a basis, which according to biologic investigations, he says, would be one-fifth of the total, he maintains that the average duration of life should be 130 years if all conditions of vitality for longevity could be observed and all intercurrent abuses and exposures overcome. The greatest achievement in the twentieth century will be the demonstration of definite laws for increasing the duration of life by eradicating all diseases, blemishes, degeneracies, crimes, etc.

143. **Periurethral Abscess.**—The special essential point emphasized by Bernart, in regard to follicular and periurethral abscess, is to make sure of the diagnosis, for a follicular abscess may closely simulate a chancre or a gumma; he refers to

occluded abscesses that do not discharge freely. He says we should try all the mechanical means available to produce an opening of the occluded duct or an absorption of the deposit, but never await the breaking of a follicular abscess, as the destruction of the tissue is greater, or it may break both externally and internally or may rupture internally and point backward, thus favoring urinary infiltration. We should open through the urethra, if possible.

147. **Quinin.**—Williams finds fevers in his section of Arkansas, where the attack commences with chills and frequently high fever, which do not react to quinin though they are commonly called cases of malaria. He thinks they are not malarial fever. He has practiced medicine in this region of the country for fifteen years, and for twelve months in each he has tried to cut short or cure a case of this fever with quinin and has always failed. Lately he has not used quinin and his patients get along better.

**Tuberculosis.**—The following corrected formula is inserted at the request of Dr. O. A. Fliesburg, whose article was abstracted in THE JOURNAL of April 13, p. 1074. It was copied verbatim from the *Northwestern Lancet*, which has since made the same correction:

*Ol. Iodo-Bromo-Phosphori Comp. Steriliz.*

| | | |
|---|---|---|
| ℞. | Iodi puri cryst. | 1 50 |
| | Bromi puri | 0 50 |
| | Phosphori puri | 0 25 |
| | Thymolis | |
| | Mentholis, āā | 2 50 |
| | Guaiacolis | 1 25 |
| | Ol. Morrhuæ, steriliz. | 50 |
| | Fiat sol. secundum artem. | |

## FOREIGN.

British Medical Journal, April 13.

**The Saline Treatment of Dysentery.** W. J. BUCHANAN.—The author published, in a previous issue, Feb. 10, 1900, a note on the results of the treatment of dysentery by salines, in 555 cases with only 6 deaths; 300 more cases have since come under his observation in the Central Prison, Bhagalpur, Bengal, making a total of 855 cases with 9 deaths. The results are better than those of the previous year. The average stay in the hospital was about eleven days, though many might have been discharged earlier, if it had been thought best. There is little to add to his remarks previously made. He used, throughout the year, the following mixture: Sulphate of sodium, 1 dram; aquæ fœniculi, ad 1 ounce, given four, six or eight times a day, each dose representing 1 dram of the saline. No dose was repeated on the following day until the stools had been inspected. The treatment was continued until every trace of blood and mucus had disappeared, which was generally the case in two or three days. In some cases they returned in three or four days, necessitating repetition of the treatment. He advocates this method for acute cases only, and does not deem it safe with chronic or relapsing cases with ulceration of the colon. Considering the fact that the death-rate among the natives, from dysentery, is usually given as from 30 to 37 per cent., its reduction to about 1 per cent. is certainly a favorable showing.

**Resistance of the Larval Mosquito to Cold.** M. J. WRIGHT.—Mosquitoes, it appears, occur abundantly in Aberdeenshire, Scotland. Wright has observed three species of the Anopheles and three of the Culex, which appear in great numbers from the middle of August to the middle of October, and are just as vicious as those in the tropics. The Anopheles bifurcatus and Culex nemorosus are the worst, while the Culex annulatus could not be induced to bite. The favorite feeding-time was late in the evening, but the Culex nemorosus was ready for business any time. The Culex pipiens and Anopheles bifurcatus would occasionally start blood-sucking on dull days or in a shady place in the woods. The observations were specially made, however, to test them in different climatic conditions; he found the larvæ under ice, active, in the latter part of October, and under the snow in pools in February. Most of the adult insects that he had in captivity died in the cold weather, and he is inclined to believe that the larva is the condition in which they pass the winter. The larvæ that changed into pupæ late in November, December and even January, died before completing their metamorphosis, and it appears that Scotch mosquitoes do not bear cold weather well. As regards the statement that the adult mosquito hibernates during the winter, he finds no actual proof of it. The larvæ, he thinks, continue the species without hibernation, and can be searched for and found with greater ease than the hibernated mosquito in out of the way corners. He believes that the best method of destroying the larvæ is not the intermittent application of coal-oil, but the suspension of a vessel containing the kerosene over the water and arranging for the discharge of the oil drop by drop. This is most advisable in accumulations of water near dwellings that can not be drained off or filled in.

The Practitioner, April.

**Physiology of the Ductless Glands.** JOHN ROSS BRADFORD.—Glands may be described as having one or more than one of three functions: they may elaborate an internal or an external secretion or an excretion, the distinction between the last two being usually quite as marked as between the first and second. Some glands confine their activity to the production of external, others, like the thyroid and suprarenal, of internal secretions. Further investigations may show still greater activities. Many glands have not only an external but also an internal secretion, like the liver, the glycogenic function of which is essentially of the nature of the internal secretion. The kidney is the most obvious excretory gland, though there is a possibility of other functions. Any secretory gland may under certain circumstances excrete, as the salivary glands, iodid of potash, and the liver may excrete toxic substances. In pathologic conditions this may occur to a large extent. In many glands the phenomena are under the control of the nervous system and this specially applies to external secretions and is best observed in the salivary and sweat glands. There are also other glands where there is probably a nervous control, where we have no conclusive evidence of it. The relation of vascular change to secretion is intimate, though it is independent of the process of secretion. In cases of internal secretion the nervous system acts less plainly, but there is evidence that it has its influence as in the case of the so-called diabetic puncture of the fourth ventricle affecting the liver. The external secretions are generally substances having a physiologic action, frequently ferments. The excretions of the gland are generally of no future use to the economy, though there are excretion processes with physiologic action besides, as, for example, the activity of the sweat glands influencing the bodily temperature. Internal secretions apparently are required for the physiologic activity of certain specific tissues of the body, and their existence is clearly established, in the suprarenals and thyroid, which fact has thrown a great light on the pathology of diseases of these organs. There are, however, many things to be worked up in regard to this, for example, the function of parathyroids in exophthalmic goiter. The removal of the parathyroid tissue experimentally, in spite of its small bulk, has the same fatal effects that follow complete removal of all thyroid tissue, though it does not seem to contain the colloid material, which contains the essential product of thyroid activity. Bradford thinks, in spite of all difficulties, the most plausible explanation of Graves' disease is that it is due to hypersecretion of the thyroid. As regards Addison's disease, it is impossible to get a complete explanation as the pathologic effects of the suprarenal are not known. The glycogen excess of the liver and the relation of the pancreas to glycosuria are also mentioned, but this only serves to show more clearly how complicated the problem of internal secretions are. Brown-Séquard many years ago considered that the kidneys had an internal secretion, and it does seem evident that the renal tissues may have some other functions than those of mere excretion, but the evidence of an internal secretion is not conclusive. We can not fully explain the pathology of uremia, and modern experimentation would seem to show that it does not result from the mere retention of morbid urinary constituents, but that it is in some way associated with proteid disintegration. The possibility of internal secretions of

the sexual glands is also mentioned, though other possibilities of the effects of their removal being produced in some remote or not understood way through the intermediation of the nervous system are also remarked upon.

**Therapeutic Uses of Thyroid Extract.** George R. Murray.—The function of the thyroid is to form an internal secretion, the colloid material; it is discharged from the alveoli to the lymphatics and is conveyed to the general blood stream. This secretion plays an important part in the general metabolism, which is impaired when the supply is absent or insufficient. The thyroid or thyroid extract is of value in the treatment of those conditions due to destructive diseases of the thyroid gland. The different ways in which this may be used are mentioned, but Murray thinks that the official preparations are preferable. Advanced cases of myxedema are now seldom met with since thyroid treatment has been adopted for the condition. The treatment here is divided into two stages: In the first the object is to get rid of the symptoms and restore the patient to health. In the second it is to keep him in the normal condition, and this necessarily lasts as long as the normal thyroid supply is maintained, even the whole life of the patient. He prescribes, as a rule, in the first stage only small doses, gradually increasing them to about 10 or 12 minims of liquor thyroidei, or 2 gr. of dry thyroid daily, and continues at this dose until the symptoms of the disease have disappeared. During the second stage as a rule 1 dram of liquor thyroidei a week is sufficient. Cretinism is a condition treated on much the same plan as myxedema and the earlier the better. He uses 1 minim of liquor thyroidei daily for each year of the child's age up to 10 or 12 years. In certain cases of goiter, especially the simple parenchymatous type in adolescents and young adults, thyroid treatment is very useful. Here it seems that the thyroid becomes hypertrophied in response to the demand for an increased supply of its secretion. By thyroid treatment we relieve it from some of its work and check hypertrophy. The soft parenchymatous goiter can in the majority of cases be reduced to two-thirds, one-half or even one-third of its former size, and this is usually sufficient to remove the dyspnea and lung discomfort. In some cases treatment fails; if no diminution is observed at the end of two months further treatment is probably useless. The symptoms of thyroidism are described and exophthalmic goiter discussed at length. It is a condition in which thyroid treatment is especially contraindicated. Thymus extract can be given with perfect safety, but its results are somewhat negative and opinion differs as to its utility. In one case treated by Murray, in which the patient took three thymus tablets a day for nine months, there was great improvement. Bramwell has found decided improvement from thyroid treatment in certain diseases of the skin, psoriasis for example, and it is useful in ichthyosis, though relapses may occur. In obesity it is useful as an adjunct to dieting, but can not be relied on alone. In some cases the dieting treatment fails without it. In many cases of insanity, even aside from those connected with myxedema, thyroid is often of value. The results of Easterbrook, Macpherson, and others are quoted. Lastly the author mentions Beatson's suggestion of treating inoperable carcinoma of the breast by the removal of the tubes and ovaries, combined with thyroid administration, and the good results also obtained without the operative treatment by thyroid by Page and Bishop. It seems probable, he thinks, that some 20 per cent. of the cases of inoperable mammary carcinoma are benefited by the combined treatment, though after the menopause removal of the ovaries does not seem to be so important. In these cases the doses of thyroid extract should be increased until distinct signs of thyroidism are produced. We have no evidence that this treatment is of any use in carcinoma of other organs.

**The Chemistry of the Thyroid in its Physiologic and Pathologic Aspects.** Robert Hutchinson.—The chemistry of the thyroid is noticed by Hutchinson, who finds iodothyrin the only physiologic active constituent. It is difficult to account for the iodin in the organism, it is also difficult to say whether it is essential to the activity of iodothyrin. He concludes that if its presence is essential it is not through virtue of its being iodin, but by reason of the peculiar form of organic condition in which it occurs. As regards the physiologic action of iodothyrin, he concludes that it can not be regarded as the ideal antifat remedy, because, instead of causing fat to be consumed alone or largely, it produces early destruction of the proteid tissue. When one reflects on the minute doses of iodothyrin which are capable of producing such profund effects on metabolism, one is filled with astonishment and tempted to suppose that it exerts its influence through the nervous system rather than directly through the tissues. There is, however, no proof of this beyond its influence on the general metabolism; no specific action of thyroid on any special organs in the body has been proven. What becomes of iodothyrin after it has affected its work is hard to say. It is possible that it may be used, taken up and used over again, but it may be excreted, as a trace of iodin can be detected in the urine after thyroid administration, and symptoms of thyroidism have been observed in nursing infants whose mothers were being thus treated. The toxic symptoms of thyroidism are held by the author to be due more probably to some other product produced in the increased metabolism that the thyroid induces. As regards goiter, chemical investigation has not thrown any light on its pathology, but in myxedema the case is different. Myxedema is a disease in which the general metabolism is sluggish and the effect of the thyroid is to stimulate it. The physiologic action of iodothyrin explains the therapeutic action in this disease. The hyperthyroidization theory of exophthalmic goiter is not the one endorsed by Hutchinson. No one has yet succeeded in producing Graves' disease even by enormous doses of thyroid. Neither can we assume that it is producing an abnormal secretion of unusual potency, for investigation of the colloid matter from the enlarged thyroid in Graves' disease fails to show any marked departure from the state of health; and its administration experimentally and clinically is not attended by any symptom indicating increased toxemia. Parathyroids also contain iodin. He believes that the accumulated evidence seems irresistible that it is to the removal of the parathyroids that the nervous symptoms ordinarily associated with general thyroidectomy are due. It seems more probable, however, that they are concerned in the removal of something from the blood, rather than adding something to it. Administration by the mouth does not combat the symptoms resulting from their removal, nor does their administration have any beneficial effect in myxedema, and they have been found entirely inert in cases of insanity. Removal of the thyroid alone probably causes myxedema, while removal of the four parathyroids produces the acute tetanic symptoms observed after so-called experimental "thyroidectomy." The symptoms of myxedema can be explained by the absence of iodothyrin from the blood. The symptoms of parathyroidectomy are not susceptible of any satisfactory explanation as yet. The chemical evidence is, on the whole, opposed to the over-action theory of the thyroid of exophthalmic goiter, but whether the parathyroids play any part in the production of that disease, chemistry is not yet in a position to decide.

Annales de Dermatologie (Paris), March.

**Ducrey's Bacillus and Humanized Media.** Lenglet.—It is almost impossible to cultivate Ducrey's bacillus from the primary simple chancre, but it can be accomplished by inoculating a second chancre on the thigh. The bacilli cultivate readily from the pus of the second lesion. This measure is unnecessary, however, and superfluous, as microscopic examination alone is sufficient to determine the presence of the bacillus. It is a coccobacillus, isolated or sometimes surrounded with a glairy substance which fastens the bacilli together in clumps or chains.

**Early Pupil Symptoms of Acquired Syphilis.** Sulzer.—Out of 53 syphilitics examined, 14 exhibited the anomaly which Sulzer believes he is the first to note. Visual acuity and light-perception are practically normal, and the symptom, the lack of associated reaction on the part of the pupils, is evidently due to a lesion of the motor part of the peristaltic are which occasions the contraction of the pupil under the influence of light and of near fixation. In 12 of the 14 patients, the pupil

reaction to light was weak or absent, while convergence was normal. This peculiarity is characteristic of the Argyll-Robertson sign, but differs from the latter as the pupils were of medium diameter or much dilated in all the syphilitic patients. In one case the pupils did not react to light nor in convergence, and in another, the lack of associated reaction was the reverse of that in the Argyll-Robertson sign; light reaction was retained while convergence did not occur. Accommodation was normal in all. This distinct and constant dissociation distinguishes the disturbances observed from internal ophthalmoplegia. It also explains why this anomaly has passed unnoticed. The vision being undisturbed, it attracts no attention. All of the patients were in the first year of syphilis, the majority in the third month. The duration of the symptoms is less than that of internal ophthalmoplegia, the course averaging four to six weeks. In one case the dilated pupil was immovable, but accommodation was intact.

**Urinary Formula in Dermatoses.** Gastou.—For several years Gastou has been studying the urinary formula in cutaneous affections, and, comparing the results he has obtained with those of other investigators, he finds that in acute, non-medicinal dermatoses the specific gravity of the urine and the chlorids are increased, while the urea and phosphates are diminished. In chronic dermatoses with nervous or cachectic manifestations, the specific gravity, the urea and the phosphates are diminished, while the chlorids are increased. In bullous dermatoses all the elements are generally diminished, but during exacerbations there is considerable modification of the proportions between these elements. In the secondary stage of syphilis and at the period of tertiary visceral lesions, all the elements are increased except when the nervous manifestations induce a decrease of all the elements excepting phosphates which are increased. Subnormal acidity and subnormal amounts of phosphates are the rule in dermatoses. Investigation of the acidity is facilitated by the fact that, as it is mostly due to acid sodium phosphate, titration with calcium saccharate does not require any staining reagent. The normal formula is for the density, corrected to 15 C., 1.017; total acidity in $SO_4H$, 0.849; phosphoric acid in $PO_5$, 2.083. Fifteen different cutaneous affections were studied and hypoacidity and hypophosphaturia found the rule. The therapeutic indication is therefore to increase the acidity and the phosphates. Cautru, from his study of hypoacidity in arthritis, advocates the following medication: 1, increase the fluids ingested, avoiding alkaline waters; 2, increase the phosphates by taking 3 gm. of sodium phosphate in a glass of water on awaking; and during the two principal meals, a teaspoonful of a solution of medicinal phosphoric acid, 17 gm. in enough distilled water to make 250 c.c. The dose is increased by a teaspoonful after four days, until by the eighth day a tablespoonful is being taken. This treatment should be kept up two or three weeks and the urine examined every month. To prevent digestive disturbances with pain 1 gm. of precipitated calcium carbonate can be taken two hours after meals, in water.

**The Blood and Urine in the Course of Alopecia.** Jacquet and Portes.—Fifty-nine cases of alopecia areata were examined, and it was found that the maximum of disturbances in the hair growth, correspond with the maximum of disturbances in the urine and blood, in the majority of cases. A marked hyperchloriduria was also discovered, corresponding to a marked hypochloridemia in the advanced cases. The results of this research indicate that persons affected with alopecia are suffering from an actual dechloridation, and this fact taken in connection with the tonic and beneficial action of injections of salt solution indicates that alopecia areata is a local trophic disturbance grafted on a general trophic disturbance, and is in fact a mere episode on the surface of this profound dystrophy.

Annales de la Soc. Med.-Chir. de Liege, March.

**Bacteriology of the Lungs.** L. Beco.—The blood was found sterile in 21 out of 50 cases of pneumonia examined by Beco, and in only 9 was pneumococcemia evident. In two mild cases a few scattered pneumococci were found in the blood. These facts, taken in connection with the results of research on the bacteriology of the lungs, indicate that while the lung may be the portal of entry for infection, it is not favorable to its development. Beco has previously shown that virulent pneumococci may live in the lungs without determining any appreciable lesion. He points out the fact that these and other bacteria living harmlessly in the lungs may invade the surrounding organs postmortem. Bacteria found in various organs on autopsy do not necessarily originate in the alimentary canal, as has been generally assumed.

Gazette Medicale de Paris, April 6.

**The Bacillus of Articular Rheumatism.** P. Achalme.—The bacillus which Achalme described in 1891 is probably, as a rule, an ordinary saprophyte. Under the Influence of fatigue or cold, the blood becomes favorable for its development, and it passes by way of the circulation to the heart muscle where it locates, the activity of the muscle furnishing it with the culture-medium it prefers. It may propagate in the serous membranes of the endocardium or pericardium and in the pleura, even before the articular manifestations. The latter by their symmetry, their mobility, and their occasional sudden disappearance with complete restitution, indicate that they are not directly microbian, but are due to the toxins generated by the bacilli ensconced in the primary focus, the heart muscle. There is a sort of eruption on the synovial membranes consecutive to the carditis, like the sore throat of scarlet fever. The carditis may exist without articular complications. The bacillus causes an actual process of putrefaction in the living tissue, the products of which are probably amido-acids, as *in vitro*. Sodium salicylate combines with the most important of this group, glycocol, and is eliminated as salicyluric acid. This fact suggests an explanation of its heroic action in acute articular rheumatism as well as in other non-infectious rheumatic manifestations. The bacillus is of the same size and shape as the anthrax bacillus and the septic vibrio. It is anaerobic, takes the Gram and the Claudius stains and requires a temperature above 21 and below 45 C. The sporulation is ovoid; not so terminal as that of the tetanus bacillus. It grows on milk with production of gas, and coagulates into a small clot, pitted with holes from the action of the bubbles. It induces an acid fermentation at the expense of the carbohydrates, but never sporulates in an acid medium. If a rabbit is inoculated with 2 c.c. of a culture of the bacillus, it usually dies in four or five days with serous effusions in the pleura and pericardium, but it is impossible to find any of the micro-organisms in the fluids or tissues. A smaller dose kills a young rabbit in thirty-six to forty-eight hours, with a pronounced infection of all the organs. The results of bacteriologic examination of patients are positive in some cases and negative in others, but before accepting the negative findings milk or bouillon should be copiously sewn with small cubes cut from the myocardium.

Journal de Medecine de Bordeaux, March 24.

**Lumbar Puncture in Case of Cerebral Tumor.** J. Abadie. A woman of 42, with intense headache from an assumed cerebral tumor, but no fever, was treated in vain with the usual remedies to relieve the pain. The only respite obtainable was after large doses of bromid and chloral. About 25 c.c. of cerebrospinal fluid were withdrawn, followed at first by an aggravation of the headache and nausea. By the next day the headache, and soon after the optic neuritis, had permanently disappeared. Abadie is inclined to try lumbar puncture henceforth in all cases of headache from any source, rebellious to other measures. The disappearance of the optic neuritis from stasis, after the puncture, is another argument in favor of the theory that this neuritis is due to hydrops of the sheath of the optic nerve.

Journal des Sciences Medicales de Lille, March.

**Salt Solution in Severe Burns.** A. Besson.—The blood becomes very much modified in case of extensive burns with phlyctenæ and blisters, principally in the loss of fluidity and the resulting tendency to coagulation. This functional paralysis of the blood causes the retention and accumulation of toxins in the circulation and general intoxication. Persons who die from extensive burns succumb with symptoms resembling those of uremia. The subcutaneous injection of salt solution restores fluidity to the blood and water to the dehydrated tissues, raises

the blood pressure, stimulates the nutritional changes, modifies the visceral circulation and frees the blood and the tissues of the toxins elaborated in general metabolism, and the waste products, the elimination of which is checked or arrested in consequence of the nutritional alterations in the emunctories. The amount should be at least 1000 c.c., repeated twice a day or even oftener if necessary. The formula which Besson has found successful in a number of severe cases is 8 gm. of sodium chlorid to 1000 gm. of water.

Semaine Medicale (Paris), April 10.

**Paresthetic Meralgia and Flat-Foot.**—J. Pal, of Vienna, calls attention to the fact that in eight cases of paresthetic meralgia be found the affection coincident with an incipient or developed flat-foot, dependent in its turn on a rapid increase in the weight of the body.

Centralblatt f. Chirurgie (Leipsic), March 23.

**Application of Fracture Bandages.** F. Baehr.—By applying a broad bandage around the limb at the point of fracture, if the two ends of the bandage are crossed to the right and left, exactly parallel, traction on the ends during extension of the limb will pull the displaced stumps of the shaft into the corrected position. The bandage thus applied works much better than the fingers for the purpose. It can even be applied in this way through a plaster cast, by leaving an aperture for the ends of the bandage, which can then be tied, with traction, over a slat. Baehr relates several instances in which the stumps would not consolidate in the normal position after many trials. Application of the bandage eurō described resulted in complete normal consolidation in twenty-two days or less.

March 30.

**Muscle Flap for Large Hernia.** Salistscheff.—A large hernial orifice the size of a man's fist was closed by two muscle flaps cut in half the thickness of the rectus muscle, above and below the aperture, and turned over on it, still attached at the base, 2 cm. from the edge of the defect. The flaps were sutured together and formed a solid muscular wall over the aperture. In another case the defect was the size of a man's head, in the lower right inguinal region. One long flap was cut in the rectus, attached below, and was twisted over to cover the defect. The results have been extremely satisfactory.

Dermatologisches Centralblatt (Berlin), April.

**Bromin and Tannin for Pruritus.** M. Joseph.—Bromin has an anesthetic, and tannin an astringent action on the skin. The combination produces a salve which is very effective in all forms of pruritus, according to Joseph's tests and experiences during the last twelve months. He uses a dibromotannin jelly, about 20 per cent. bromin to 40 per cent. tannin, known as bromocoll and first suggested by H. Brat. The alkaline secretions of the skin enhance the action of the salve, which has considerable disinfecting and healing power. It never produced symptoms of irritation in subacute or chronic processes in his experience. He uses a 10 to 30 per cent. jelly and found the local and general effect prompt and most gratifying, especially in cases of lichen, urticaria and cutaneous neuroses.

Deutsche Med. Wochenschrift (Berlin and Leipsic), April.

**Diffuse Peritonitis After Appendicitis.** E. Sonnenburg —During the years 1894 to 1897 only 25 patients out of 61 with peritonitis from appendicitis in Sonnenburg's service, survived. It was the progressive, fibrino-suppurative variety in 28, with 64 per cent. recoveries, and diffuse, ichorous suppurative in 33 with 21 per cent. recoveries. He reports since 1897, 54 recoveries in 89 patients, including 71 per cent. recoveries in 53 cases of fibrinous, and 44 per cent. of 33 cases of ichorous peritonitis. He attributes this favorable record to his practice of operating within twenty-four hours, whenever possible. He incises in the cecal region and, instead of draining, tampons extensively, his "apron tamponade" keeping the abdominal cavity well open. He rejects irrigation as liable to cause shock and favor paralysis of the intestines. Spontaneous, continuous pain and its increase under pressure speak for the ichorous variety. In dubious cases under expectant treatment, morphin should be given in very small doses so as not to mask the symptoms.

**Three Extraperitoneal Tumors.** C. Helbing.—The first tumor was a cyst containing ciliated epithelium. It had developed in the cavum Retzii, possibly from relics of the parovarium. The second was a cyst in the vicinity of the tail of the pancreas, springing from the retroperitoneal connective tissue, probably a sarcoma. Both patients were women 43 and 60 years of age respectively. The third patient had a papillary, partially cystic adenocarcinoma in the region of the kidney, with no connection with any retroperitoneal glandular organ and which was traceable to no embryonal germ.

**Two Cases of Urogenital Coli-Bacillosis.** W. Karo.—The colon bacillus was found pure in the pus in the epididymis in both cases. There was concomitant enteritis in each case and both troubles vanished together, suggesting a connection between them, although there had been preceding gonorrheal affection in one case. It is impossible to decide whether there had been originally infection of the urethra and bladder or whether it occurred through the prostate and seminal vesicles or through the blood. The testicle was much involved in both cases and the disturbances commenced acutely with considerable temperature and intestinal disturbances. One patient was a man of 65, and after a comparatively mild stage, evidences of a severe general infection became apparent. This exacerbation may have been due to a suddenly augmented absorption of toxins or to an overloading of the organism with bacteria, which the body disposed of without the production of metastatic affections and which appeared only once, as the focus of the acute lesion was removed with the ablation of the testicle and epididymis. The primary benign phase may have corresponded to the purely inflammatory, suppurative stage and the exacerbation to disturbances in the circulation and necrosis. The other case was more chronic. There was a history of syphilis and gonorrhea in 1895, the next year a second gonorrhea with bilateral epididymitis which was cured after five weeks of hospital treatment. In 1898 a urethral discharge commenced and resisted all treatment until April, 1900, when the patient took a strong purgative and two days later the right testicle became swollen, with much fever and severe pains. The prostatic and seminal secretions contained the colon bacillus pure as in the first case, and it was also derived from the scrotal ulceration by puncture. The latter subsided after the puncture and the enteritis also yielded to calomel. The two cases show that the affection may become threatening at any moment, although the early stage is benign. This suggests the query whether castration should be proposed to the patient earlier in this than in other affections of the testicle, to forestall general infection. Karo thinks this is unnecessary so long as there are no indications of suppuration in the genital glands, and the patient has no serious subjective symptoms. He must be kept under constant supervision and an incision made on evidence of fluctuation or if severe subjective symptoms supervene, or if the fever keeps up unduly long. If the patient's condition still remain threatening, castration should be the last resort.

Wiener Klinische Rundschau, March 31.

**Intraperitoneal Rupture of the Bladder.** Krabbel.—There are only 40 cases of extraperitoneal rupture of the bladder on record, and 152 intraperitoneal ruptures. The differentiation of the two varieties is difficult. It is assisted by rectal palpation under narcosis and a tetanic tension of the abdominal wall. The latter is pathognomonic of an intestinal lesion and also of an intraperitoneal rupture of the bladder, at least in the first few hours. In one case the rupture was both intraperitoneal and extraperitoneal. Dittrich states that a "box sound" in the bladder region, just above the symphysis, indicates a rupture of the bladder in the extraperitoneal portion of the organ. This deep sound is heard after catheterization, probably due to the entrance of air through the catheter. Peritonitis appears about forty hours after the rupture into the peritoneum. The symptoms are much less severe in case of an extraperitoneal rupture and the infiltration of urine is more evident, in most cases. The operation should not be deferred an hour. The incision should be longitudinal and the peritoneum detached and sutured, transforming the intraperitoneal

into an extraperitoneal lesion in which the chances of recovery are far more favorable. Berndt advises incising the bladder to locate the rupture, if necessary. In a personal case reported, Krabbel was erroneously led by the quantity of blood-stained urine voided by catheterization, to assume a mere lesion of the mucosa, but symptoms of peritonitis the fourth day indicated an intraperitoneal rupture. He operated at once, tamponned and cured the patient. He is inclined to believe that an intestinal loop must have been adherent near the spot of the rupture, which partially occluded it and checked the outflow of urine. The small amount remaining in the bladder was absorbed by the peritoneum during three days without disturbance.

**Horseshoe Kidney.** J. Preindlsberger.—This anomaly was noted by the writer six times in the course of 1344 autopsies. In five the kidneys were united below and in one above. Each is illustrated. Four of the subjects were adults; no evidences of renal trouble had been noted in any case. In one case a third renal branch of the aorta emerged from the aorta 1 cm. above its lower fork, and passed to the lower portion of the right kidney.

Wiener Klinische Wochenschrift, March 7.

**Differentiation of a Diverticulum in the Esophagus.** W. Zweig.—Systematic rinsing out of the diverticulum is the only means to prevent stagnation of food in it and consequent disturbances. Faradization, sounding and all other measures are useless, according to Zweig's experience. The cardiospasm causing the so-called idiopathic dilatation of the esophagus, on the other hand, should be treated by systematic, repeated sounding, and the atony of the esophagus dispelled by local faradization. The existence of a diverticulum is frequently suggested by the anamnesis, and study of the sounds made in swallowing shows that the second sound is absent or much modified. The diverticulum can be easily diagnosed by inserting two stomach-tubes with several perforations at the tip. The first almost inevitably finds its way into the diverticulum. When the second is then introduced, it passes directly into the stomach. The capacity of the diverticulum is determined by estimating the amount of stagnated food evacuated from it. The same quantity of a solution of methylene blue is then introduced through the first sound into the diverticulum, where it remains. Slowly withdrawing, then, the second tube—which has passed into the stomach—not a trace of the blue fluid will be evacuated through it, and the tube will not be stained with the blue at any point. In case of a mere dilatation of the esophagus, on the other hand, the colored fluid will pour out from the top of the tube as it enters the esophagus, and the stain will be conspicuous at the tip.

**Auto-Observation of the Elimination of Acetone.** Schumann-Leclercq.—The tests on the author in sound health, which are described, extended over a period of two or three months at the same season of the year in two consecutive years. The results confirm the assumption that the transformations of fat in the body are the principal if not the only source of the acetone eliminated. Carbohydrates diminish the amount of acetone eliminated, by their pronounced inhibiting influence on the transformation of fats.

**Infiltrating Carcinoma of the Bladder.** J. Englisch.—The chief points in the differentiation of infiltrating, from other varieties of carcinoma of the bladder, are the even, exceptional hardness of the bladder walls and the limited capacity of the organ. The infiltrated portion feels like a hard, tough plate, and the bladder, whether full or empty, seems distended and unusually solid, like a youthful bladder. The early, severe pains are also significant. They may be neuralgic in character and radiate to the small pelvis and sacral region, or to the kidneys. Urination is painful and the desire exceptionally frequent, with no relief after emptying the bladder. The urine at first is normal, later becomes cystitic, and finally purulent with numerous coagula. The persistence of these characteristics, unmodified by treatment, is also an important sign in combination with the persisting pains, relief from which can be obtained only from powerful doses of narcotics. Tenderness of the spine or other bones, and numerous metastases, speak for a carcinoma of the prostate. The patient usually applies to the physician for relief from supposed persisting catarrhal symptoms. The neoplasm is then too far advanced for more than a palliative operation. Legueu is the only surgeon who has succeeded in curing a patient thus affected. Albarran has reported seven operations, none successful. The extensive infiltration and adhesions with adjacent organs render the operation peculiarly difficult. If necessary the ureter can be implanted in the sigmoid flexure, or an abdominal fistula can be made to spare the patient the pains of micturition. In the two personal cases reported, a slight difficulty in urinating had been noticed for years, with occasional pain in the sacral region. After a severe cold, micturition became intensely painful and accompanied by hematuria. Pains soon appeared in the renal region and in one case death occurred four months later. The patient was a man of 69. He was unable to tolerate a permanent catheter.

March 28.

**Pathology of Migraine.** M. Sihle.—A careful study of the condition in his own case has convinced Sihle that the connection between migraine and epilepsy is extremely close, even hinting that the future may prove that migraine is an epileptic seizure without convulsions, and epilepsy merely an advanced stage of migraine. He considers it established that a unilateral alteration of the cortex is the indispensable prerequisite, entailing a pathologic susceptibility to chemical influences. The uric acid diathesis, tuberculosis, anemia and similar chronic nutritional disturbances prepare the soil on which the abnormal chemico-toxic effects develop. Besides this, certain agents affecting the brain directly may be the means by which an attack is precipitated, for instance, strenuous mental effort, stimuli affecting a single sense, as strong perfumes affecting the sense of smell, street noises, the hearing, a dazzling light, the sight, irritation from nasal polypi, etc., and digestive disturbances which irritate the brain by the toxins poured into the blood. The "Flimmerscotoma" or temporary partial amaurosis which precedes migraine, in at least half the cases, is usually crossed in respect to the following pain. It is probably due to the action of the toxin on the cortex. As the cortical cells dispose of or eliminate the toxin and return to their previous condition, the toxic elements, leaving the cortex, have to pass the pia, and induce swelling and hyperemia which in turn irritates the nerves and induces the pain. Migraine is therefore a pain in the pia mater. It is usually localized in the temples as the temporal regions are peculiarly susceptible to toxic influences, as shown in the headache after drinking liquor.

Rivista di Patologia Nervosa e Mentale (Florence), January.

**Modifications of Nerve Cells in Acute Intoxications.** M. Camia.—The various phases of functional activity of the nerve cell are probably accompanied by many slight modifications in its anatomic structure, not sufficiently marked to induce any change in its structural physiognomy. In experiments on twenty-four dogs and a number of rabbits and guinea-pigs, injected with large doses of convulsive and narcotic drugs —strychnin, cocain, etc.—the alterations produced in the course of these acute intoxications were comparatively slight and probably reparable. They are evidently due to disturbances in the nutrition of the cell rather than to any functional perturbation. They differ but slightly in the diverse intoxications, varying only in degree, independently of the symptomatology of the intoxication.

**The Efferent Cerebellar Routes.** F. Orestano.—In experiments with dogs who had had the cerebellum removed, actions which are habitually automatic, such as walking, etc., were only possible when the animal exerted its will for each step of the process. If the animal's attention was diverted, it fell over. From these and similar experiences, Orestano concludes that the cerebellum not only presides over the automatic movements in general, but enters largely into the mechanism by which they are produced. The cerebellum relieves the brain of all trouble in regard to habitually automatic actions, with great economy of nerve force and advantage to the higher intellectual functions.

**The Nervous System the Anatomic Counterpart of the Vascular System.** A. RUFFINI.—Apathy's recent discoveries of a fine network of fibrils beyond the supposed terminals, are confirmed and amplified by Ruffini, who is *Libero Docente* of normal histology at the University of Siena. He believes that this discovery completely demolishes the neuron theory, and establishes that the nervous system is the exact anatomic counterpart of the vascular. The terminals should rather be called "expansions," as they are not the terminations of the nerves. He shows that the delicate ultraterminal fibrils of the sensory nerves branch from Meissner's corpuscles and tend always toward the subpapillary layer to which they seem to be limited. They have no mycline sheath and apparently constitute a system independent of the motor fibers. He thinks he has reason to assume that these ultraterminal sensory fibrils communicate with the sympathetic nerve fibers, thus forming a nerve circuit in the sensory sphere, like the circulation in the vascular system or the electric circuit of a battery. He believes that there are two circuits, one through the motor fibers, in which the sympathetic is not concerned, and the other through the fibers and ultraterminal fibrils with the co-operation of the sympathetic, the small corresponding to the pulmonary, and the large to the peripheral, circulation.

Cronica Medica Mexicana (Mexico), April 1.

**Life is Proportional to the Lymphogenesis.** J. B. HERNANDEZ.—This communication presents arguments to prove that the lymphatic system is the most important of all in the economy, and that the blood is merely a part and a continuation of the lymphatic apparatus. So-called inflammation is lymphatic thrombosis. The lymphatic apparatus is the source of life, and here we must seek for the hidden secret of the cause of existence, the remedy of many diseases and possibly new resources for prolonging life. Potassium iodid has the property of rendering the lymph more fluid when it is abnormally coagulable, and the administration of this substance in innumerable cases of adenitis, bronchitis, incipient pneumonia, catarrh of respiratory and genital organs, rheumatic pains, etc., has promptly cured the patients in twenty-four to seventy-two hours, sometimes with complete restitution in less than a day. The success of this treatment indicates that the disturbances were due to a lymph thrombosis on which develops later, unless checked, the process of ordinary inflammation. Tuberculosis, syphilis and many other affections are attributed by Hernandez to the lymphatic system, and the importance of the latter explains the benefits derived from infusion of salt solution in infections.

# Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

HUMAN PLACENTATION. An Account of the Changes in the Uterine Mucosa and in the Attached Fetal Structures, During Pregnancy. By J. Clarence Webster, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology in Rush Medical College. With 233 Illustrations. Cloth. Pp. 126. Price, $3.75 net. Chicago: W. T. Keener & Co. 1901.

AN INDEX OF SYMPTOMS as a Clew to Diagnosis. By Ralph Winnington Leftwich, M.D., Late Assistant-Physician to the East London Children's Hospital. Second Edition. Cloth. Pp. 267. Price, $2.00. New York: Wm. Wood & Co. 1901.

TWENTY-FIFTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS of the New Jersey State Hospital at Morris Plains, for the Year Ending Oct. 31, 1900. Paper. Pp. 79. Trenton, N. J.: MacCrellish and Quigley. 1900.

PROTECTION CUARENTENTARIA de la Isla de Cuba. Por Arthur H. Glennan, Cirujano del Servicio de Hospitales de Marina, Jefe de Cuarentena de la Isla de Cuba. Paper. Pp. 20. Habana: Gaceta Oficial Press. 1901.

TRANSACTIONS OF THE SOCIETY OF ANESTHETISTS. Vol. III. Pasteboard. Pp. 168. London: The Medical Publishing Co. 1900.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. April. Paper. Pp. 27. Published by the Society. 1901.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, John B. Murphy, M.D., Chicago, Alexander D. Blackader, M.D., Montreal, H. C. Wood, M.D., Philadelphia, T. M. Rotch, M.D., Boston, E. Landolt, M.D., Paris, Thomas G. Morton, M.D., Philadelphia, Charles H. Reed, M.D., Philadelphia, J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. Volume 1. Eleventh Series, 1901. Cloth. Pp. 312. Price, $2.00. Philadelphia: J. B. Lippincott Co. 1901.

HYGIENE AND PUBLIC HEALTH. By Louis Parkes, M.D., D.P.H., Lond. Univ., and Henry Kenwood, M.B., D.P.H., F.C.S., Fellows of the Sanitary Institute and Members of the Board of Examiners. With Illustrations. Cloth. Pp. 732. Price, $3.00. London: H. K. Lewis. Philadelphia: P. Blakiston's Son & Co. 1901.

DISEASES OF THE NOSE AND THROAT. By F. De Havilland Hall, M.D., F.R.C.P., Lond., President of the Laryngological Society of London, and Herbert Tilley, M.D., B.D. (Lond.), F.R.C.S., Eng., Surgeon to the Throat Hospital, Golden Square. Second Edition, with 2 Colored Plates and 80 Illustrations. Cloth. Pp. 605. Price, $2.75. London: H. K. Lewis. Philadelphia: P. Blakiston's Son & Co.

LECTURES ON NASAL OBSTRUCTION. By A. Marmaduke Sheild, M.B. (Camb.), F.R.C.S. (Eng.), Surgeon to St. George's Hospital, London. With 1 Colored Plate and 27 Illustrations in the Text. Cloth. Pp. 106. Price, $1.50. Philadelphia: P. Blakiston's Son & Co. 1901.

EXPERIMENTAL STUDY OF CHILDREN, Including Anthropometrical and Psycho-Physical Measurements of Washington School Children, and a Bibliography. By Arthur MacDonald, Specialist in the Bureau of Education. Paper. Pp. 1390. Washington: Government Printing Office. 1899.

THE FEEDING OF INFANTS. Home Guide for Modifying Milk. By Joseph E. Winters, M.D., Professor of Diseases of Children, Cornell University Medical College. Cloth. Pp. 47. Price, $0.50. New York: E. P. Dutton & Co. 1901.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. February. Paper. Pp. 50. Price, $0.15 per copy. Philadelphia: Published by the Society.

THE MEDICAL LAWS Enacted by the Maryland Legislature from 1892 to 1896. Paper. Pp. 23.

FIRST AID TO THE INJURED AND AMBULANCE DRILL. By H. Drinkwater, M.D., Cloth. Pp. 104. Price, $0.40. Edinburgh and London: Ballantyne, Hanson & Co.

BOROUGH OF INVERCARGILL, New Zealand. Standing Orders and By-laws. 1896. Pasteboard. Pp. 125. Invercargill: Southland Times Co.

CONSTITUTION OF THE MEDICAL CLUB OF PHILADELPHIA. Cloth. Pp. 19.

A HANDBOOK OF MATERIA MEDICA, PHARMACY AND THERAPEUTICS, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P., Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco. Eighth Edition, Revised and Enlarged. Cloth. Pp. 950. Price, $5.00. Philadelphia: P. Blakiston's Son & Co. 1901.

INTRODUCTION TO THE DIFFERENTIAL DIAGNOSIS OF THE SEPARATE FORMS OF GALL-STONE DISEASE, Based upon his own Experience Gained in 433 Laparotomies for Gall-stones. By Professor Hans Kehr, Halberstadt. Authorized Translation by William Wotkyns Seymour, A.B. Yale, M.D. Harvard, Formerly Professor of Gynecology in the University of Vermont. With an Introduction by Prof. Kehr. Cloth. Pp. 370. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1901.

A COMPEND OF HUMAN PHYSIOLOGY Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College. Tenth Edition, Revised and Enlarged. With Illustrations and a Table of Physiologic Constants. Cloth. Pp. 270. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1900.

MEMORANDA OF THE POISONS. By Thomas Hawkes Tanner, M.D., F.L.S., Eighth Revised Edition. By Henry Leffmann, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. Cloth. Pp. 175. Price, $0.75. Philadelphia: P. Blakiston's Son & Co. 1901.

THREE THOUSAND FIVE HUNDRED QUESTIONS ON MEDICAL SUBJECTS ARRANGED FOR SELF-EXAMINATION. With the Proper References to Standard Works in which the Correct Replies will be Found. Third Edition, Enlarged, With Questions of the State Examining Boards of New York, Pennsylvania and Illinois. Paper. Pp. 230. Price, $0.10. Philadelphia: P. Blakiston's Son & Co. 1901.

THE MEDICAL NEWS POCKET FORMULARY FOR 1901. By E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy, and Materia Medica in the Jefferson Medical College, Philadelphia. Third Edition, Revised and Enlarged. Leather. Pp. 287. Price, $1.50 net. Philadelphia and New York: Lea Brothers & Co. 1901.

LARYNGEAL PHTHISIS OR CONSUMPTION OF THE THROAT. By Richard Lake, F.R.C.S., Surgeon Laryngologist, North London Hospital for Consumption. With 36 Illustrations, 21 of which are Colored. Cloth. Pp. 94. Price, $2.00. Philadelphia: P. Blakiston's Son & Co. 1901.

INTERNATIONAL MEDICAL ANNUAL: A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX. 1901. Nineteenth Year. Cloth. Pp. 682. Price, $3.00. New York: E. B. Treat & Co.

## New Patents.

Patents of interest to Physicians, April 2 and 9:

671,307. Soda-water dispensing fountain. Charles H. Clark, Newark, N. J.

671,337. Ligating forceps. Llewellyn Gibson, Lansing, Mich.

671,067. Surgical instrument. August Heiss, Solingen, Germany.

671,420. Electrotherapeutic spectacles. Alexander F. Humphrey, Allegheny, Pa.

671,138. Instrument for improving the hearing. Adolphus A. Knudson, Rutherford, N. J., and F. H. Clark, Brooklyn, N. Y.

671,346. Nasal douche cup. Ernst G. Lochmann, Leipsic-Gohlis, Germany.

670,998. Atomizer. Samuel F. Patterson, Baltimore, Md.

671,247. Medicine spoon. Anna E. Super, Narberth, Pa.

34,312. Design, medicinal tablet. H. P. Ewell and E. A. Everett, Rochester, Mich.

34,313. Design, finger slide and wire holder, for surgical snares. Richard P. McCully, Brooklyn, N. Y.

671,622. Pharmaceutical compound and making same. Arthur Eichengrun, Elberfeld, Germany.
671,477. Vaginal syringe, James Graham. Detroit, Mich.
671,804. Coated pill, etc. Frederick H. Metcalf, Franklin, Ill.
671,499. Sterilizing apparatus. Austin V. M. Sprague, New York City.
671,500. Door for sterilizing apparatus. Austin V. M. Sprague, Brooklyn, N. Y.
34,337. Design, blank for specula. Charles J. Pilling, Philadelphia, Pa.
34,338. Design, blank for rectal speculum blades. Charles J. Pilling, Philadelphia, Pa.
34,339. Design, blank for speculum blades. Charles J. Pilling, Philadelphia, Pa.
34,340. Design, blank for speculum blades and handles. Charles J. Pilling, Philadelphia, Pa.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., April 11 to 17, 1901, inclusive:

Roger Post Ames, acting asst.-surgeon, leave of absence granted with permission to go beyond sea.

Aaron H. Appel, major and surgeon, U. S. A., leave of absence granted.

Davis Boak, dental surgeon, from Martinsburg, W. Va., via San Francisco, Cal., to duty in the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of an examining board convened at the Army Building, New York City, relieving Major H. S. Kilbourne, surgeon, U. S. A.

Calvin DeWitt, lieutenant-colonel, deputy surgeon-general, U. S. A., relieved from further duty as chief surgeon, Department of Dakota, to report in person to the Surgeon-General of the Army for duty.

Albert H. Eber, captain and asst.surgeon, Vols., recently appointed, leave of absence granted, on the expiration of which he will proceed from St. Clair, Mich., via San Francisco, Cal., to duty in the Division of the Philippines.

Frederick C. Jackson, captain and asst.-surgeon, Vols., previous orders revoked, leave of absence granted on the expiration of which he will proceed to Columbus Barracks, Ohio, for temporary duty.

Ernest K. Johnstone, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

Henry S. Kilbourne, major and Surgeon, U. S. A., is detailed member of a board in San Francisco, Cal., for examination of candidates for admission into the Medical Department of the Army, relieving Lieut.-Col. B. F. Pope, deputy surgeon-general, U. S. A.

Clarence E. Lauderdale, dental surgeon, from Naples, N. Y., via San Francisco, Cal., to duty in the Division of the Philippines.

George B. Lawrason, captain and asst.-surgeon, Vols., recently appointed and now in Washington, D. C., to proceed via San Francisco, Cal., for duty in the Division of the Philippines.

James W. Madara, captain and asst.-surgeon, Vols., recently appointed, from Lexington, Ky., via San Francisco, Cal., to duty in the Division of the Philippines.

Francis M. McCallum, captain and asst.-surgeon, U. S. Vols., former orders amended as to direct him to proceed from Fort Reno, Okla., via Jefferson Barracks, Mo., to San Francisco, Cal., en route for service in the Division of the Philippines.

Edgar A. Mearns, major and surgeon, U. S. A., sick leave extended.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., found disqualified physically by an examining board and retired from active service as a major to date from April 13, 1901, the date on which he would have been promoted to that grade by reason of seniority if he had been found qualified.

William B. Summerall, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., for duty in the Division of the Philippines.

Alfred A. Woodhull, colonel and assistant Surgeon-General, U. S. A., retired from active service, by operation of law, having reached the age limit of 64 years.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 18, 1901:

Surgeon G. T. Vaughan, reassigned to duty in the Marine-Hospital Bureau. April 13, 1901.

P. A. Surgeon H. D. Geddings, directed to proceed to Buffalo, N. Y., for special temporary duty in connection with the installation of the Marine-Hospital Service exhibit at the Pan-American Exposition.

P. A. Surgeon Rupert Blue, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon H. B. Parker, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon M. H. Foster, two days' leave of absence granted Asst.-Surgeon Foster by Bureau letter of March 11, revoked. April 18, 1901.

Asst.-Surgeon G. H. Corput, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon Dunlop Moore, relieved from duty at Port Townsend quarantine, and directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon T. D. Berry, granted leave of absence for thirty days from May 2. April 13, 1901.

A. A. Surgeon J. C. Ballard, leave of absence granted by Bureau letter of February 4, amended to read six days from April 23.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for seven days. April 13, 1901.

A. A. Surgeon R. H. McGinnis, directed to proceed to St. Augustine, Fla., for special temporary duty. April 12, 1901.

Hospital Steward S. W. Richardson, directed to proceed to Buffalo, N. Y., and report to P. A. Surgeon H. D. Geddings for special temporary duty. April 17, 1901.

Hospital Steward L. P. Hall, directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters. April 13, 1901.

APPOINTMENT.

Louis P. Hall, of New York, appointed junior hospital steward in the U. S. Marine-Hospital Service. April 12, 1901.

## Navy Changes.

Changes in the Medical Corps of the Navy for the week ending April 20, 1901:

P. A. Surgeon N. J. Blackwood, detached from Naval Hospital Philadelphia, April 17, and ordered to the *Alliance*.

P. A. Surgeon L. Morris, detached from the Naval Academy and ordered to Naval Hospital, Philadelphia, April 17.

Asst.-Surgeon R. E. Peck, ordered to the Pensacola, April 25.

Surgeon J. P. Urie, detached from the *Dolphin*, April 20, and ordered to Marine Recruiting Rendezvous, Boston.

Surgeon E. P. Stone, detached from the Naval Dispensary, Washington, April 19, and ordered to the *Dolphin*.

Surgeon F. Anderson, ordered to the Naval Dispensary, Washington, D. C., April 19.

Surgeon J. E. Gardner, detached from Marine Recruiting Rendezvous, Boston, and ordered to the Naval Hospital Cavite, P. I. April 22.

Asst.-Surgeon C. G. Smith, appointed asst.-surgeon, April 12, 1901.

Surgeon W. F. Arnold, detached from the *New Orleans* and to duty at Olengapo, P. I.

P. A. Surgeon A. Alfred, ordered to duty with Marine Brigade Cavite, P. I.

Asst.-Surgeon E. H. J. Grow, detached from the *Glacier* and ordered to the *Isla de Luzon*.

Asst.-Surgeon J. Stepp detached from duty with First Regiment Marines, Cavite, and ordered to the *Castine*.

Asst.-Surgeon H. C. Curl, detached from *Castine*, and to Cavite P. I.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 20, 1901:

SMALLPOX—UNITED STATES.

California: San Francisco, March 30-April 13, 5 cases.
District of Columbia: Washington, April 6-13, 1 case.
Florida: Jacksonville, April 6-13, 14 cases.
Illinois: Chicago, April 6-13, 10 cases.
Iowa: Clinton, April 6-13, 1 case.
Kentucky: Lexington, April 6-13, 7 cases; Louisville, April 5-13, 1 case.
Louisiana: New Orleans, April 6-13, 12 cases, 2 deaths.
Maryland: Baltimore, April 6-13, 1 case.
Massachusetts: Fitchburg, April 6-13, 1 case, 1 death.
Michigan: Detroit, April 6-13, 3 cases; smallpox present at 104 places, April 6-13.
Minnesota: April 6-13, Minneapolis, 8 cases; Winona, 1 case.
Nebraska: Omaha, March 30-April 13, 18 cases.
New Hampshire: Manchester, April 6-13, 3 cases.
New Jersey: Jersey City, March 31-April 7, 7 cases; Newark, April 6-13, 1 death.
New York: New York, April 6-13, 44 cases, 11 deaths.
Ohio: Cincinnati, April 5-12, 1 case; Youngstown, April 6-13, 1 case.
Pennsylvania: April 6-13, Lebanon, 1 case; Pittsburg, 4 cases, 1 death; Steelton, 4 cases.
South Carolina: Charleston, April 8, 1 case.
Tennessee: April 6-13, Memphis, 5 cases; Nashville, 16 cases.
Utah: Salt Lake City, April 6-13, 25 cases.
West Virginia: Huntington, March 23-April 13, 62 cases; Wheeling, April 6-13, 1 case.
Wisconsin: Milwaukee, April 6-13, 1 case.

SMALLPOX—FOREIGN AND INSULAR.

Belgium: Antwerp, March 23-30, 6 cases, 3 deaths.
Brazil: Rio de Janeiro: March 1-15, 13 deaths.
China: Hongkong, March 2-9, 2 cases, 1 death.
France: Paris, March 23-30, 12 deaths.
Gibraltar: March 23-30, 1 case.
Great Britain: Scotland—Dundee, March 23-30, 1 case. Glasgow, March 29-April 5, 10 deaths
India: Bombay, March 12-19, 10 deaths; Calcutta, March 8-16, 151 deaths; Karachi, March 10-17, 14 cases, 5 deaths; Madras March 9-15, 11 deaths.
Italy: March 23-30, Messina, 1 case; Naples, present.
Mexico: Mexico, March 23-31, 1 death; Vera Cruz, April 6-13, 1 death.
Russia: Moscow, March 16-23, 8 cases; Odessa, March 23-30, 5 cases, 1 death; St. Petersburg, March 16-30, 30 cases, 4 deaths Warsaw, March 16-23, 7 deaths.
Porto Rico: Ponce, March 30-April 1, 4 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 1-15, 36 cases, 28 deaths.
Colombia: Panama, April 1-8, 7 cases, 1 death.
Costa Rica, Port Limon, April 5, 1 case.

CHOLERA.

India: Bombay, March 12-19, 3 deaths; Calcutta, March 2-16, 43 deaths; Madras, March 8-16, 3 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, April 6-13, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Africa: Cape Town, to March 9, 100 cases, 27 deaths.
Brazil: Rio de Janeiro, March 1-15, 1 death.
China: Hongkong, March 2-9, 15 deaths.
India: Bombay, March 12-19, 1,203 deaths; Calcutta, March 8-16, 819 deaths; Karachi, March 10-17, 163 cases, 126 deaths Madras, March 9-15, 1 case.

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## Original Articles.

### THE DIAGNOSIS AND TREATMENT OF INJURIES OF THE HEAD.*

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Injuries of the head are frequent, exceedingly variable in character, notably uncertain of prognosis, and often disastrous in their immediate or remote results. There is considerable difficulty in classifying serious lesions of this region to the greatest practical advantage. The usual tendency to place special emphasis upon the presence or absence of fracture of the bones is misleading clinically, because, for the most part, fracture when recognizable is of entirely secondary importance to injury of the cranial contents, because fracture is not always recognizable or treatable, and because in any event the treatment of skull fractures has little in common with that of other bones.

It is exceedingly helpful to study head injuries from a distinctly clinical standpoint somewhat after the manner in vogue in the presence of injuries to the other great cavities, the adbomen and thorax. In the one case as in the others, the chief rôle of treatment lies in the prevention of infection and the control of hemorrhage, together with the removal of the sources of present or future cortical irritation. That diagnosis which is sufficient to point the way to the most efficient treatment is alone of paramount importance; the exact recognition of conditions about which nothing material may be done is more or less vain, particularly if it divert the attention from a single detail of practical succor. Hence, that practical diagnosis which promptly recognizes the indications for action, or appreciates the negative signs which counsel masterly inactivity, is the most utile.

It is my present purpose to call attention to some perhaps well known, but sometimes forgotten, precepts, and to elicit discussion upon some still unsettled problems in the technique of opening and closing the skull.

The first duty in all head injuries is a careful and systematic examination. For this purpose it is always desirable, and usually necessary, to clip or shave the whole head. If there has been extensive wound of the soft parts, ever so slight a penetrating wound or fracture of the skull, shaving the whole head should be insisted on as the first necessity. The most astounding blunders in diagnosis as well as barbarous transgressions of the laws of asepsis are still occasionally observed. I have known a boy to be carted about and $x$-rayed in two or three planes, at great trouble, expense and risk, when a few moments subsequent use of the razor showed the small bullet to have emerged three-fourths of an inch from the wound of entrance.

All points of contusion, ecchymosis or hematoma, should be carefully noted and examined. Two conditions need special consideration: 1. The natural irregularities of the skull. Such depressions may be mistaken for depressed fractures, or, much more frequently, in damage cases are claimed as such later on. If the head has been shaven and carefully examined at the time of accident such claims may often be much more easily refuted. 2. The embossments and tumefactions caused by extracranial effusions of blood may lead to errors of diagnosis unless carefully studied. Such effusions may be located superficially in the cellulo-fatty tissue, i. e., subsutaneously, or deeply. The subcutaneous boss is sharply circumscribed. If small in quantity and intimately infiltrated into the cellulo-fatty tissue it is remarkably hard, but if the quantity be large so as to dissect up the tissues, it is soft and fluctuating. But this fluctuation is superficial and readily distinguished from that of a subaponeurotic effusion. The bosses produced by subaponeurotic and subperiosteal effusions are more diffuse, their hardness more abrupt and fluctuation, if present, deep. Usually these effusions give rise to little trouble in diagnosis, but under certain conditions they may quite remarkably simulate fracture with depression. First in the early history of the case, when there is at once infiltration into the subcutaneous tissues and also a deep effusion, one finds the boss from the start hard on the periphery and soft in the center, giving the appearance of a distinctly depressed area of bone. I have known this condition in two instances to mislead the examiner into a diagnosis of depressed fracture; continued pressure on the hard rim, however, enables the finger to recognize the subjacent bone in its normal plane with that of the apparently depressed region. Second, at a later period a deep-seated embossment may undergo central softening while the periphery remains hard.

A careful study of the discharges of blood and serum from the ear or nose, the behavior of ecchymosis of the mastoid region, of the conjunctivæ, of the pharynx, etc., and the disturbance of function of cranial nerves, is important. In case of external wound or probable fracture at the base communicating with the exterior, the greatest possible antiseptic precautions should be at once instituted. It is well as a routine practice to cleanse the various cavities, exposing the brain to infection when fracture communicating with them is thought possible. The nose should be douched with boric acid solution, and nostrils lightly plugged with sterile cotton. The mouth and pharynx need to be kept cleansed by mild antiseptic washes. While all this may sound stale, we are frequently reminded at the bedside that the average practitioner is still far from alive to the necessity of prompt and constant attention to these de-

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tails in head injuries. Men who exhibit considerable respect for the abdomen, aseptically speaking, forget the needs of the cranial cavity, especially if there be no glaring cranial wound.

If there be scalp wound, compound fracture, or any indication for operation, the scalp must be cleansed in the most thorough manner possible. It should be thoroughly scrubbed with hot water and soap; then with 1 to 20 chlorinated soda, rinsed off with sterile water; rescrubbed with 1 to 1000 bichlorid and covered with a mild, moist bichlorid gauze dressing; wounds of the soft part are explored, perhaps enlarged, carefully irrigated and cleansed, and if lacerated and contused, trimmed with scissors in a surgical manner.

If there is no indication for immediate operative interference, the patient should be placed under the care of a good nurse, who may watch and record the pulse, temperature, respiration and movements of the patient. He should be placed in a warm bed with the head low. During the early stages of concussion, warmth to the feet, counter-irritation to the epigastrium and cardia are useful. If the pulse becomes bad, strychnia or atropin may be administered. In the stage of excitement which usually follows the period of depression, great restlessness, headache, etc., the bromids, or even a little morphin, is useful. However, in this class of injuries the first and greatest duty is rigid asepsis. The second is the securing of a careful consecutive history of the progress of the case from the time of the injury, and this should be reduced to writing as it transpires and not left to guess-work and memory. And third, the observation of certain general precepts, among which may be stated: The recumbent position, with absence of noise and excitement, should be kept until the symptoms have well resolved. All cases of serious head injury should be carefully observed for at least a month. The prognosis should be guarded, and in cases liable to litigation, it should be guarded both ways. Persons looking for damages are liable to store up all the symptoms and loose talk of the doctors and make the most of it. It is as unwise to discuss all the possible calamities that might follow a blow on the head, as to assure such a patient when he wakes out of the concussion that he is all right. The better course for all concerned is to observe keenly until the case is cleared up; state only the evident facts and prophesy not.

Having made such a local examination and thrown out the necessary lines of defense, so to speak, he is in a position to with safety assume the offensive in case of necessity. While he may still often be far from clear as to the extent, seriousness and outcome of the case, so far as his activity is concerned, he finds it already falls, or in its further development will fall, into one of the following four classes, or one of their subclasses:

*Injuries Without Important Local Signs or Definite Focal Symptoms.*—The following instance may be taken as somewhat typical in a general way of this class, though perhaps unusually severe:

P. W. D., a switchman, aged 38, was coupling cars, Dec. 3, 1898, when the draw-pin broke and a piece of it struck him with great force on the top of his head. He fell unconscious and was removed at once to the hospital, reaching there at 10 a.m. in a semicomatose condition, his pulse 72, rectal temperature 98 degrees. On my arrival at 12:30 he was taken to the operating-room; the head completely shaved and cleansed; the ears cleansed and examined, no discharge or injury found, but insufflated with boric acid and plugged with cotton. There was a contusion 1½ inches long and about one-half that breadth at the vertex, in the medial line, the most careful examination revealing no evidences of fracture. The abrasion was dressed with boric acid powder, the head bandaged and the patient returned to bed. He vomited twice during the day. There was retention of urine requiring the use of the catheter for fourteen days, or till December 17. From the time I saw him, at 12 m., December 3, till December 14, or eleven days, he remained in a semicomatose condition most of the time, i. e., he slept or snored most of the time when left alone, but at times was restless and flopped about and had to be strapped in the bed. When attempts were made to catheterize him he became very violent, insomuch that it took several persons to hold him, and once my assistant had to give chloroform to draw the urine. During these eleven days he spoke twice—on the second and ninth day he asked for a drink.

His temperature, a trifle subnormal at first, after the second day rose slightly above normal occasionally, but fluctuated between 97.5 and 100 F. The pulse on the third day reached the lowest point, of 42; during the next four days it varied between 42 and 60. During the second week the pulse was still more variable, some days varying from 58 to 85. On the fourth day he would sit up and take milk when told to do so, and he occasionally seemed to vaguely understand some things that were said to him, but he did not regain consciousness to know where he was or what was wrong until December 17, two weeks after the injury. December 10, at 9:30, he had a convulsion which was general and lasted but about two minutes; also a similar one December 12. Several uranalyses showed nothing of special interest, unless some increased indican reaction. From December 15 to 22, his condition gradually cleared up and he was taken home on the latter date. He was up and about the house, complaining of some headache, weakness and dizziness, gradually improving until January 14, when he came to the office, and resumed work a week later, or seven weeks after the accident.

I will not at this time discuss the condition further than to say that, at the first examination, my diagnosis might be said to have been the negative one: Severe head injury, no external wound, no focal cerebral symptoms, no indication for operation. During the further watching through two weeks with rational attention to symptoms, nothing occurred to remove the case from this category until spontaneous recovery.

If time permitted, many cases might be related as starting out in this class, but which, after a few hours or a few days, variously deviated in the most diverse courses. Of course the development of localized cerebral symptoms removes the case to another class and indicates our surgical duty, but until such indications arise the treatment must be non-operative, let the outcome be what it may. To open the head under such conditions is to go hit-or-miss, quite as likely to do harm as to do good, and is on a par with the generalship which would lead an army blindly into an unknown country and against an enemy of which nothing was known save that one of some kind existed somewhere. In the one case as in the other, chance may now and then approve the result, but the rule must be disaster, and the practice is not scientific.

*There is Fracture of the Vault without Wound.*—These cases may be considered under the following subdivisions:

1. There are local signs—i. e., of fracture—but no focal cerebral symptoms. The same methodical examination of the head indicates fracture. Sometimes a fis-

sure may be detected by the finger, or a point may be felt which yields under the finger pressure, or local tenderness and the reaction of defense may convince the surgeon that fracture is present. Yet, however clear the evidence of fracture, excepting only a considerable depression over the motor areas, there is no indication for immediate operation. Wait and watch developments just as in the previous instance; if, as the concussion dissipates, giving place to a sort of hebetude with ability to move the limbs at command, the facial expression regular, speech slow but correct, in short, no localized phenomena, the treatment becomes identical with that outlined above.

If, however, the examination has disclosed a depression, there is longer but little difference of opinion as to the proper course. It may well be doubted whether a moderate depression of a considerable area of skull is of itself a serious matter. Indeed, the depression of a small area is more often accompanied with sources of irritating mischief than the slight flattening of a considerable area. But in either event it is the possibility of displacements of fragments of the internal table, injuries to brain and membranes, and probable blood-clots that render the advice to always trephine in the presence of decided depression wise. Under careful and judicious operating, with proper facilities for rigid asepsis, even suspected depression had best be cleared up by exploratory incision and actual depression always relieved by trephining. Under less perfect conditions for operating, some slighter depressions unaccompanied by external wound or localized cerebral symptoms are not of such imperative importance as to justify hasty resort to opening the skull. The condition can wait; a secondary operation under perfect conditions is preferable to the slightest risk of infection.

2. There are local signs of simple fracture with focal cerebral symptoms. These are the cases of real urgency. The necessity for operative interference is clear and unmistakable. It only remains to interpret the symptoms and decide upon the operative technique. There are four sets of cases falling under this subclass:

*a*. The focal symptoms are on the side opposite the cranial lesion. There is aphasia, or hemiplegia, or a monoplegia of the upper or lower extremity. To trephine at the site of injury including the motor area indicated by the focal symptoms, is the clear and sole indication.

*b*. The focal symptoms are on the *same* side as the cranial lesion. Here the indications are not quite as clear in detail. Lejars advises first trephining at the site of injury, which may, he says, discover conditions dispensing with further intervention; if not, he then advises trephining in the zone indicated by the focal symptoms. In the cases of this class falling under my observation I have trephined at once on the side opposite the injury, found and removed the clot and ligated the vessel, and relieved the patient without exploring at the point of injury at all. If there were manifest cause to open at the point of injury, it may be granted that it were well to do that first, but it should be remembered that in this class of injury the mischief is apt to be chiefly on the opposite side of the skull, with perhaps none, or but slight, fissure at the point of receipt of the injury. If the force is such as to crush in the skull at the point of injury, *contre-coup* symptoms are not often observed. The experiments of Felizet show the rationale of these so-called *contre-coup* injuries, and why, though the skull is sometimes fractured on the opposite side, much more frequently lesions of the cranial contents take place there. On account of the elasticity of the skull as a whole, compression of one side by a blow causes a corresponding falling of the opposite pole. Being less elastic and more friable than bone, the brain and membranes are more liable to laceration. It would seem the most rational course in these cases to trephine at the point indicated by the focal symptoms, and open at the site of injury only in case of clear indications for so doing.

*c*. There is crossed paralysis, facial paralysis on the same side, and mono- or hemiplegia on the side opposite to the site of injury. The indication remains to trephine over the motor area implicated, though the prognosis is bad, as the facial paralysis indicates an extension of the fissure to the base, involving the temporal bone.

*d*. The symptoms are associated in a complex fashion, and without connection with any determinable cranial lesion. There is probably extensive brain contusion, and the prognosis is always obscure. There is no rational basis for operative interference, and the treatment must be along the general lines indicated in the first category.

3. With, or more frequently without, local signs of fracture, there arise localized cerebral symptoms of compression indicating, most frequently, rupture of the middle meningeal.

In these injuries often the patient has not been rendered entirely unconscious or has remained so but a few moments. He may have been able to get up and walk about some. In any event, after the initial stupor has passed off, there is seen to be no paralysis. If now, after such a free interval, whether of some minutes' or some hours' duration, a slowly progressive hemiplegia develops, renewed loss of consciousness, depressed or stertorous respiration, perhaps dilatation of the pupil of the injured side, the indication is clear to at once open the skull at the proper point, evacuate the compressing clots and seek to control the hemorrhage. At the operation one of three conditions may confront us: *a*. By far most commonly an extradural hemorrhage from the middle meningeal, and generally from the anterior branch. This is the most satisfactory condition, because if promptly recognized and the artery tied or controlled, the brain is ordinarily not injured, and the prognosis good. *b*. If on opening the skull at the point of election, no extradural clot is found, but the dura is tense and bulging into the wound, perhaps showing a dark bluish color, on opening the dura a subdural clot is found, the clot should be removed with more care and with less attempt to follow up the thin diffuse margins, which may injure the brain or excite grave cortical hemorrhage. *c*. It may be, after the dura is opened, that but a thin layer of blood covers a bulging dark cortex, indicating an intracerebral hematoma, in which case the cortex must be incised, the clots evacuated; if bleeding continues, tamponade of the cavity. The prognosis in the latter, particularly the last, variety of intracranial hemorrhage is most grave, and the treatment far less satisfactory than in the extradural variety.

*There are Signs of Fracture of the Base, but no localized Cerebral Symptoms.*—Ecchymoses appearing without other cause beneath the conjunctivæ and eyelids, the mucosa of the pharynx, or in the mastoid region, are often quite pathognomonic of fracture through the respective fossæ. Hemorrhage from the ear, nose or pharynx may be cautiously taken as evidence of fracture, when an extracranial source of the bleeding is fairly excluded, and the less frequent escape of cerebrospinal fluid, when demonstrated, is conclusive. The

paralysis of cranial nerves is also frequently sufficiently characteristic in its course to justify alone or in connection with other symptoms, the diagnosis of fracture.

Slight fractures of the base of the skull probably often occur without any diagnostic symptoms. I find many physicians look upon fracture of the base as almost necessarily fatal, and point to eventual recovery as proof that the diagnosis of fracture was erroneous. Even Gross[1] says: "Fracture of the base, if at all severe, is seldom followed by recovery. I myself, out of at least a dozen instances of this kind, witnessed only one in which the patient was saved."

I can recall at least half a dozen instances in which the evidences of fracture were clear, and yet the patients evidently recovered. In one case in particular, a large array of surgeons and specialists agreed with me and reported to the railway company that the patient would die, yet he finally recovered. There is no reason why fissure running into or across the base of the skull should necessarily be fatal, and under proper care and treatment many such cases do recover. Deroubaix[2] says: "The prognosis in fracture of the base is much more favorable than formerly taught; some surgeons of the present day even assert that there are more recoveries than deaths."

Next to severe concussion and brain laceration, the chief causes of death are hemorrhage and infection. Operative interference has never in my experience been of avail in these cases, i. e., in the absence of focal brain symptoms, though the condition would seem to indicate intracranial pressure probably from hemorrhage. In a man who remained unconscious at the end of ten days, I trephined low down in the temporal region and removed some clots from the middle fossa. He regained consciousness somewhat for several days, but finally died and the autopsy showed deep inaccessible brain abscess from infection through the ethmoid.

In short, for the most part, the preventable deaths from these injuries are due to infection. If the concussion and brain contusion has not been sufficient to destroy life, these patients would survive if infection, usually through the nose and ear, could be prevented. Unfortunately our best endeavors are, in the nature of the case, very imperfect, since anything like a sterilization of the nasal, pharyngeal and aural cavities is entirely impracticable. None the less, a careful initial cleansing and continued care of the ear, nose and throat in all fractures of the base is perhaps not yet sufficiently practiced.

Occasionally a brain abscess develops later and may be located by inference or by symptoms, and opened with some prospects of success. It is sometimes several months after the injury before the symptoms of abscess arise. The three instances falling under my observation did not succeed because there were other foci, discovered only at the autopsy, which could not be located or reached. In other words, infection in fractures of the base is for the most part too acute and diffuse or too deep-seated to be relieved by operation, and even the rarer chronic and localized suppurations arising from this cause are apt to present either difficulty in localization or multiple foci so that after the surgeon has been fortunate enough to open and drain a pus cavity, he finds at the autopsy that one or more others have escaped him.

*Fracture of the Vault with Wound.*—This condition always calls for more or less operative interference. In all cases the whole head should be rendered as aseptic as possible, the wound cleansed and enlarged sufficiently to well explore the seat of fracture. These injuries are so various that only general principles can be enunciated, but it may be asserted that it is well to open the skull sufficiently to remove all fragments, clots and foreign bodies and to elevate depressed areas.

In this class of injuries the head has already been more or less opened for us, and it often remains only to carefully pick out the crushed pieces with forceps and elevator and smooth up rough edges and spicula with rongeur or chisel. If the breach in the cranial vault is less complete, a small trephine hole partly placed on the sound border gives us *entré* to the depressed area. In opening these already crushed crania, the elevator, chisel, small trephine and rongeur forceps are quite sufficient. There appears to be no practical way yet devised to avoid the loss of the protective bony wall in these cases, at least primarily. Whatever may be said of autoplasty or heteroplasty, it will, I think, be conceded that such operations are not often practicable in traumatic cases unless as secondary procedures. The conditions are not favorable to the perfect healing in of a foreign body, and the patient suffering from a recent skull fracture extensive enough to call for remedy of the defect is in no condition for a prolonged autoplastic procedure. Furthermore, experimental studies and practical results leave it very open to doubt whether any of these methods fulfil their real practical object, viz., avoidance of cortical irritation, any better on the whole than simple aseptic healing without irritation.

Our technique in intracranial surgery is still extremely defective in two regards: 1, in not yet having perfected an easy, rapid and safe method of opening the skull; 2, in our inability to prevent a more or less welding of all the tissues, brain, membranes and scalp into one scar, which often proves a source of cortical irritation.

While large bony defects of the cranial vault are not without their very manifest inconveniences, it may be doubted whether the loss of bone is per se the cause of irritating symptoms. It is quite clearly the cohesion of the cortex and superficial parts that is most objectionable. Some years ago Park advised the use of gold leaf between the injured cortex and the dura. I believe he has since found it impracticable. In two very favorable non-traumatic cases I employed it. Although both ran a perfectly aseptic course, there soon—three and four weeks—appeared a fluctuating, painful swelling which had to be opened, evacuating a quantity of serum, and this continued to reopen until the gold foil was wholly removed; I therefore ceased further trial of it. Minter[3] reports similar results. Some one proposed the use of egg membrane as an absorbable material for this purpose, and I also made use of it twice in trephining for traumatic epilepsy, with precisely similar results. The wounds healed perfectly, but at the end of two weeks a painful swelling appeared, and the egg membrane had to be removed. In one case the wound was re-opened, the serum evacuated and, as I supposed, the egg membrane all removed, the wound reclosed and the patient was sent home much improved, but as is usual in such cases, *not* entirely cured of his epilepsy. A swelling reappeared under the scalp, and the family doctor some weeks later opened it and another considerable piece of egg membrane came out, after which the wound permanently closed.

McKosh[4] reports a case which he trephined for epilepsy in which in the center of a mass of dense connective tissue he found some blackish particles, which proved on examination to be fragments of rubber—the remains of rubber tissue put in at a previous operation

to prevent adhesion of the cortex. The scar tissue surrounding it, which was removed, represented a tumor the size of a walnut.

From my own brief experience and such reports as have come to my notice I am convinced that the insertion of foreign substances between the dura and cortex is wholly objectionable. That far from preventing adhesions it usually increases them by the irritation which it excites, even under the most favorable conditions.

One object of removing blood clots is to prevent cyst formation, and foreign substances would appear more objectionable than blood, and I think experience has proven them to be so. So far as adhesions of the cortex and dura are concerned we may safely rely, for the best possible results, on securing the most rapid aseptic healing, after the greatest possible conserving of the dura, and, as far as possible, stitching it carefully together with fine catgut. In closing the head, as in closing the abdomen, the best results follow the most accurate approximation of the different tissues, layer by layer. But where, as in the present case, the bone is necessarily fragmented and wholly removed from its vascular connections the defect may as well be left, at least for the present, but approximating the other structures as accurately as possible and securing healing with the least excitation of connective tissue. When the defect is small and the periosteum preserved, especially in children, bony repair takes place.

Some have laid stress on replacing trephine buttons, or even advised covering the defect with a mosaic of the fragments removed, and it is true that they sometimes appear to succeed. However, there are two objections to the practice: 1. Especially in traumatic cases these pieces often undergo necrosis and have to be removed, and when they thus delay union they excite connective tissue proliferation and, in addition to failing in their object, leave a less favorable cicatrix. 2. The histologic observations, after bone implantation, by Barth[6] and others show that pieces of bone which have been separated entirely from their anatomical surroundings, when returned to their former place, or placed in another defect in the human skeleton, indeed may grow, yet in all cases undergo necrosis.

The trephine button, about the fifth day, is found adherent to the dura by a deposit of fibrin, while the chinks and spaces about it are filled with fibrin. The nuclei of the transplanted bone cells appear as empty spaces or are seen to undergo degeneration. Now an active proliferation of connective tissue begins over the periosteum and dura mater; young granulation tissue grows into the spaces of the dead bone button, absorbs the fibrin coagulum, incloses in its meshes and vascularizes the dead bone as a porous foreign body. Almost immediately—sometimes after the seventh day—a deposit of new bone over the dura mater begins, which is deposited in lamellæ through the dead bone. It is this constant deposit of new bone through the dead button that is peculiar to the first few weeks. This goes on steadily from week to week as the dead bone becomes replaced by the living; it goes on without any anatomic appearance of the old bone being absorbed; it much resembles cartilaginous bone formations as observed in fetal long bones. According to B., this process is found in all cases where the button is not cast off as a sequestrum; it heals thus only when it fits well into the defect; the whole process takes perhaps two months, under favorable circumstances; he replaced buttons after maceration in potash and staining with boiling carmin; they healed in the same manner as fresh implanted pieces.

Von Eiselsberg, Fraenkel and others appear to hold the same views. The latter claims that all organic material becomes adherent to the dura and that only inorganic material, into which granulations from the dura can not enter, prevent adhesion. From the time of Paré attempts have occasionally been made to implant metallic plates into skull defects, and gold, silver, platinum, aluminum and many other substances have been tried. Of late years interest in the matter has revived and the practice apparently increased. The general opinion appears to be that celluloid is the best material. Among the good qualities of the material are cheapness, lightness, ease of shaping with scissors and its being a relatively poor conductor of heat. Dr. Curtiss suggests that aluminum plates might be absorbed in the course of years under the alkalinity of the blood serum. It is not, however, my intention to go deeply into this question, since I believe the use of such plates is not as yet to be advised in primary traumatic cases, and, in any case, it is still an open question whether they really accomplish their main object of preventing irritation of the cortex. Hence it has appeared to me that the best results in cases where the skull is crushed in by accident are likely to follow the greatest possible conservation of bone, periosteum and membranes consistent with efficient work, with accurate adjustment of the soft parts, especially of the dura and the periosteum, and rapid aseptic healing. In operating through an intact or simply fissured skull, however, as for rupture of the meningeal artery, the matter is quite different. Under such conditions the trend of surgical opinion is strongly toward a more ideal opening and closure of the cranium, and the use of trephines, rongeurs, etc., which sacrifice considerable areas of bone and slowly produce, often, quite inefficient access to the cavity, are deprecated. In such cases osteoplastic resections of large bone flaps (Wagner, 1889) has many advantages, and is strongly to be advised. It is more easy and certain to find and to ligate vessels and to remove clots by this method. But, of probably far greater moment, it is the only method which fully preserves the integrity of the skull and prevents adhesion of the dura. It is certainly the ideal method of closing the skull. As yet the chief difficulty lies in the technique of executing it skilfully.

There is litle question but the chisel is the most practicable instrument for making these bone flaps. When one has become skilful in its use the skull can be opened accurately with great rapidity to almost any desired extent, and the tools are cheap, portable and easily kept in order. One has only to perfect himself into a good workman, and he has always full command of the situation. Unfortunately there is a great objection to this otherwise facile and simple instrument for opening the cranium. The concussion of the mallet is more or less dangerous, especially when intracranial pressure exists, so that a majority of the most experienced in brain surgery, including Horsley and Keen, protest against its use. Various saws have been invented for this purpose, of which Van Arsdale's appears to be theoretically very perfect. While I have not perhaps had sufficient experience with this apparatus to speak dogmatically upon its worth, I have worked with it sufficiently to discover some of its defects, and to fear that I shall never be able to learn to use it with satisfaction. In the first place, the apparatus is quite complicated and expensive, an objection of no great consequence if the practical excellence of its work were commensurate with the outlay and care. The vibrations of the necessarily rather stiff cable render the saw hard to direct with precision, but it is the tendency of the saw to get stuck in the circular

groove in the bone, being removed with great difficulty, that I have found the most discouraging. While very ingenious the saw would appear entirely unnecessarily complicated in constructing it to cut in a circle. There is no especial reason for making osteoplastic flaps circular, in fact, rectilinear flaps are I believe entirely preferable, and I believe Van Arsdale's saw, if simplified to cut a plain straight line, may prove to be the instrument for which we are looking. In any event there is little doubt that the difficulties of osteoplastic resection of the skull will be surmounted. In Germany, where for a time the chisel was so much used, there appears to be a tendency to combine the use of circular saws and chisel, sawing through the outer table and the diploe and finishing with the chisel. In my limited experience on the living skull and the cadaver, I have found it much easier to make the flap rectilinear; then with a very small trephine four holes are made at the respective angles, after which the flap may be completed by the chisel, or by a wire saw passed from one hole to the other between the skull and the dura and cutting from within outward.

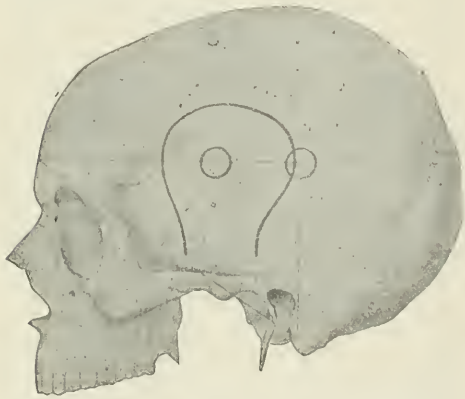

Diagram showing the command of the middle meningeal artery by Wagner's osteoplastic resection, also the method of locating the anterior and posterior branches of the artery in trephining according to Steiner.

Of course every method yet devised has its advantages and disadvantages. The only disadvantage of Gigli's wire saw is in carrying it from one opening to another and getting it buried in the bone without wounding the dura. This danger is not greater, and as easily overcome, as the liability to similar accidents by other methods. Its advantages I think on the whole clearly distance all other instruments as yet devised: 1, exceeding simplicity and cheapness; 2, very considerable rapidity; 3, the saw-cut is exceedingly fine, doubtless the finest that can be made by any method, and as will be seen by the specimen presented, may be cut as beveled as desired so that the resected piece of bone fits back more accurately than if cut by any other method with which I am acquainted.

By the osteoplastic method of operating for intracranial hemorrhage, the matter of localization becomes very simple. A flap with its base just above the zygomatic arch and its summit rising above the inferior temporal ridge, amply commands both branches of the middle meningeal artery, and can scarcely fail to give us the desired access to all operative cases of intracranial hemorrhage. By going well down toward the zygomatic arch, it gives the best command of the middle fossa, or if symptoms indicate pressure on the lower portion of the motor area, it may be placed a little higher. However, it is well to locate and mark by some of the common methods the probable location of the vessels, as it reassures the operator in marking out his flap. The method of Steiner is very simple and as accurate as any. He draws a line from the middle of the glabella to the apex of the mastoid process and erects a perpendicular at the center of the line. Where the latter intersects a third line, passing horizontally through the glabella, there is the anterior branch of the middle meningeal; where a vertical line passing in front of the mastoid intersects the horizontal line, there is the posterior branch.

In emergency surgery, simplicity of methods both in diagnosis and operative technique are of great importance. The fissure of Rolando is readily located by finding its superior end at one-half inch behind half way from the nasal fossa to the occipital protuberance, from whence it runs downward and forward at an angle of 67.5 degrees for a distance of $3\frac{3}{8}$ inches. This angle is readily measured by Chene's method of folding a square piece of paper so as to get an angle of 45 degrees, one of the leaves being again folded so as to get an angle of 22.5, which, added to the first, marks an angle of 67.5 degrees. This paper applied to the skull enables us to trace the Rolandic fissure with sufficient accuracy for operative purposes by the large openings now in vogue.

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## THE RELATION AND POSITION OF PELVIC ORGANS. EXAMINATION OF PATIENTS.

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While we know definitely the approximate size and exact structure of the various organs of the pelvis, there is still a great deal of cloudiness and misunderstanding about the true relations and positions of these organs. As an example, one will frequently hear it stated that there is no such thing as a normal position or even an approximate position of the uterus! If the uterus were an unimportant organ, if it did not have the highest function to perform that is required of any organ, we might, at first thought, think that this one organ did not have a place in which it might be considered at home. Inasmuch, however, as it is such an im

portant organ, we have a right to assume that it possesses a place, and that it is not simply cast into the pelvis, anywhere, and allowed to occupy any position not already occupied by a functionating bladder or rectum. A prominent gynecologist, in discussing this subject recently, considered it necessary to give the bladder and rectum right of way over this important organ. If it were necessary and reasonable for nature to make such a bungling job of her handiwork, she would have done so, but when it is not necessary nor reasonable, we have a right to assume that she has not. Here it is not reasonable, and she has constructed her organs in such a way that each may normally functionate without interfering with the other. I investigated this subject with great care in the early part of my practice, and made it the basis of my inaugural thesis for entrance into the Chicago Gynecological Society, in 1885. After studying the works of Schultz, Fritsch, and Savage, and after making a minute comparison of the frozen sections of Henle, Fürst, Braune, Heitzmann, Hart, Piragoff, Ruedinger, investigating the theories of Emmet, Garrigues, and others, I arrived at a conclusion which seemed to me inevitable, and, too, which seemed to put me in accord with what nature would be likely to do if she were able. At that time I advanced my

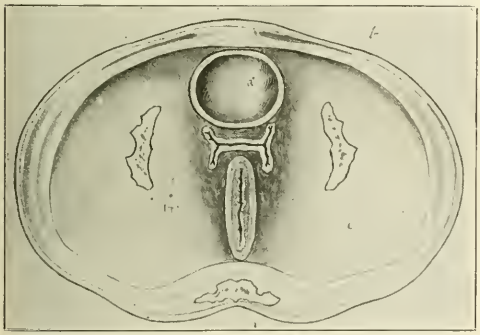

Fig. 1.—*a*, Bladder; *b*, vagina; *c*, rectum; *d*, sacrum.

opinions on the subject, and subsequently on observing the position of the uterus in over 1000 laparotomies, and in the bimanual examination of many others, I am convinced that my opinions expressed in my early thesis were substantially correct, and am prepared to announce that they were substantially based on facts.

The bladder and rectum, contrary to the belief of many writers, perform their normal functions without interfering with the position of the uterus. They dilate and contract in functionating, without pushing the uterus into different locations about the pelvis. A simple fact in their methods of collapse and distension makes this possible. By consulting the simple schematic illustration of Henley, of a horizontal section of the pelvic floor, and making that apply to a section of the pelvis at the cervix and bladder level (Fig. 1), you will find that the bladder and rectum each collapse with the long diameter anteroposteriorly, so that they both occupy as much of the anteroposterior space of the pelvis when they are empty as they can possibly do when they are normally distended. This obviously makes it unnecessary for either organ to interfere with the uterus, as far as the anteroposterior space of the pelvis is concerned, as long as the normal action is maintained.

If you will consult Fig. 2, which represents the normal relation of the pelvic organs with the rectum and bladder empty, according to my ideas, you will notice that the free upper wall of the bladder does not lie in contact with the anterior wall of the uterus. That space, when not occupied with the bladder, normally distended, is filled with light, constantly moving, small intestines. These act as movable upholstery, surround the uterus on all sides, equalizing the abdominal pressure, and fill the necessary vacuum. If the uterus rested on the free superior wall of the bladder, as represented in Fig. 3, that important organ would never have a minute of equilibrium, but would constantly be moving about as the bladder filled and emptied, and as the cervix would remain comparatively stationary, the intra-abdominal pressure would impinge on a different portion of the uterus almost every minute of the day. At the time when the bladder would be empty, the intra-abdominal pressure would be exerted on the whole posterior portion of the body of the uterus in such a way as to positively interfere with the normal distension of the bladder.

My reasons for believing that the uterus occupies, approximately, the position that I have depicted in the drawing, Fig. 2, are the following:

1. Because it is the only position that the uterus can occupy in which it would not be subject to constant, important changes in position, with the normal changes in the bladder and rectum.

2. In this position the intra-abdominal pressure impinges on, or just posterior to, the narrow crest of the uterus, in the direction of its line of axis, and in such a way as to equally distribute the force to all of its supports; and the organ in this position does not receive the whole impulse of the intra-abdominal pressure at one point, but it is equally distributed to all parts of its surfaces and is divided by its lateral, posterior and anterior supports.

3. On opening the abdomen, in laparotomies, the uterus, when not pathologic, almost invariably lies in the position I have described as normal, with the space between it and the bladder filled with light coils of small intestines.

By again consulting Fig. 2, it will be observed that the vagina is parallel with the brim of the true pelvis, the uterus lies in a direction at right angles to the vagina, so that its fundus is on a line with the plane of the superior strait of the pelvis, and just half way between the promontory of the sacrum and the symphysis pubis, with the cervix directed backward, lying within an inch and a half of the hollow of the sacrum. The bladder, when collapsed or moderately distended, is a triangular-shaped body; not flat like a plate, nor contracted into a sphere. The base of the triangle corresponds to the peritoneal surface, the apex to the urethra. The anterior wall corresponds to the symphysis, to which it is loosely attached; the posterior or inferior wall corresponds to the anterior wall of the vagina, to which it is more intimately attached. The rectum, when empty, collapses with the long axis of its diameter in an anteroposterior direction.

The sacro-uterine ligaments prevent the cervix from extreme excursions forward. The anterior vaginal wall prevents the cervix from going too far backward, and the round ligaments restrain the fundus of the uterus from backward dislocation. The vaginal column, the rectum, and the perineum act as a lower floor or cushion for the uterus, while the peritoneum envelops the whole organ above and the broad ligaments restrain it laterally. Its free peritoneal portion is surrounded by coils of small intestines. Finally, this organ, which represents

the principal organ of generation, is surrounded by a bony wall, second to no other wall of protection, except that one which was found necessary to place around the brain. Thus, an organ of paramount importance, it is protected within by elastic guys and cushions, and from without by a bony case.

### LYMPHATICS OF THE FEMALE PELVIS.

As gynecologists, it is important that we should know something of the lymphatic distribution from the female pelvis. From a practical standpoint we can cover this in a word. Practically, we should know what route the lymphatics take in leaving the pelvis, so that we may know what glands filter them. (Fig. 5.) The lower end of the vagina and the vulva is drained through the deep and superficial inguinal glands respectively. (Fig. 5a.) Enlargement of these glands, from infection or malignant metastases, would indicate that the source of the infection invasion was in the vulva or lower vagina. The upper two-thirds of the vagina, and the

Fig. 2.—Author's schematic drawing of normal relation of pelvic organs.

cervix uteri, and a portion of the body of the uterus, are drained through the obturator and the deep iliac glands (Fig. 5b), while the lymphatics of the fundus, of the uterus and the Fallopian tubes and ovaries are filtered through the lumbar glands. (Fig. 5c.)

### BLOOD-SUPPLY.

Three things particularly interest us in the blood-supply to the pelvis:

1. The arterial supply to the pelvic organs is derived from widely separated points, and it is provided with the freest anastomoses. This appears to be a wise provision to guard against the possibility of depriving the important organs of the pelvis of blood, as a result of a simple accident to any of the parts. For instance, one-third of the blood-supply to the uterus passes through the spermatic or ovarian arteries (Fig. 6), which spring directly from the abdominal aorta and travel a long distance before reaching the organs they supply, while two-thirds of the blood-supply arrives through the uterine arteries from the internal iliac vessels.

2. The veins of the uterus contain no valves.

3. The left spermatic or ovarian vein enters the general circulation at a disadvantage, as it enters the left renal vein at right angles, while the right spermatic vein enters directly the vena cava at an advantageous angle. This fact has a practical bearing, as it partly accounts, no doubt, for the fact that the left appendages are more often diseased than the right.

### THE NERVE-SUPPLY.

The female pelvic organs are so abundantly supplied with nerves, both of the spinal and sympathetic varieties, together with numerous nerve ganglia, that this part of the nervous system has been called the abdominal brain (Fig. 7). It interests us to know that the hypogastric plexus, in its continuation below, forms the pelvic plexus, and that from the pelvic plexus arises the vaginal, the uterine, the vesical and the hemorrhoidal plexuses. It interests us to know that these various groups of nerves are intimately connected with each other, and that they are directly formed from the long chain of

Fig. 3.—Improper illustration, showing uterus too far forward so as to interfere with bladder, and rectum collapsed laterally.

sympathetic cords and ganglia which flank the spinal cord, from, and including, the brain above, to the coccyx ganglion below. It especially interests us to know that these groups of nerves communicate with and are, to a degree, under the influence of the spinal nerves, and therefore the cerebrospinal centers. It is also interesting to know that they have nerve centers of their own in numerous ganglia, distributed about in the course of their branches, and therefore have power to originate independent influence among the organs of their distribution. Thus, the uterus and its appendages possess nerves, 1, of sensibility in the sensory nerves of the cerebrospinal center; 2, nerves of motion in the motor nerves from the cerebrospinal center; 3, communicating nerves, which connect the sympathetic plexus of nerves directly with the cerebrospinal centers, and with other plexuses, by direct communication of fibers, and through the general sympathetic chains; and 4, through nerves receiving their influence directly from the ganglia located in or about the organs.

The study of this great abdominal and pelvic brain is one of great interest and profit to the gynecologist,

because there is nothing corresponding to it in the male which is worthy of comparison with it. It is conspicuously obvious to the thinking man why this is. The uterus, with its great function which makes woman mother, demands this second brain.

### THE USE OF THE PELVI-ABDOMINAL BRAIN.

This large network of nerves has many duties. It provides for the intelligent nutrition of these organs from birth to puberty. In this respect the action is common in both sexes. At puberty these nerves provide for the beginning of menstruation. Here the ganglia develop and the automatic cycle of menstruation is cared for. Automatically the nerves of nutrition provide for an enlargement of the pelvis, development of the external and internal genital organs, the enlargement of the breasts, and the storing up of adipose tissue as emergency food for the offspring of the woman.

The sensory nerves of the organs of generation develop *pari passu* with all these changes; the sexual instinct and the powers of sexual gratification are provided for. When conception occurs the wonderful work

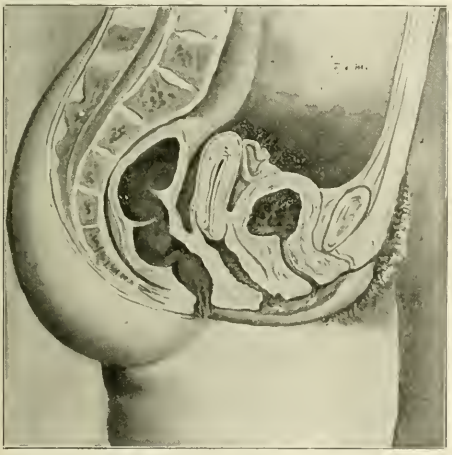

Fig. 4.—Illustration after Savage. Shows uterus too far back. Bladder collapsed like a ball.

of the abdominal brain begins. Through its communicating branches it must immediately negotiate with the heart for more blood for the new requirements for nourishment in the embryo; with the stomach and intestines, with the former to digest more food, with the latter to increase its assimilation; with the breasts for preliminary changes to provide for the required development in their milk glands, and through the cerebro-spinal nerves with the brain, to increase hunger and to develop the affections of the mother for her developing offspring. As the fetus grows, automatically, must the uterus be developed; must other organs of the pelvis and abdomen be carefully prepared to make room for the rapidly growing uterus; must menstruation be stopped; must the ligaments of the pelvis be softened; must the pelvic outlet be gradually prepared for the inevitable birth. All develop, gradually, automatically and intelligently, and as it becomes more complex, is less under the control of the higher brain. It finally becomes the function alone of the nervous system, not connected with the intelligence of the individual. Then the most remarkable thing of all occurs! On a given day, when the time is ripe, without warning, independent of the woman's intelligence, the wonderful labor of birth begins! The cervix is caused to soften and dilate, the muscles of the uterus begin to close around its burden, the head of the child is crowded into the pelvis, the glands of the genital tract everywhere begin to secrete an abundance of lubricating fluid, the cervix fully dilates, the head reaches the sensory nerves of the perineum, and for the first time in months the woman is called on to assist in the great work of bringing forth her child. She is almost compelled to contract the great voluntary muscles of the abdominal wall, and at last the great nervous intelligence of the abdomen has succeeded in its task and has brought forward a child. Finally this network of nerves and ganglia brings forth involution. It expels the placenta, it sends forth a final gush of antiseptic fluid, it contracts the uterus until its great

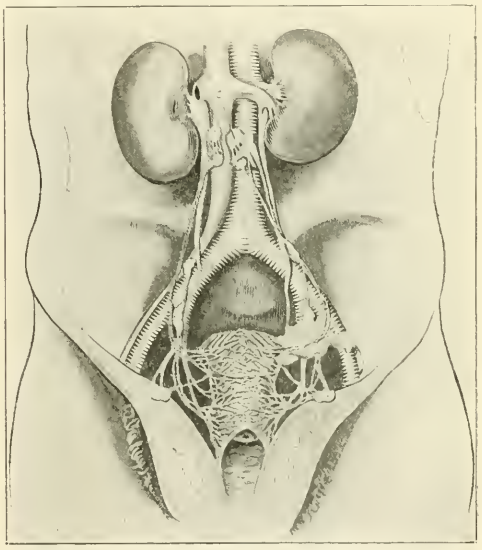

Fig. 5.—Lymphatics of the pelvis. *a*, Deep inguinal glands; *b*, deep iliac glands; *c*, lumbar glands.

valveless veins can not bleed, it causes a rush of blood to the already prepared breasts. This it does immediately. In two days the breasts secrete milk, in two weeks the active nutrition in the pelvis has changed the uterus from an organ of pounds in weight to one of as many ounces, the enormously distended external genitals contract and the woman is again, after nine months of most wonderful experience, a normal woman nourishing her offspring.

The practical side of the fact of the wonderful development of the nerve plexuses in the female pelvis and abdomen, it seems to me, is easy to recognize. This intricate mechanism of nerves which works on automatically in health without friction or pain, or consciousness of its activity to the individual possessing it, accomplishing such remarkable results, is capable of becoming one of the most complicated nests of torture one can imagine, if for any reason the normal arrangement becomes disturbed. It is like a telephone system in a great city, with its many wires, stations and substations, with its short-distance and long-distance 'phones, which when in perfect order are a marvel of

perfection, but which after an accident that destroys a station or grounds a system of wires, immediately becomes a hopeless confusion.

A displacement of the uterus, or a center of infection within its walls, has the effect of disturbing the endings of a large number of communicating nerves; this will result in false impression being conveyed to the heart, lungs, stomach, intestines and brain. As these impressions are not regulated, the functions of these various organs will become erratic and unsymmetrical. In one, the functional activity will become increased, in another decreased. This lack of harmony will soon bring disaster to the nutrition of the body, this will weaken the central nervous system, the will power will be decreased, and in a short time we will have a poorly-nourished, weak, hysterical woman, with but little apparently in the way of local disturbance to account for it all.

### HISTORY OF CASES.

Nothing can be of more importance in pointing to a diagnosis in given cases than that which is contained

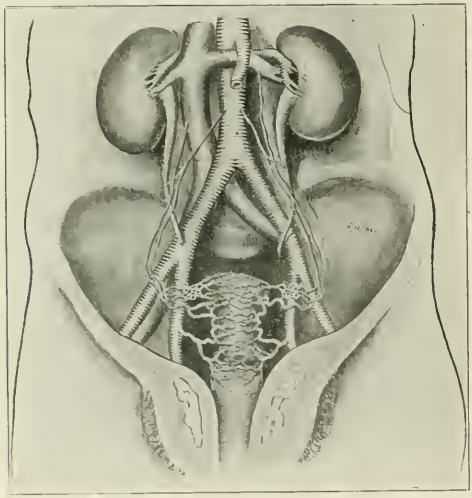

Fig. 6.—Blood supply to female pelvis.

in a well-gathered history. A blank form should be employed, in order that a systematic method may be cultivated, and in order that nothing should be neglected. The necessity of a history is so obvious that I will not dwell on it further than to give one or two examples, which will illustrate its importance in arriving at conclusions.

A young woman will state in the history that at the first menstruation she experienced, it was accompanied with excruciating pains of one or two minutes' duration, and with intervals of rest between of five to ten minutes, that the pains gradually grew less and less, and finally ceased with the termination of the flow. We know here that some form of obstruction existed in this case, and from beginning at the first menstruation it was probably due to non-development of the uterus, with an acute anterior flexion.

A woman gives a history of perfect health up to the time she was married three months ago. Suddenly, after a few weeks of irritation about the vulva, some burning at urination, some discharge from vagina, she had a severe excruciating pain in one side of the pelvis, she went to bed and had a fever; swelling and extreme tenderness of the lower abdomen, chills and sweats, and the doctor treated her for inflammation of the bowels or peritonitis. She finally recovered partially, but has never been free from pelvic pain or irritation since. She has become thin, nervous, despondent, hysterical and an invalid! This woman was infected after marriage by the gonococcus, the infection extended into the tubes, and finally, from overdistension of the pus-tubes, the

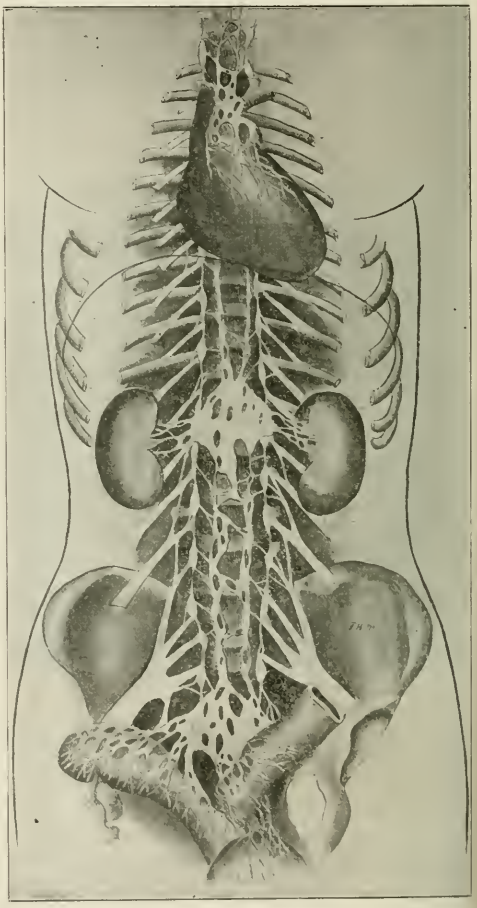

Fig. 7.—Nerve supply to female abdomen and pelvis. The author respectfully refers the reader to Prof. Byron Robinson's original drawing of the nervous system of the female abdomen.

peritoneum was invaded and localized peritonitis developed, the pus cavity was closed off and the peritonitis limited by a wall of adherent intestines and omentum.

A third gives a history of perfect health through a long life of usefulness and child-bearing, and finally reaching a well-earned rest two years before, at the age of 50, by the appearance of the menopause. Within two months, after having been free of menstruation for two years, a gush of straw-colored fluid came from the vagina. This has been repeated two or three times,

and once or twice there has been some bright blood. The discharge has been on the increase some; it has become offensive; she has been losing flesh rapidly; she has had some uterine pain of a steady sharp character. A peculiar change of complexion has developed. She has become unusually weak! This woman has given us the classical history of carcinoma of the uterus.

And so, there are many other stories which will come out in the histories, often making easy the task of diagnosis.

EXAMINATION OF PATIENTS.

The examination of a gynecological patient should be general and local. The *general examination* should be conducted in such a way as to discover if all organs outside of the pelvis are organically healthy. If there are symptoms which indicate that the eyes possess an error of refraction which should be corrected, we should certainly have that point cleared by some one in whom we have confidence. The heart and lungs, the stomach and intestines, should be thoroughly investigated. The condition of the blood, the condition of the urine, should

Figure 8.

both be passed upon by a competent judge. It is due to ourselves that we eliminate, or if it is impossible to eliminate, to at least recognize, any serious organic difficulty outside our own narrow specialty. Nothing can be more humiliating than to wake up to a failure, after giving a patient a long course of treatment, due to our carelessness in recognizing some gross lesion in another part of the body.

The *local examination* consists in inspection and manual manipulation, and the examination with instruments. With a patient lying in a horizontal position, with the limbs fixed so that the bottoms of the feet are resting firmly on the table, with the clothing removed, with the exception of the loose under-garments, the abdomen should be carefully inspected and palpated. The pelvic region is first inspected and carefuly palpated. Unusual enlargement of the uterus, or abdominal growths of large size, will immediately be recognized. The abdomen should be examined for free fluid. The region of the appendix should be carefully palpated in every case, with the idea of determining any indication of tumor. This is accomplished by the examiner standing at the right side of the pelvis and firmly pressing on the abdominal walls near the center of the abdomen, below the umbilicus, and drawing the palmar surfaces of the two hands employed, with less resistance to the right side, allowing the muscles to gradually slip from beneath the fingers. Where a marked induration exists, percussion will give valuable information.

An attempt should be made in every case to palpate each kidney. A normal kidney is with great difficulty palpable. Any marked enlargement of the kidney or displacement is easily recognized. The operator, in attempting to palpate the kidney, should stand on the side of the patient of the particular kidney to be palpated, and should place his left hand beneath the patient's loin, just external to the spine, and just below the short ribs, and the other hand is placed on the abdomen near the center, at, or just above, the umbilicus, and as the upper hand presses firmly, it is drawn toward the operator. This movement will engage the kidney if it is palpable. The same maneuver is carried out on the opposite side.

The next point of importance to palpate, is the region of the gall-bladder. An enlarged gall-bladder can frequently be palpated.

The systematic examination of the abdomen, in every case keeping in mind these prominent points, soon establishes a habit which will make an operator acute in detecting minor changes, and many things will be revealed which would never come out in a simple bimanual examination of the pelvis.

The patient should now be brought to the end of the examining table, with her two feet supported on the stirrups, and the buttocks at the edge of the end. The examiner separates the limbs and makes a systematic inspection of the external genitals. The clitoris is first examined, and the presence or absence of adhesion between it and the prepuce. The meatus of the urethra is next examined. The presence or absence of infection is estimated by the appearance of the mouths of Skene's glands. The presence of polypi or a condition or displacement of the urethra is noted. The large and small labia surrounding the vulva are next inspected for signs of pathology. The mouths of the ducts of the vulvovaginal glands are carefully scrutinized for signs of infection. The perineum is next carefully examined, and its strength estimated by palpating it between a finger placed in the verge of the anus and another in the vagina. The anterior and posterior vaginal walls are observed in order to detect signs of prolapse.

The digital examination of the internal pelvic organs is now in order. (Fig. 8.) The index finger of the left hand should be employed as a routine for the purpose; because the palmar surface of that finger will naturally be directed to the left side of the pelvis, where disease more often exists; because the index finger of the left hand can be trained to a higher sense of acuteness than the strong right hand; because it leaves the strong right hand for external manipulation, which frequently requires considerable strength and endurance; it makes the operator ambidextrous; it reserves the right hand for handling instruments, while they may be directed by the left.

The vagina is rapidly examined with a sweep of the finger; the cervix is then examined, and its size, consistency, and condition in regard to lacerations, or pathological growths observed by the sense of feeling; the position of the cervix in the pelvis is also noted, as this gives a clue to the position of the balance of the uterus.

The operator now attempts to fix the uterus between his finger in the vagina, steadying the cervix, and a hand placed on the abdomen, a short distance above the symphysis, in such a way as to reach the fundus of the uterus. With the uterus in normal position with the vaginal finger in front and beneath the cervix, the fundus can easily be grasped as represented in Fig. 8. If the fundus of the uterus is retroverted, it can be palpated by placing the vaginal finger behind the cervix and pressing the fundus down on it with the hand above. The operator, in making a systematic bimanual examination of the pelvic organs, must succeed in palpating and examining the exact position of the uterus before he can estimate the condition of diseased appendages, or expect to palpate the normal tubes and ovaries.

With the uterus thoroughly in hand, it is a simple matter to pass to the left or right, and examine the tube or ovary, or both, of the respective sides. If the tubes or ovaries are diseased and enlarged, it is comparatively easy, with practice, to grasp them between the hand on the abdomen and the finger in the vagina. When they are normal, and the abdominal walls of the woman are unusually thick, or unusually unyielding, they may not be palpated. Remember that the tube entering the horn of the uterus is soft and inelastic to the touch, that the ovary is deeper in the pelvis at a short distance from the uterus, spherical in shape, and elastic to touch.

Patients should be examined under an anesthetic, preferably ether, if conditions exist making it impossible to make a satisfactory diagnosis of the condition of the pelvis without.

## FOUR CASES OF CALCULI IMPACTED IN THE URETER.

NEPHRO-URETERECTOMY. ABDOMINAL URETERO-LITHOTOMY. VAGINAL URETERO-LITHOTOMY.

*(From the Gynecological Clinic of the Johns Hopkins Hospital.)*

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Among the first to recognize the importance of operative interference in cases of calculus impacted in the ureter was Henry Morris,[1] of London, who as early as 1884 set forth the important principles governing the operative treatment of these cases. Although a considerable number of cases of ureteral stenosis from calculus had been reported clinically, and many in post-mortem protocols, there are but three brief records of operations, previous to Mr. Morris's paper.

In 1882, Bardenhauer[2] reported the successful removal of a stone from the ureter, by retroperitoneal ureterotomy, after which the ureter was closed with fine silk sutures. The other two cases are very briefly mentioned by Emmet,[3] in both of which calculi were impacted in the vesical end of the ureter, one being removed by cystotomy, and the other by vaginal ureterotomy.

Morris's case was that of a woman of 55 years, with a history of renal colic for thirty months, who for six days had had almost complete anuria. On digital examination of the bladder, a calculus was felt impacted in the orifice of the left ureter, and Morris points out that a vesical ureterotomy could have been done had the proper instruments been at hand. In discussing this case, the author says: "I know of no other case in which a calculus has thus been detected during life, although Dr. Rawdon,[4] of Liverpool, has reported an interesting case, in which a calculus impacted in the lower end of the ureter, was detected by a finger in the rectum, during life, and verified after death." The indications for digital exploration of the bladder, with a view to ureterotomy, are thus given. "As regards the question of surgical operation in which there is impaction in the ureter, there is no doubt but that in some of them the calculus could be removed by nephro-lithotomy or pyelo-nephrotomy. . . . and there is good reason to believe that with the more frequent resort to digital exploration of the kidney, through a lumbar incision, a calculus impacted in the upper end of the ureter will not infrequently be detected, and extracted through the loin. . . . . Calculi impacted in the intermediate parts of the ureter are practically beyond the reach of the surgeon." In view of the subsequent history of ureterotomy and the rapid advances which have since been made, these quotations from this early paper of Morris are of much interest.

Among the earlier cases of operation for removal of calculi impacted in the ureter, which have been much quoted throughout the literature on this subject, are those of extraperitoneal ureterotomy reported by Kirkham,[5] Ralfe and Godlee,[6] and Twynam[7] in 1889, and Cabot[8] in 1890; those of intraperitoneal ureterotomy reported by Cullingworth[9] in 1885, and Arbuthnot Lane[10] in 1890; that of combined intraperitoneal and extraperitoneal ureterotomy by Hall[11] in 1890; and that of vaginal ureterotomy by Cabot[12] in 1890.

As the total number of operative cases in the literature is still less than ninety, very many of which are but briefly cited, it has seemed important to report, somewhat in detail, the cases which have come to operation in the gynecological department of the Johns Hopkins Hospital. To these are added the notes of a case recently occurring in the service of Dr. W. S. Halsted. The operation in each of these four cases was done by Dr. Howard A. Kelly.

CASE 1.—(Gynecological number, 6872.) Mrs. M. R., aged 29 years, was admitted to the service of Dr. Kelly, on April 25, 1899, complaining of pain in the left side, back and left lower abdomen, of three years' duration. The patient's family and past history was excellent; she had had four children and two miscarriages; the labors and puerperia were normal.

For the past three years she has suffered from intermittent attacks of dull aching pain in the left side and back, extending down into the left lower part of the abdomen. These attacks have occurred about once a week and usually last from three to four hours, being severe enough to require morphia for relief. The severest attack which she remembers was about one year ago, and this lasted about eight hours. The patient has noticed that the urine is very small in amount during an attack, and when the pain is unusually severe the secretion is almost completely suppressed. After the pain has passed away, however, the amount has sometimes been large, there having been voided as much as a quart in a short time. The urine has often been dark-colored, with a white sediment, but blood, brick-dust sediment or calculi have never been noticed. Micturition has never been painful. She gives no history of chills, fever, jaundice or nausea. The appetite has always been good, but the bowels have been somewhat constipated. There has at times been some headache and vertigo, but these symptoms have never been excessive. There has been no loss of weight and strength has been well maintained.

On physical examination the patient was found to be a well-nourished, young-looking woman. The abdomen appeared quite natural and was everywhere soft on palpation, the edge of the liver, spleen and kidneys not being felt. On deep pressure there was some tenderness in the left flank, but this was not marked. She described, very minutely, the location and direction of the pain during an attack, indicating this by drawing a line, beginning just below the twelfth rib on the left side, at the posterior border of the quadratus lumborum muscle, extending down to the crest of the ilium and thence anteriorally to a point just below the anterior superior iliac spine.

On admission the temperature was 98.6 F., and the pulse 100. The urine was clear yellow, with a specific gravity of 1017,

neutral, and contained a faint trace of albumin. Microscopically there were mucous cylindroids, a few pus cells, a few red blood-corpuscles and bladder epithelial cells, but no casts.

Previous to her admission to the hospital Mrs. R. had been seen by Dr. Kelly at his office, at which time a wax-tipped catheter was passed a few centimeters into the left ureter. On withdrawing the catheter there were definite scratch marks on the polished tip, from which the diagnosis of calculous stenosis of the ureter was made.

The day before operation the right ureter was catheterized, in order to ascertain the condition of the right kidney. In thirty minutes 8 c.c. of practically normal urine were collected, thus demonstrating the efficiency of the supposedly sound side.

Operation was performed May 5, 1899, by Dr. Kelly, with peritoneal and extraperitoneal incisions, nephro-ureterectomy, and drainage.

A catheter was passed into the left ureter and was distinctly felt to be gripped by, and then pass, one or more strictures in the lower part of the pelvis. The patient was then placed on the right side and an incision made midway between the crest of the ilium and the twelfth rib, anterior to the quadratus lumborum muscle, the peritoneum being opened just outside the descending colon. The right kidney and the upper part of the right ureter were palpated and found to be apparently normal. The left kidney seemed rather long, but normal, except for a deep depression in the center. The left ureter, on the contrary, was nodular, and enormously enlarged, being about the size of the descending colon. It was densely adherent at about the middle of the psoas muscle.

The enucleation was begun by shelling out the kidney, it being necessary to release numerous adhesions on all sides. After freeing and drawing the upper part of the kidney into the incision, the hilum was gradually tied off from above downward, taking care not to injure the large dilated pelvis. The renal vessels were tied separately with fine silk ligatures, divided, and the kidney freed, except around the pelvis, which was then slowly dissected free with scissors, as were about 5 cm. (2 inches) of the upper part of the ureter. This portion of the ureter was so firmly adherent to the peritoneum, muscle and cellular tissue that it had to be separated with great care, many small vessels being tied with catgut. The incision in the abdominal wall was then closed with catgut to each layer.

A second incision was now made, extraperitoneally, below the first and similar to that usually employed for tying the iliac artery. This extended mesially as far as the linea semilunaris, and was separated from the first incision by a bridge of tissue, about 6 cm. (2 2/5 inches) wide. The enucleation of the ureter was then continued downward to the brim of the pelvis, and over the bifurcation of the iliac artery, where it was again found densely adherent, and had to be freed by a process of slow dissection. While continuing the separation downward along the floor of the pelvis the peritoneum was inadvertently torn, as was also the ureter, close by the bladder, at the point of stricture. At this point a rough ovoid calculus, 3.5 cm. (1 2/5 inches) long and 1.5 cm. (3/5 inches) in diameter, was found completely occluding the lumen of the ureter.

The ureter was then cut off just below the calculus, and the kidney and ureter removed in one piece, the ureteral stump being closed over with catgut sutures. Considerable pus had escaped from the torn ureter, and, after thorough irrigation, a gauze drain was inserted from above, meeting another placed through the vaginal vault. A third drain was placed in the position of the kidney, and the remainder of the wound closed with interrupted silkworm and catgut sutures.

Ether anesthesia was used, the time of the operation being three hours and twenty minutes. The patient stood the operation well, the pulse at the end being 124 to the minute.

Five hours after, there was a condition of profound shock, requiring most urgent stimulation, but thereafter the convalescence was entirely satisfactory. The drainage tracts gradually contracted down, the remainder of the wound having healed per primam. At the time of discharge from the hospital, the twenty-sixth day, there still persisted a sinus, the size of the little finger, extending 10 to 11 cm. (4 inches) down into the pelvis, and discharging a small amount of thin purulent fluid. There was absolutely no pain and the general condition was excellent.

A letter recently received from Mrs. R. states that she is entirely free from pain, has gained twenty-seven pounds in weight, and is in excellent health.

ABSTRACT FROM THE PATHOLOGICAL REPORT (NO. 3127).

The kidney is altered in shape and is somewhat enlarged, being 13.5 cm. (5 4/5 inch) long. At the middle of the convex border is a triangular depression 1.5x2.5 cm. (½x1 inch) in size and 5 mm. (1/5 inch) in depth, whose base is rough and consists of dense fibrous tissue. The kidney substance itself is rough, presents well-marked lobulation, is slightly granular and the superficial blood-vessels are dilated. The cortex is dense in consistency, while the pelvis is filled with fluid.

On section, the upper portion is congested, but fairly normal, while at the lower pole the cortical and medullary portions are ill defined and the congestion less marked. Where the depression was noted externally, the renal substance has been replaced by a band of dense fibrous tissue, averaging 5 mm. (1/5 inch) in thickness. The pelvis is moderately dilated, its mucosa pale and smooth, except over the apices of the pyramids, where it is much congested.

The ureter is represented by a large, sacculated cylinder, 20 cm. (8 inches) long, and averaging 3 cm. (1 1/5 inches) in diameter. It is slightly kinked, and contracted at the junction of the first and second quarters, and again at the third and fourth, giving it somewhat the appearance of a string of sausages. The whole is enveloped in a mass of adhesions, containing lobules of fat. On pressure, it is partly fluctuant and partly firm and resistant.

On section, the ureter is of unequal caliber, presenting irregular intervals of dilatation and contraction. The lumen varies from 5 mm. (1/5 inch) to 1.5 (3/5 inch) in diameter. The walls are greatly thickened and edematous, in some places reaching 1.5 cm. (3/5 inch) in thickness. The mucosa is at intervals smooth, at others corrugated. In places it is anemic and thinned out, and in others congested and edematous. The lumen contains a small amount of seropurulent fluid.

Microscopically the kidney shows the changes commonly seen in advanced, chronic interstitial nephritis. Sections of the ureter show it to be ensheathed in a mass of adipose, and newly-formed connective tissue, rich in blood-vessels of moderate size, and showing a general leucocytic infiltration. The walls are greatly thickened, owing in part to hypertrophy of the smooth muscle, but chiefly to a thick tunic of connective tissue, external to the muscular coats. This tissue is very edematous and contains several foci of round cell infiltration. This coat in places is 7 to 8 mm. (1/3 inch) in thickness.

The mucosa lining the canal is also thickened. It presents the usual folds, and is covered in general by intact, transitional epithelium. Here and there over the summits of the folds it is thin, sometimes only one layer of poorly staining cells remaining, while at one or two points the surface is denuded of its epithelium. In sections taken at the level of the impacted calculus the lumen is dilated, the folds of the mucous membrane flattened, and the mucosa thinner than elsewhere.

The calculus is ovoid in shape, with tapering ends. The surface is rough, crystalline and of a yellowish-brown color. It measures 3x1.5x1.3 cm. (1 2/5x3/5x2/5 inch), and consists principally of calcium carbonate, with small quantities of calcium and magnesium phosphate.

CASE 2.—(Gynecological number 6598.) Miss K., aged 37 years, was admitted to the service of Dr. Kelly, Johns Hopkins Hospital, Dec. 22, 1898, complaining of a painful swelling in the right side of the abdomen. Except for irregular menstruation, she had always been well and strong until eight years before coming to the hospital, when she first noticed a swelling in the lower part of the right side, which she describes as having been about six inches long and four inches wide. This swelling came on rather gradually, attaining its maximum size in about one week, when, after persisting for three or four days, it gradually disappeared. During this time she felt miserable, was nauseated, had a constant frontal headache and a dull pain in the abdomen, with now and then sharp cramps in the region of the swelling. She does not remember having had fever, and does not recall having passed at any time either unusually small or unusually large amounts of urine.

The subsequent history has been that of a repetition of similar attacks, usually at intervals of three or four months. For the last three years, however, the tumor has been reappearing every three weeks, and for the past six weeks it has remained permanent. During the first few days of this last reappearance the patient had an unusually sharp attack of pain in the right side, was much nauseated, felt feverish and had slight diarrhea. Micturition has never been painful, and there has been no hematuria.

On admission to the hospital the temperature was 99.2 F.

and the pulse 100. The heart and lungs were normal. The abdomen was unsymmetrical, the right half and right flank being more or less completely occupied by an area of elevation, which rose to within 1 cm. (1/5 inch) of the costal margin, and extended 6.5 cm. (2½ inches) toward the symphysis pubis. Its greatest prominence was at the level of, and 1 cm. to the right of, the umbilicus. On palpation no definite tumor mass could be made out, one simply feeling a distinct area of resistance, extending downward from below the costal margin. The percussion note over this area was flat. Rectal and vaginal examinations were negative.

Urine on admission: The catheterized specimen was smoky, with a small amount of reddish precipitate, consisting of a large number of red blood-corpuscles, a few leucocytes and a few epithelial cells from the bladder; specific gravity, 1023; reaction acid. A trace of albumin was present; sugar test negative.

Operation, Dec. 24, 1898, was performed by Dr. Kelly, with abdominal uretero-lithotomy, suture of the ureter with fine silk and drainage.

An oblique incision, 20 cm. (8 inches) long was made over the prominence of the tumor, beginning posteriorally and extending downward and to the left. The peritoneum was opened, exposing the large dilated pelvis of the right kidney, pointing out anteriorally, the kidney cortex, which was only .5 cm. (½ inch) thick, being confined to the upper and outer pole. A free incision was then made into the lower pole of the sac, evacuating 370 c.c. of pale urine, and with it a little flat, dark colored stone 6 mm. (1/5 inch) long. The sac was so large and irregular that a search for the opening into the ureter was unavailing. The colon was then pulled over and a further search on the outside of the sac made without result, until the ureter was picked up, with the ovarian vessels, at the pelvic brim, pulled down in order to make it tense, and then followed up step by step into the cellular tissue behind the colon.

When a point 3 cm. (1 1/5 inches) below the renal orifice was reached, two stones were plainly seen and felt, firmly lodged in the lumen of the ureter. The calculi were 12 to 14 mm. (½ inch) long, the lower one being a little the larger. The ureter below them was normal in size and appearance. As suggested by Israel, an attempt was now made to push the stones up into the pelvis of the kidney, in order to remove them through the pelvic opening already made, but this was impossible without tearing the ureter.

The ureter, at the level of the impaction, was then freed of all its connective tissue envelope, and by means of a rope of gauze passed beneath it, pulled down within easier reach. After making a longitudinal incision, through the ureteral wall over the lower third of the lower stone, an unsuccessful attempt was made to dislodge it. As it could not be moved, the incision was carried upward, exposing the whole stone, when it was lifted out with difficulty, on account of the firm adhesions to the ureteral wall. The upper stone could not be pulled down and extracted through this opening, it being necessary to continue the ureteral incision until it was 3.5 cm. (1 2/5 inches) long. The second calculus, also adherent, was then picked out, leaving behind a roughened ureteral wall, which was considerably thickened at this level.

The incision in the ureter was then closed with twelve fine silk sutures, placed about 3 mm. (⅛ inch) apart, great care being taken not to encroach upon the lumen of the tube. The opening in the renal pelvis was sutured with interrupted stitches of fine silk, and the wound closed, with lateral drainage from the peritoneal cavity.

As an anesthetic 420 gms. of ether were given, the time of operation being two hours and four minutes. Throughout the operation the condition of the patient was alarming, the respirations being shallow and the pulse weak and rapid—140 to the minute. The general condition, however, was somewhat improved by a submammary infusion of salt solution.

The fluid evacuated from the hydronephrotic sac measured 370 c.c. (12 oz.), had a specific gravity of 1006, and was neutral in reaction. It contained a trace of albumin, no sugar, and its urea equalled .0014 gms. per c.c. Microscopically there were a few red blood-corpuscles and leucocytes.

The patient rallied well from the operation, her highest temperature being 101 F., on the evening of the third day. During the first week after operation the urine contained considerable quantities of blood, but this gradually diminished, and at the time of her discharge the analysis was as follows: Dark amber, with a small amount of reddish percipitate, consisting of red blood-corpuscles, leucocytes, ammonium urate and triple phosphate crystals, and a few hyaline casts; specific gravity, 1015; reaction, neutral; no albumin; no sugar.

The gauze drain was gradually removed, beginning on the sixth day. Except at the point of drainage, the wound healed *per primam*, and the subsequent convalescence was uneventful. She was discharged from the hospital on the thirty-first day after the operation.

Since leaving the hospital the patient's health has been excellent. She has had no recurrence of the attacks of colic from which she suffered previous to the operation.

CASE 3.—(Gynecological number 7762.) Mrs. J., aged 32 years, the mother of two children, was admitted to the service of Dr. Kelly, April 24, 1900, complaining of a swelling in the left flank and of pyuria of long duration. Mrs. J. dated her illness back eleven years, but previous to that had always enjoyed excellent health. During these eleven years she has had repeated attacks of renal colic, most frequently on the left side, but occasionally on the right. These attacks have varied in frequency, sometimes coming as often as once a month, the last one, however, having been about eighteen months ago, when there was a severe attack of pain on the right side. At this time she was examined by Dr. Malloch, of Hamilton, Ontario, who discovered a tumor in the region of the left kidney.

For many years there has been more or less pus in the urine; sometimes the amount is very large and again the urine becomes much clearer for a time. Whether the size of the swelling in the left side corresponds to the amount of pus in the urine the patient does not know. She has never noticed any hematuria, but has been told that there was blood in the specimens examined microscopically. Dr. Malloch also reports that no tubercle bacilli have ever been found, although repeatedly examined for. So far as known, no calculi have ever been voided. Urination seemed to be normal, although possibly somewhat increased in frequency. Mrs. J. thought that the tumor had increased somewhat in size during the past year, but at this time she suffered no pain, and came to the hospital only because advised to do so by her physician.

On examination the patient was found to be a slight woman, fairly well nourished, but with a somewhat sallow complexion. The lips and mucous membranes were pale, the hemoglobin being but 60 per cent.

The abdomen was somewhat asymmetrical, the left flank line bulging abruptly under the costal margin, causing the floating ribs to be displaced laterally. Toward the median line another swelling was apparent, most prominent in the parasternal line, just to the left of the umbilicus and extending downward to within 5 cm. (2 inches) of Poupart's ligament. On palpation a distinct tumor could be felt, extending from beneath the twelfth rib on the left, mesially to within 2.5 cm. (1 inch) of the median line and downward to within 5 cm. (2 inches) of Poupart's ligament. This mass was semi-fluctuant, rounded, and at a point half way between the costal margin and the umbilicus a distinct notch could be felt. The tumor was quite freely movable, descended about 3 cm. (1 1/5 inches) on deep inspiration, and could be pushed for a distance of 5 cm. (2 inches) upward and to the left toward the position of the left kidney. It was slightly sensitive on deep pressure.

The abdomen was everywhere tympanitic, except in the region of this mass, which was uniformly dull on percussion. The right kidney was distinctly palpable. No induration nor tenderness could be made out along the course of either ureter.

On April 25, Dr. Kelly examined the bladder and catheterized both ureters, according to his method with the open cystoscope and air-distended bladder. A wax-tipped catheter was first passed into the left ureter and up into the renal pelvis. The urine began to flow in thirty seconds, and in five minutes 15 c.c. had collected. When the catheter was withdrawn scratch marks were plainly visible on the wax tip.

The right side was then catheterized, also with a catheter tipped with wax. Soon after entering the ureter a partial obstruction was met, but after careful manipulation the catheter could be pushed up into the pelvis of the kidney. On withdrawing the stylet urine immediately began to flow, and in thirty-five seconds 60 c.c. were obtained, thus demonstrating a definite dilatation of the upper ureter and renal pelvis. On withdrawing the catheter it was found to be engaged until within 12.5 cm. of the external ureteral orifice. Deducting 4 cm. (the length of the urethra) and 2 cm. (the distance from the internal urethral orifice to the ureteral opening) the obstruction was computed to be 6.5 cm. (2 3/5 inches) from the bladder. The wax tip, after withdrawal, showed several long, deep strateh marks.

Cultures were made from the separated urines and from the bladder. All three showed a pure culture of the bacillus capsulatus of Friedländer.

The urinary examinations were as follows: Average amount

voided in twenty-four hours previous to the operation, 1300 c.c.; light yellow, diffusely cloudy; specific gravity, 1008; acid; no sugar; albumin present to the amount of one-tenth of 1 per cent. Microscopically, very many pus cells were seen, no casts, no red blood-corpuscles, and no crystalline elements. The urea equalled 3 gms. to the liter.

*Urine from the right kidney:* April 25, light yellow, with a flocculent white precipitate; acid; no sugar; a trace of albumin. Microscopically, pus cells and a few red blood-corpuscles were seen, but no casts and no crystals. The urea equalled 4 gms. to the liter.

*Urine from the left kidney:* Very pale, diffusely cloudy; faintly acid; no sugar; albumin present in much larger quantities than on the right side, but the amount obtained was not sufficient for a quantitative test. The precipitate of pus was also much greater than on the opposite side. Microscopically, there were many pus cells, large epithelial cells from the renal pelvis, and a few red blood-corpuscles; no casts and no crystals. The urea equalled 2¼ gms. to the liter.

On April 27, a radiograph was taken by Dr. C. L. Leonard, of Philadelphia, who happened to be present in Baltimore at this time. The plate distinctly showed a shadow in the region of the left kidney and another, about the size of an almond, on the right side. This appeared to be located in the position of the right ureter, at the point where it crosses the pelvic brim, and therefore appeared higher up than the position made out by the catheter. As was later shown, this error was due to the obliquity of the rays.

Operation was performed April 28, 1900, by Dr. Kelly, with left lumbar nephrolithotomy.

An incision 8 cm. (3 1/5 inches) long was made through the skin and subcutaneous fat, extending downward and forward, directly over Petit's triangle. By pushing the external oblique muscle forward and the latissimus dorsi backward the fibers of the internal oblique muscle were exposed. By separating these fibers the thin fascia of the transversalis muscle came into view, and was incised, exposing the perirenal fat around the lower third of the kidney. After tearing away a portion of this fat the renal pelvis was aspirated, considerable purulent urine withdrawn, and a calculus demonstrated. A blunt artery clamp was then thrust through the kidney substance, the opening thus made being slowly enlarged by blunt dissection. A large dendritic calculus was then removed, the stone being partially crushed during its extraction. This was followed by very free hemorrhage from the renal parenchyma. Failing to control this with sutures, the incision was tightly packed with gauze and a firm gauze compress applied to the wound, a portion of which had been closed with interrupted silkworm-gut sutures.

Chloroform was used for anesthesia, the time of operation being twenty-five minutes. The pulse at the end of operation was 64 to the minute.

The convalescence from the operation was very satisfactory. For three days there was an abundant discharge of urine from the sinus, the amount, however, decreasing until the packing was removed on the tenth day. The opening of the sinus caused the amount to increase, but after several days it began to diminish, and on the twenty-third day there was practically none, the patient voiding 2190 c.c. (70 ounces). The temperature on the third day touched 103 F., thereafter being about 100 until the twelfth day, when it became normal and remained so. The urine following this operation had practically the same characteristics as that previously passed.

On account of the profuse bleeding which took place during the operation, it was not deemed best to remove the calculus from the right ureter at that time. On the twenty-sixth day, however, the patient's condition was excellent, the pulse being 70 and the temperature 98.4 F., and the second operation was done.

*Second Operation.*—On May 23, 1900, Dr. Kelly performed an exploratory laparotomy with vaginal ureterotomy.

Before beginning the operation both ureters were catheterized. The left ureter was patulous and urine flowed freely from the catheter. On the right side the same resistance was met as at the previous examination. The right catheter was left in place.

An incision 12 cm. (5 inches) long was made in the median line of the abdomen. The left ureter was found to be of normal size, there being no evidence of thickening. On the right side the ureter above the pelvic brim felt normal, and careful palpation of the kidney revealed no stone. The right tube and ovary were adherent over the ureter low down in the pelvis. After the separation of these adhesions the calculus was found to be located about 6 cm. (2 3/5 inches) above the vesical opening. A small bulb syringe was now attached to the catheter, which had been left in the ureter, and the pelvis and ureter were distended with about 50 c.c. of boric solution, in order to move, if possible, the stone into a position more advantageous for extraction. It was found, however, to be adherent and could not be loosened. With the assistant's hand in the abdomen, locating and fixing the stone, it could be felt through the vaginal vault. An incision was therefore made with the sharp-pointed scissors through the vault of the vagina, and the tissues separated until the thickened ureter was encountered. This was then slit open with the "alligator" scissors and the calculus extracted with stone forceps. No attempt was made to suture the slit in the ureter.

The abdominal incision was then closed and a small iodoformized gauze drain placed, from the vagina, against the ureteral catheter, which was left in place.

Chloroform was used, the time of the operation being forty minutes. The pulse, at the end of the operation, was 68 to the minute.

The catheter was allowed to remain in the ureter for sixteen hours, and during this time it drained 650 c.c. of urine. It then became occluded and there was leakage into the vagina. However, this discharge ceased when the catheter was withdrawn and there was absolutely none until the gauze pack was removed, on the ninth day. There was then leakage until the fifteenth day, when it entirely ceased. In every respect the convalescence was perfectly satisfactory and the patient left the hospital on the twenty-seventh day. On that day the urinary analysis was as follows: Amount, 1920 c.c.; light straw color, slightly cloudy, with a small amount of sediment composed of pus cells and epithelial cells; specific gravity, 1010; reaction, acid; a faint trace of albumin.

The calculus removed from the right ureter was the size and shape of an almond. Its surface was rough and of a brownish-black color. The weight was 1.25 gms. (19 grains) and the dimensions 1.8x0.8x0.5 cm.

The condition of this patient remained excellent until the latter part of August, when she developed the symptoms of an acute intestinal obstruction. She was operated on by a surgeon in Canada, but did not survive the operation.

Case 4.—Mrs. R., aged 56 years, who was admitted to the service of Dr. Halsted, Oct. 19, 1900, had always enjoyed excellent health until the menopause, six years before. Since then her health has been poor, especially during the past two years, when she began to have edema of the ankles and continual drowsiness, with now and then severe headaches. Although she had frequently experienced a dull aching pain in the back, there were never any severe attacks until August, 1900, when she was suddenly seized with a "tearing" pain in the left side, radiating downward into the lower abdomen. Between August and October she had six similar attacks; with the last two, chills and fever. The last attack occurred one week before admission to the hospital. During the paroxysms there was burning pain in the bladder, after which the urine was scanty and highly colored. There was no history of hematuria or the passage of calculi.

The general physical examination was negative. On October 26, at Dr. Halsted's request, Dr. Kelly catheterized the left ureter with a wax-tipped catheter, which passed readily into the renal pelvis without resistance. Immediately on the stylet being withdrawn turbid urine began to flow and, in four minutes 30 c.c. were collected, showing a marked hydronephrosis. The patient was then placed on her right side and pressure over the left kidney caused 5 c.c. more to flow, distinctly more cloudy than the first portion collected. Cultures made from the urine as it flowed from the catheter showed the infection to be caused by the bacterium coli commune.

The catheter was then withdrawn 3 or 4 cm., and was felt to be grasped and then pass by an obstruction. It was then readily withdrawn and distinct scratch marks were seen on the wax tip.

The diagnosis of calculus of the renal pelvis, with associated hydronephrosis, was made on the following points: 1, scratch marks on the wax tip; 2, gripping of the catheter at a point high up; 3, large amount of urine collected in a short time; 4, infected urine. This confirmed the diagnosis which Dr. Halsted had previously made.

Operation, by Dr. Halsted, was performed Oct. 29, 1900—left lumbar nephrotomy.

After laying open the pelvis of the kidney, a careful search of each of the calices failed to reveal a stone. A waxed bougie was then passed down the ureter and was felt to meet an obstruction 27 cm. from the kidney, past which it was gently pushed. On withdrawal distinct stratch marks were found on the wax, demonstrating that the calculus, which had previously

been felt high up, had slipped down to a point only a few centimeters from the vesical opening.

A vaginal examination was then made by Dr. Kelly and a nodule felt, high up in the left fornix. The vaginal wall was friable and broke down during the examination, allowing the stone to be worked down for a distance of about 4 cm. The ureter was then incised and a rough calculus weighing 2 grs., and measuring 1x0.5x0.4 cm., pulled out by means of a small tenaculum. A gauze drain was inserted into the vagina.

The patient made an excellent recovery. There was leakage of urine into the vagina, abundant at first, but gradually becoming less, and ceasing entirely on the sixteenth day.

### DIAGNOSIS.

Unfortunately the diagnosis of calculus stenosis of the ureter is most difficult. While lumbar pain, associated with anemia and a fixed point of tenderness, may give important clues to this condition, it is often quite impossible to make the differential diagnosis from renal calculus. When the stone can not be felt through the vagina, rectum or abdominal wall, as has been done in thin individuals, there are but two satisfactory means of diagnosis, that of catheterizing the ureters with a bougie tipped with wax, as was done in Cases 1, 3, and 4, and since successfully employed by Dr. Kelly[13] in a case recently reported, and that of radiography, which in the hands of a few workers has given most excellent results. When the diagnosis can not be made by any of these means, resort must be had to an exploratory celiotomy, with direct palpation of the ureter, or a lumbar nephrotomy with probing of the ureter.

The impaction of stones, descending from the kidney, is due not only to their size and irregularity of form, but also to peculiarities of the ureter along its course, giving these well-recognized points of predilection for their arrest: 1, from 3 to 6 cm. (1 1/5 to 2 2/5 inches) from the kidney; 2, at the point where the ureter crosses the iliac artery; 3, at, or just above, the vesical orifice of the ureter.

In tabulating 84 operative cases, the position of the stone was found cited in 81. In 19—23.4 per cent.—the calculus was located within 6 cm. of the kidney; in 8—9.8 per cent.—at or near the pelvic brim; while 41—50.6 per cent.—were found within 5 cm. (2 inches) of the vesical opening, leaving but 16.2 per cent. for all other locations.

### ROUTE FOR REMOVAL OF STONE.

The route to be selected for the removal of an ureteral stone depends of course upon the position of its impaction. If the calculus is located in the vesical portion of the ureter, i. e., that portion which traverses the bladder wall, it may be reached *per urethram*—in the female—the ureteral opening being either dilated or the mucosa slit sufficiently to allow the extraction of the stone. This has been accomplished 7 times, with 1 death. When located low down, within 2 inches of the bladder, the choice is between vaginal ureterotomy, reported in 13 cases, with 1 death; rectal ureterotomy, chosen by Ceci,[14] whose patient died twenty-six hours after operation; vesical ureterotomy, of which there are recorded 5 cases, with 1 death; or ureterotomy through a perineal incision, done successfully once.

When the calculus is so situated that it can not be reached by any of these operations, the ureter should be exposed by an extraperitoneal incision, a longitudinal slit made in its wall over the stone, which is then extracted, and the incision closed with interrupted fine silk sutures. The possibility, however, of the coexistence of renal calculi, warrants the exploration of the pelvis of the kidney in cases where the extraperitoneal incision is sufficiently high to allow the kidney to be brought out of the wound and palpated.

On the other hand, ureterotomy through an abdominal incision is a more dangerous operation, on account of the liability of infection, and less desirable, on account of the possibility of a more troublesome fistula, should a sinus result. Transperitoneal ureterolithotomy has been reported 5 times (including Case 2) with 1 death, whereas in 24 cases in which the route was extraperitoneal, there have been but 3 deaths. In case the diagnosis has been made through an abdominal incision it is advisable to make, as Thornton,[15] Lloyd[16] and Morris[17] have done, a new incision in the lumbar region for the removal of the stone.

When the renal cortex is found to be degenerated and the pelvis and ureter infected, as in Case 1, here reported, nephro-ureterectomy is the most conservative procedure.

While many cases of stone impacted in the ureter have been noted clinically and in post-mortem protocols, a careful search of the literature has revealed but 80 reports of operations for the relief of this condition. A summary of these operations, including the four cases here reported in detail, follows.

| | Operation. | Cases. | R. | D. | Mortality Per Cent. |
|---|---|---|---|---|---|
| A. | Nephrectomy— | | | | |
| | 1. Lumbar | 3 | 0 | 3 | 100 |
| | 2. Abdominal | 1 | 1 | 0 | |
| B. | Nephroureterectomy | 4 | 4 | 0 | |
| C. | Nephrotomy (including pyelotomy)— | | | | |
| | 1. Lumbar | 16 | 11 | 5 | 31.2 |
| | 2. Lumbar combined with celiotomy | 2 | 2 | 0 | |
| D. | Ureterotomy— | | | | |
| | 1. Extraperitoneal | 21 | 18 | 3 | 14.3 |
| | 2. Extraperitoneal combined with celiotomy | 3 | 3 | 0 | |
| | 3. Intraperitoneal | 5 | 4 | 1 | 20 |
| | 4. Vaginal | 12 | 11 | 1 | 8.3 |
| | 5. Vaginal combined with celiotomy | 1 | 1 | 0 | |
| | 6. Vesical | 5 | 4 | 1 | |
| | 7. Rectal | 1 | 0 | 1 | |
| | 8. Perineal | 1 | 1 | 0 | |
| E. | Removal of calculus per urethram | 8 | 7 | 1 | 12.5 |
| F. | Removal of calculus through an old sinus. | 1 | 1 | 0 | |
| | | 84 | 68 | 16 | 19 |


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**Warm Baths in Cerebrospinal Meningitis.**—Dr. Osler is treating cerebrospinal meningitis with warm baths every third hour, and lays great stress in the prognosis on the tendency to relapse, the "intermittent" type of old American writers. There have been 9 deaths in 23 cases treated. No case of meningitis in typhoid fever has been seen in the Johns Hopkins Hospital. At least 8 different germs have in recent years been reported as the cause of acute rheumatic fever, all of pyogenic origin. Not a single death directly due to rheumatic fever has occurred in the eleven years since the hospital was opened, yet it is responsible for more deaths than any single fever; 75 per cent. of cases of valvular disease of the heart are its sequels. In Baltimore, in 1899, 500 deaths were attributed to heart disease. The chief indication in the treatment is relief of pain, which is often promptly secured by the salicylates, especially in children. Morphin should be given freely. In protracted cases he looks out for gonococcus infection and arthritis deformans. The salicylates do not protect the heart.

# THE DIFFERENTIAL DIAGNOSIS OF ECTOPIC PREGNANCY.

## WITH ESPECIAL REFERENCE BETWEEN IT AND THAT OF EARLY UTERINE ABORTION.*

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It may seem superfluous at the present day to read a paper on any topic in connection with ectopic pregnancy, for so much has already been written on the subject. But there is one phase of it which seems to me to have been overlooked, or at least not to have received the attention it merits. I mean the differential diagnosis, but more especially the differentiation of ectopic pregnancy from early uterine abortion.

The writer was the first to treat this matter at some length, in a paper published in the *New York Medical Record*, Nov. 5, 1898. The paper received such general appreciation that he feels warranted in bringing up the subject again before a class of men who usually see these cases before the specialist does and upon whose correct and prompt diagnosis the welfare, nay, the life of the patient frequently depends. He feels further justification, if such were necessary, in the circumstance that further experience has gained fresh examples whereby valuable lives have been jeopardized and even lost by confounding an ectopic gestation for an early intrauterine abortion.

The gynecologist never finds himself in a more distressing and embarrassing position than when he is called in a case of serious intraperitoneal hemorrhage from a ruptured tubal pregnancy, which for days and perhaps for weeks has been treated by the family physician as a mere miscarriage. There is no other mistake which the doctor could commit which receives less charity at the hands of the laity, and still it is a mistake of which the most astute specialist is occasionally guilty. From this you will infer that I am not one of those men who think the differentiation is always easy, and that all we have to do to avoid the error is to pin our faith upon one or two so-called pathognomonic symptoms. In my opinion men have frequently fallen into error just because they have accepted the dictum of writers who have laid great stress upon one or other symptom of extrauterine pregnancy. One would consider "colicky pains," another irregular hemorrhage after an amenorrhea of longer or shorter duration as pathognomonic; but of this later on.

The classic symptoms of ectopic gestation, such as irregular uterine hemorrhage after a variable period of amenorrhea, sudden seizure of severe pain of a certain character, the expulsion of a decidual sac, the presence of a characteristic tumor at either side of the uterus or in Douglas's cul-de-sac, are rarely witnessed at the bedside. Where they are present, as they sometimes are, the diagnosis offers no difficulties. But that the apparent association of these symptoms may at times lead to error, the following case occurring in the writer's practice will forcibly illustrate.

### CASES OF INFLAMMATORY CYSTIC TUMOR.

A medical friend asked me to see a young woman who had been married but a few months. She had passed her period for about three days, when she began to flow, at first slightly and later quite profusely, and continued for a much longer time than was usual with her. The flow was rather irregular and was attended with severe pain which might be characterized as of a "colicky" nature. I found the patient moderately anemic, with a slightly distended abdomen. While the patient sat up in bed to urinate she had a fainting spell—a symptom upon which I had learned to place great reliance, excepting in very nervous patients, as a sign of intraperitoneal hemorrhage. On examination the uterus was found slightly enlarged, and to the left of it was an elastic mass the size of a hen's egg, which was very sensitive and apparently fixed. Owing to the great sensitiveness of the patient, the exploration of the pelvic cavity was attended with difficulty. I had no data to guide me as to whether the mass on the left side was of recent origin or not, the patient never having been examined prior to her present illness. Everything seemed to point to an early tubal pregnancy. Still, I took the precaution to say that, while the symptoms were indicative of that condition, it might be only a very early uterine abortion, associated with a cystic ovary. I advised that the patient be placed under narcosis for the purpose of a more satisfactory examination and for such surgical intervention as might be deemed necessary as the result of our findings.

This advice was adopted, as was also that of having another specialist present to examine her with me. As soon as she was under full anesthesia and relaxation of the abdominal walls was obtained, it was fairly easy to detect that the mass on the left side was cystic and probably was of the left ovary. After a thorough curettage, which removed very little tissue, the consultant was in favor of not doing anything more for the present and waiting for further developments. I prevailed upon him however to consent to my making an incision in the posterior vaginal vault, so that I could at one and the same time positively determine the character of the tumor and remove it. It proved to be a cyst of the size of a hen's egg, with very thin walls, and probably of an inflammatory nature. The adnexa were found moderately adherent, but otherwise apparently normal.

The patient made a satisfactory and afebrile recovery, and was out of bed at the end of ten days.

I have followed this plan of making an incision through the vagina into Douglas's cul-de-sac in quite a number of cases in which there was any doubt, and have always found it of great value. In more than one instance, had I not adopted this plan, the true condition would have been overlooked, for even under narcosis it was impossible by bimanual examination to determine the presence or absence of free blood in the peritoneal cavity. However, after making the incision and ascertaining the presence of a ruptured tubal pregnancy, unless the conditions were very favorable, the operation was completed by a suprapubic incision; but this is a digression.

These inflammatory cystic tumors are often cause of considerable anxiety, as is evidenced by the following case: I was examining a woman in rather prominent social circles one day in my office, for delayed menstruation and some discomfort in the lower abdomen. She was very stout and the bimanual examination was rather difficult. I found the uterus slightly enlarged and detected, to the left of this organ, a cystic mass the size of a mandarin orange. While palpating this mass it suddenly ruptured and the patient promptly went into syncope. It took some time before she rallied. I was in much dread that a tubal gestation sac had ruptured and that the effusion of blood into the peritoneal cavity

* Read before the New York State Medical Association, at the annual meeting, held in New York City, Oct. 15-18, 1900.

was the cause of the syncopal attack. I had the patient carefully watched for a couple of days, and as there was no recurrence of the syncopal attacks and no other symptoms developed, I concluded that the mass which had ruptured and disappeared was nothing more than one of those inflammatory cysts which occasionally accompany localized peritonitis and subacute metritis. The subsequent history of the case proved my conclusion to be correct.

### ECTOPIC GESTATION VS. INTRAUTERINE ABORTION.

The following case in my own practice will show how easy it is to fall into the error of mistaking an ectopic gestation for an intrauterine abortion, and the importance of making an incision into Douglas's cul-de-sac when in doubt. I was called one morning to see a woman on whom I had performed an amputation of the cervix some years before. Her history pointed to a simple abortion at about the third week of pregnancy. A local examination seemed to confirm this diagnosis, for beyond a slightly enlarged uterus, with the cervix rather patulous, nothing was detected. It is true, the examination was not very satisfactory, owing to a thick abdominal wall and moderate flatulent distension of the intestines. She was admitted into St. Mark's Hospital to be curetted. When she was narcotized, on examining her I was surprised to find an ill-defined mass behind the uterus, which seemed to possess the characters of an inflammatory exudate. After curetting the uterus and removing considerable decidual tissue, I determined to ascertain the nature of the mass by vaginal exploratory incision. The mass proved to be made up of old and fresh blood clots; and as the ruptured tube was not accessible through the vaginal incision, I made an incision through the abdominal parieties and removed it. The patient made an uneventful recovery.

In the paper referred to I cited several instances in which the patients had been treated for weeks by the family physician, and had been repeatedly curetted for a supposed uterine abortion when the condition was that of a ruptured tubal pregnancy. Since then I have seen quite a number of cases in which a similar mistake had been made. I am not finding fault with the attending physicians for having made such an erroneous diagnosis, for as I frankly confessed, it is one we are all liable to make at times. But I do strongly condemn the plan usually adopted by the attending physicians in these cases—that of attempting to curette the uterus without general anesthesia. I say "attempting," for in early cases of abortion it is impossible, in the majority of instances, to satisfactorily curette the uterus, to say nothing of the practical difficulties to do it under aseptic precautions, unless the patient is fully anesthetized. What is the usual result of such a procedure? The uterine hemorrhage persists and the physician concludes that he has not removed all the uterine contents, and curettes again, also without anesthesia, and perhaps is forced to repeat the operation a third time if the confidence and patience of his patient have not already been exhausted. In many instances after the first curettage, done under imperfect asepsis, the patient is made septic, and what was a favorable condition is probably converted into a hopeless one.

The general practitioner should therefore make it a rule never to undertake to curette for a supposed abortion without anesthetizing his patient. Every case of supposed early uterine abortion should be looked upon with suspicion, and unless the case is an especially clear one and not requiring any surgical intervention, the patient should be anesthetized as early as possible. This is to be done first for the purpose of making a rigid and thorough examination to exclude an ectopic gestation, and secondly for the purpose of performing a proper curettage under satisfactory aseptic precautions.

The attending physician is often severely censured when the chief blame attaches to the patient, as is demonstrated in the following case. The patient, after a period of amenorrhea of seventeen days, began to stain; a week later she had abdominal pain, with the persistence of the slight flow. She made light of these symptoms and ignored the advice of her physician to be curetted. While at her place of business one day she expelled a mass which she asserted was the fetus; that it resembled the yellow of an egg and was not a mere blood-clot, as it failed to be broken up with the fingers. She triumphantly told this to her physician, and said: "I told you it would come away of its own accord; several others have on former occasions." About three weeks later she was suddenly seized in her store, while in the water-closet, with symptoms of collapse. She was brought home with difficulty, in a cab, and I saw her at 10 p.m., about six hours after the foregoing event. She was extremely anemic, with a pulse of poor volume, about 120 to the minute. She was apathetic and did not seem to suffer any pain. The abdomen was very large and fat and quite hard. On vaginal examination an irregular mass behind and to the left of the uterus could be felt. The diagnosis of a ruptured tubal pregnancy was made and an operation urged. Consent was finally obtained to perform it on the following morning. When the patient was placed on the table for operation she went into profound collapse, from which she did not rally and died about an hour later. The abdomen was rapidly opened. It was found full of blood and swimming among the clots was a fetus of about ten weeks. The family severely blamed the attending physician because he said it was only a slight matter and required an insignificant operation. Had he taken the precaution to say that a curettage under full anesthesia was imperative just as much to make certain that nothing but a uterine abortion existed as to empty the uterus, he would have averted all reasonable grounds for complaint, and the life of his patient might have been saved.

The foregoing case is of further interest in that it shows that the onset of uterine hemorrhage, and even the expulsion of a decidual membrane, are not indicative of the death of the impregnated ovum. These phenomena occurred when the patient was pregnant presumably six weeks, while the fetus showed a development corresponding to the age of ten weeks.

### SYMPTOMS OF INTRAUTERINE PREGNANCY.

We may now profitably take up an analysis of the prominent symptoms of extrauterine pregnancy, comparing them with those of early uterine abortion.

*Uterine Hemorrhage.*—The flow attending a ruptured tubal pregnancy is as a rule less profuse and more irregular than that which accompanies uterine abortion. It is more likely to occur as a mere show which comes and goes, while in uterine abortion the flow is more continuous. Still, there are numerous exceptions to this rule. I have seen very profuse uterine hemorrhage in tubal pregnancy, and Martin reports a case in which it was so severe as to even cause the death of the patient. On the other hand, a threatened uterine miscarriage may drag along for a time with a very scanty flow, which may even be irregular, coming and going as it

does in extrauterine pregnancy. I have now under observation a case of impending uterine abortion, in which the flow has been scanty for several days, in which it ceases during the night and while the patient is in bed. I recall other cases in which the slight flow would cease for a day or longer, even while the patient was up and about. However, when a woman has passed her period for a few days only and begins to have an irregular and scanty flow, a suspicion of extrauterine pregnancy ought to be entertained. On the other hand, I have seen cases in which rupture of an extrauterine pregnancy had taken place without the patient having missed a period. In one case rupture of the tubal pregnant sac had taken place seventeen days after the last menstrual flow, which apparently was normal in every respect. Similar cases have been recorded in the literature.

*Pain.*—A great many writers have laid great stress upon the "colicky" nature of the pain in extrauterine pregnancy. Some have gone so far as to deem it a pathognomonic symptom. Even if the same pathologic lesion occurred each time, and the sensations it produced were exactly similar, patients would describe them differently. But we know the lesions are variable; at one time there may be a rupture of the tubal sac, at another a mere expulsion of the fetal sac through the "ostium abdominale," constituting a tubal abortion; and again at another a hemorrhage into the tubal wall forming tubal mole. It is not reasonable to suppose that these different lesions would evoke exactly similar sensations, and as a matter of fact the character of the pain attending the termination of a tubal pregnancy is as variable as is the color of the chameleon. It may be sharp and lancinating, or it may be of a bearing-down character, as in dysmenorrhea, or it may resemble labor pains, or simulate an ordinary colic, or be characterized as a tearing, agonizing sensation which can not be endured; or, again, it may be of a throbbing nature, like that attending an inflamed ovary. The patients whom I have seen more frequently have described it as resembling the pain attending labor. It must not be forgotten in this connection that pain of any description may not form a prominent symptom of tubal pregnancy. In one of my own cases cited above, the patient made no mention of any pain, and in several other cases the symptom was confessed only after repeated questioning.

In my former paper I stated that the one symptom in my experience, that has afforded me the strongest clue, has been the occurrence of fainting spells with the attacks of pain. But I went on to say that too much reliance should not be placed upon this symptom, as it was frequently absent and was occasionally met with in uterine abortion in nervous and hysterical women. It was present in the case of early abortion, associated with an inflammatory cyst, reported in the early part of this paper. Still, with certain precautions, it forms a symptom of some value as indicative of intraperitoneal hemorrhage.

*Expulsion of Cast.*—The expulsion of a decidual cast or membrane from the uterus is an objective sign to which great importance has been attached. I can do no better than quote what I wrote on this topic in the article already referred to, inasmuch as increased experience has only confirmed the assertions made then. "In the first place there is no membrane discharged in a great number of cases, the decidua either being cast off in shreds or undergoing degeneration. In the second place it may be expelled unnoticed in the blood-clots. Thirdly, when questioned, the patient will often reply that she has passed a membrane, when what she actually passed was a semi-organized blood-clot. Lastly, and most important of all, is the fact that even the most expert microscopist can not distinguish between the decidual cells of a uterine pregnancy and that of a tubal gestation. This fact nullifies the advice given by some authors to curette the uterus in a suspicious case and examine the tissues removed for decidual cells. Not alone would the findings of decidual cells form no proof even of uterine pregnancy, for so able a microscopist as Carl Ruge[1] has stated that in the absence of the pregnant state he found decidual cells in diseased conditions of the uterus."

How misleading the statements of the patient are, even though they be intelligent, regarding this point, is forcibly illustrated by the fatal case reported in this paper. The patient was experienced in such matters, having had several miscarriages, and she was positive that what she had passed was a very small fetus. This assertion helped to throw the attending physician off his guard. Of course the detection of chorionic villi in the expelled products would be positive proof that the gestation was intrauterine.

The local signs of early extrauterine pregnancy are not characteristic enough to be of any value to us in doubtful cases. It is very easy to overlook or rather to be unable to detect the slightly enlarged tube on bimanual examination, especially in the presence of a thick or rigid abdomen. On the other hand, an inflamed and enlarged tube may possess all the characters of a tubal pregnancy. Some authors lay stress upon the vagina being soft and lax, and on the pulsations of the vaginal arteries. These signs savor too much of finesse to form safe guides in perplexing cases.

### SOURCES OF ERROR IN DIAGNOSIS.

The principal sources of error in the differential diagnosis of ectopic pregnancy, besides the condition already mentioned, are the following: 1. Irregular enlargement or sacculation of the pregnant uterus, forming apparently an independent tumor. 2. A retroflexed pregnant uterus with a long cervix, the elongated cervix being mistaken for the whole uterus, and the enlarged uterine body in Douglas's cul-de-sac being taken for the extrauterine sac. 3. Great flaccidity of the abdominal wall and marked thinning of the uterine, giving the impression as if the fetus lay in the free peritoneal cavity.

Time will not permit the full discussion of these at present. I would refer those interested in the matter to my first paper on the differential diagnosis of ectopic pregnancy.

### CONCLUSION.

The points I have endeavored to bring out in this communication, and which I would like to have discussed, are: 1. The frequency with which ectopic gestation is diagnosticated as early uterine abortion. 2. The advisability of looking with suspicion upon every case presenting apparently the symptoms of early uterine abortion, and if the case is not running a simple and natural course, to fully anesthetize the patient for a rigid examination and for the proper performance of curettage in the event of uterine abortion being present. 3. If after carrying out this plan there still be some doubt, the advisability of making a posterior vaginal exploratory incision to determine the presence or absence of blood in the peritoneal cavity and to be prepared to open the abdomen if the condition found calls for it. 4. The unreliability of the so-called pathognomonic signs or symptoms of ectopic gestation.

1. Centralblatt f. Gyn., 1881.

# I. UNION FOLLOWING PATHOLOGICAL FRACTURE OF THE FEMUR DUE TO SECONDARY CARCINOMA.

# II. SPONTANEOUS DISAPPEARANCE OF CARCINOMA OF THE LIP.*

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Spontaneous fractures have long been known to occur occasionally in the presence of carcinomata of various portions of the body. Particularly is this true of the harder varieties of carcinoma of the breast. Too much stress must not be placed, however, upon the older reports, because carcinoma and osteosarcoma were formerly confused under the generic term of "bone cancer."

It is generally admitted that these fractures may be due to metastasis or to abnormal fragility of the bones. The latter does not depend on the presence of carcinoma elements, but upon the development of a more or less general, simple osteoporosis, intimately but obscurely associated with the existence of the primary carcinoma, Richet and Verneuil being inclined to connect the phenomenon with the phosphaturia often existing in the later stages of carcinoma.

The bone most frequently broken is the femur, the humerus coming next, while multiple fractures are sometimes met with.

In spite of the peculiar nature of the accident, union occasionally takes place, and it would perhaps be seen more often if the average duration of life subsequent to the injury were greater.

In cases of simple osteoporosis repair is not infrequent, but it is extremely rare in the presence of secondary carcinoma. Ricard[1] even insists that but one unquestionable instance has been recorded (Küster); while Cornil and Ranvier[2] seem to doubt its occurrence at all. These, however, are extreme views.

Gurlt[3] has collected thirty-eight cases of spontaneous fracture in cancerous individuals—3 men, 35 women—among which were ten instances of union, apparently a remarkably large proportion. But, as Ricard justly remarks, it is impossible to say in how many of these simple fragility existed without the local presence of malignant deposits.

In August, 1897, I examined a well-developed Swedish woman, aged about 35 years. There was a firm carcinomatous nodule of moderate size in the upper outer quadrant of the right breast, which had attracted the patient's attention some six weeks previously. The axillary glands were enlarged and the skin slightly adherent, although the nipple was not sunken. In operating, I removed the entire breast, a considerable portion of the pectoral muscles, including all the fascia, and the entire axillary contents. Union was by first intention.

The growth soon returned locally, although I did not see the patient again until April, 1898. I again operated, removing the remainder of both pectorals and a portion of rib, which appeared to be slightly involved, and skin grafted the large denuded surface.

The patient returned during the following August, about one year from the time of the first operation. There was no local recurrence, but severe pain existed in the dorsolumbar region, and especially over the left kidney posteriorly and the left external surface of the pelvis.

In turning over in bed the left femur broke at the level of the lesser trochanter, producing marked shortening and deformity. There had been no pain or tenderness as low down as this, and nothing to call attention to the process going on within the bone.

Believing the accident to be due to secondary carcinoma, I informed the woman's husband that union would not occur. Merely as a matter of comfort, and for the purpose of relieving deformity, I applied extension to the limb, but did not reexamine it for four weeks, when I was astonished to find firm union.

Shortly after this the woman died, and I was able to secure the upper portion of the broken femur. The fragments were in perfect apposition, and so firmly united that no reasonable amount of force could move them in the slightest. Longitudinal section revealed a central carcinomatous deposit surrounded by a thin, hard shell of bone, which was smooth and of quite uniform thickness. This is not in accord with Volkmann,[4] who says: "A certain amount of union can take place through the formation of periosteal bridges." Gurlt and Stimson also hold the view that repair occurs through the junction of "osseous spicula." Microscopic specimens demonstrated clearly that the tumor had invaded the bone by way of the Haversian canals, leaving numerous small islands of unaltered osseous tissue surrounded by the malignant growth (Fig. 1).

Secondary carcinomata which grow rapidly are manifestly more liable to cause spontaneous fractures, but when these accidents do occur with deposits of slower growth, union is probably more apt to follow. We may likewise assume that, other things being equal, the slower

Figure 1.

the growth the less the pain. There is also no pain in simple osteoporosis. Hence the absence of pain, or its presence in moderate degree only would have some bearing on the prognosis.

We are not justified in believing that the mere presence of the malignant deposit exerts an inhibitory action on the process of ossification. The case just reported would tend to disprove this. We have to assume that the causes of non-union are: 1, death of the patient before new bone has had time to form; 2, extensive destruction of bone; 3, separation of the fragments by growth of the carcinoma between their ends. In this connection there is reason to suppose that tumors develop more rapidly after fracture, owing to decrease of pressure and increase of mechanical irritation.

Some practical deductions from a general consideration of the subject are: 1. Spontaneous fractures may occur during the course of carcinomata, especially those of long-standing in the female breast. 2. They may or may not be due to metastasis. 3. Local pain points toward malignancy, while swelling is of little diagnostic value, as it does not often appear until after the fracture has

* Read before the American Surgical Association, May 3, 1900.

3. See the discussion which followed the lecture delivered by him, in London, Nov. 28, 1900, at a meeting of the Society of Arts.

occurred. 4. However unfavorable the circumstances may seem, we must not be too hasty in affirming that union will not take place, but if it does and if secondary carcinomatous deposit has been the cause of the accident, the fracture will certainly recur if the life of the patient be sufficiently prolonged.

SPONTANEOUS DISAPPEARANCE OF CARCINOMA OF THE LIP.

Cases of spontaneous disappearance of carcinoma are extremely rare, even in the presence of the toxins of erysipelas. As regards the lip, I have been unable to find mention of a single instance; in fact, as Quénu remarks, "The prognosis is grave in all epitheliomata of the mucous surfaces or of the intermediary zones." Fibrous carcinomas of the breast, however, occasionally undergo spontaneous cure, especially in old women (Billroth), and Kaposi[5] asserts that superficial epithelio-mata of the skin sometimes heal without treatment. Stoerck reports an epithelioma of the tonsil, which disappeared without interference, although recurrence took place in one year, necessitating resection of the lower jaw. E. Senger[6] claims to have seen certain

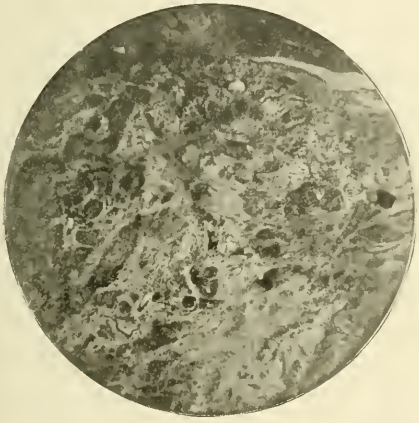

Figure 2.

tumors of the buccal mucous membrane, exhibiting all the microscopic evidences of carcinoma, vanish after the removal of jagged and irritating teeth. He agrees, however, with Gussenbauer, that they were probably not true carcinomata, the clinical evidence being, perhaps, more trustworthy than the microscopic in such cases.

In March, 1899, a man aged 38 years, came under my care in St. Anthony's Hospital, Denver. There was no history nor evidence of syphilis. Three years previously a small, superficial, indurated sore, covered with a crust, appeared on the right half of the lower lip, at the muco-cutaneous junction. It remained about one year, sometimes almost disappearing, and then enlarging to its original size. Occasionally the patient would dislodge the crust with his tongue. No treatment of any kind was employed, and there was no attack of erysipelas, but the ulcer finally disappeared and did not return, leaving a slight, scarcely recognizable scar.

Less than one year later, and nearly two years from the beginning of the disease on the lip, a movable, glandular swelling was noticed in the right submaxillary region. Nine or ten months later this was removed, local recurrence taking place within three weeks. Two weeks later another operation was performed, but the progress of the growth was but temporarily checked.

At the time of my examination a large, inoperable, deeply ulcerated, indurated tumor existed over the right inferior maxilla, the neck, and the side of the face. Microscopic sections revealed a typical epithelioma (Fig. 2). The prolonged administration of the toxins of erysipelas and prodigiosus produced no effect, and death shortly supervened.

I am well aware that microscopic evidence of the carcinomatous nature of the original ulcer of the lip is wanting in this case; but the circumstantial evidence is so strong as to admit of no reasonable doubt.

This anomalous cure might be explained by assuming: 1. Great general resistance to the invasion of carcinoma. We would then have to admit that this resistance was subject to variation at short intervals without apparent cause, or that it was much greater in the lip than in the submaxillary gland. 2. Slight virulence of the epithelioma. Here the hypothesis would be necessary that the virulence varied at different times and in different tissues. 3. The disappearance of some inhibitory product temporarily existing within the body. Which of these suppositions is correct must remain purely problematical.

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# THE RATIONAL USE AND LIMITATIONS OF THERAPEUTIC MEASURES INTENDED TO PROMOTE THE ABSORPTION OF EXUDATES WITHIN THE EYEBALL. MEDICINAL MEASURES.*

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If there has been one branch of ophthalmology which has been neglected in our study and research, it is the general therapeutic measures. I know of only two works on the subject of general therapeutics in relation to the eye, which treat exhaustively—one is a little book called "Ocular Therapeutics," by Ohlemann, the other by Carl Ferdinand Graefe, father of the great Albrecht v. Graefe, and published in 1817. Ohlemann, in his preface says: "Since 1817 when Ferdinand Graefe wrote his 'Repertorium Augenärztlicher Heilmittel,' no attempt has been made to treat the remedial agents used in ophthalmology exhaustively, and to supply a treatise on the subject that might serve as a guide to the practicing physician. This is the more interesting when it is remembered that C. F. Graefe made the assertion that in no branch of therapeutics is the value so worthy of consideration as in ophthalmology."

We are very liable to lose sight of the fact that we are ophthalmic practitioners as well as ophthalmic surgeons, and we are prone to forget the general systemic remedies in our eagerness to use the knife and needle. Granting that general therapeutic measures have a certain usefulness in the cure of diseases in every organ of the body, why have we not given more attention and thought to this very pertinent branch, and some one of the profession in this line of practice directed his energy toward the compilation of an exhaustive text-book on this subject, which to my mind would be a most important adjunct to the literature we have regarding ophthalmology?

We all fully appreciate the dire necessity of administering general therapeutic remedies in certain ocular diseases dependent on causes which the ocular trouble

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is simply a manifestation of, sometimes grave systemic disorder, such as syphilis, tuberculosis, rheumatism, diabetes, etc., and in these troubles we could never hope to bring about resolution unless we resorted to the general therapeutic remedies; so, if this be true in any particular, why should it not be true in the great majority of ocular diseases, especially when it is remembered that here we have to deal with the most sensitive and delicate structure in the whole body, its blood supply being comparatively less than in any other organ; therefore, such blood should be of the purest kind, or laden with such remedies as will bring about the desired results.

It has been a custom for years, in the treatment of ocular diseases, for me to first put my patients under the best hygienic environment possible, and give such general remedies as we would naturally expect to obtain the best results from in so doing. In the consideration of general therapeutic measures intended to promote the absorption of exudates within the eyeball, the field is practically unlimited, and if I were to enumerate all of the different drugs which from time to time have been recommended to promote the absorption of exudates, they would probably fill a good-sized book, and as a "limitation" has been wisely placed on this subject by the Chairman of this Section, who kindly invited me to make this address, I will confine my remarks to those therapeutic agents which in my own experience have proved efficacious. It is entirely unnecessary to begin this subject regarding the fundamental principles of general treatment, as every practitioner of medicine will readily appreciate the reasons for so doing. In cases of severe inflammatory conditions of the eye, it is of paramount importance that the subject should be at rest, and in my estimation we neglect placing patients in bed quite too often. If we made it a rule rather than the exception, I feel sure that better and quicker results would ensue from treatment; not only from the fact of the patient being at rest, but from what this entails, such as avoidance of sunlight and dust, extremes of temperature and other recognized irritants. We must watch symptoms and treat them accordingly, giving attention to the circulatory and respiratory systems, and especially to the secretory and excretory functions, and not only must these be inquired into at the first examination, but they ought to be constantly watched during the whole course of the disease. The old custom of giving an active cathartic in the beginning of all inflammatory troubles is a good one, as there are very few cases in which they are not indicated.

If our patient is suffering from pain and is restless, these conditions should be relieved, as all excitement of whatever nature must be controlled in order to put one in a favorable way toward rapid recovery. Bloodletting is no doubt very beneficial in certain acute inflammatory conditions of the eyes; in acute iritis, for instance, the trouble is very frequently controlled, and the effect of the local instillation of atropin is clearly seen after drawing from two to three ounces of blood from the region of the temple. The method employed is largely a matter of indifference with me; whether the natural leech is used or the artificial one of Heurteloupe, so far as I can determine, is immaterial, the object being depletion of the parts; however, the artificial leech is not so disgusting to most patients, and from this fact alone is preferable. In any event, the patient must be in bed and remain there several hours if any benefit is to be derived from blood-letting. Of all remedies, the so-called alteratives exert a greater influence in the absorption of exudates than any other class of drugs, by increasing nutrition and the constructive metamorphosis, and thus eliminate disease from the tissues. The iodids stand out pre-eminently as the most reliable; that they do promote absorption of inflammatory effusions and inflammatory thickenings is conceded. Iodid of potassium or iodid of sodium is generally given; the latter is usually better assimilated and does not produce the disturbance in the stomach which the potassium will sometimes bring about. The dose to be administered is very important; frequently I have patients who have been referred to me by physicians, and on questioning them in regard to the number of drops taken at home, they tell me they had been taking ten drops three times daily. This is perfectly absurd, because, if we would expect to obtain results from this remedy, the dose must be steadily increased to the point of iodism, and this point can not be reached by giving small doses, as iodid of potash is very rapidly eliminated from the system, unless perchance a patient is met with who has a peculiar idiosyncrasy in this respect. It is not an uncommon thing to give as much as 200 drops of a saturated solution of iodid of potassium three times daily at Hot Springs; of course, in conjunction with the hot baths larger doses can be borne here than elsewhere, but 1 to 2 drams can be taken at a dose without the baths and no bad effects be seen. It has been my experience to see exudates disappear time after time under the larger doses, when the smaller had no appreciable effect. It is necessary to give some form of mercury, in fact it is a routine practice with me to begin treatment with inunctions, and after a thorough course has been given the iodids are then administered. It is not the rule usually to give mercury, especially in tertiary syphilis, but my experience has taught me to rely on this remedy in all such cases, as better results are obtained after a thorough course of inunctions, and I consider mercury a very important factor in the absorption of exudates. One dram is rubbed into the skin each day, and this is continued until the point of ptyalism is reached, or, which is more important, the hemoglobin is decreased. Neuman, Nothnagel, and others have demonstrated the effects of mercury on the blood, both in small and tonic doses, and in the larger ones. They showed that mercury in small doses increased the hemoglobin, but in large doses long continued it decreased this important element, hence was detrimental; therefore, it behooves us to use the microscope and be on guard lest we produce some serious trouble in the kidneys, as it has also been demonstrated that after long-continued use of mercury, casts are found in the urine, to disappear after the remedy is discontinued. When it is given by inunction, it does not have to pass through the portals of the liver and more readily reaches every tissue and organ through the white blood cells. Generally speaking, inunctions for three or four weeks in moderate daily doses carry the patient to the top of the hemoglobin hill, and everything beyond is hurtful. The blood should be examined at the beginning of a mercurial course, as well as the urine, and these ought to be watched during the whole time.

Mercury and the iodids are not alone beneficial in removing exudates caused by syphilis, but in many other etiologic conditions, so in these two remedies we have the sheet-anchor. Among the diaphoretics used to promote the absorption of exudates, probably pilocarpin has first place, as it will unquestionably produce profuse diaphoresis, and by so acting effusions are more readily absorbed; especially is this true if the patient will abstain as far as possible from liquids, not only during

the time the sweating process is in operation, but for hours afterward. Taken in ¼-grain doses hypodermically, the effects are quickly seen: it is in those cases where prompt action is necessary that this drug is strongly indicated. The patient should be placed in bed before the injection is given, with woolen blankets under and over him to get the best results from this remedy, as the sweating process is thereby prolonged.

Salicylate of sodium is another remedy of marked virtue in the absorption of exudates, especially in cases of rheumatic origin or uric-acid diathesis. Thirty grains well diluted in water every four hours acts well in many cases. If one of the digestive ferments, such as pepsin, is given along with the salicylate, the distressing stomach disturbance often seen after large and continued doses of this drug will be greatly obviated. Aminoform is a remedy that I have recently used as a substitute for salicylate of sodium, as it was claimed that it did not produce the stomach disorder which large and continued doses of salicylic acid would bring about. It is soluble in water and is given in 10-grain doses every four hours. I have found it very beneficial in rheumatic iritis; it not only relieves the inflammatory condition, but also the pain which usually accompanies it.

In hydrotherapy we have the most valuable adjunct to the administration of internal remedies. The absorption of exudates is brought about through elimination, and certainly in hot baths this is shown most beautifully. The method employed at Hot Springs, in giving the baths and remedies, I believe to be superior to those of continental Europe, so I shall therefore give the routine way of prescribing them at Hot Springs. The natural heat of the waters from different springs ranges in temperature from 96 to 157 degrees F., so it is necessary to temper the hot water with water which the night before has been allowed to run into a "cold water" tank from the springs, and is therefore cold. The temperature of the baths is usually about 98 F., but if active diaphoresis is desired the temperature is sometimes increased to 102 F. The patient stays in the tub ten minutes, and during this time drinks two or three cupfuls of hot water. I may say that the bath-houses are so constructed and equipped that it is almost imposible for one to "catch cold" after the bath has been taken, as there are a series of rooms kept at different temperatures, the patient being taken from the tub to a temperature which is the same as the bath, or in case profuse sweating is desired, to a warmer room, and then to a cooler one, until finally he is in the same temperature as on the outside. After coming from the tub, an attendant with crash towels rubs him thoroughly, a bath-robe is placed around him and then he lies down on a wicker couch fifteen minutes or more with bath-robe and heavy towels over him, to go through the sweating process.

The place wherein the bath is taken constitutes a very important element, as it has frequently been my experience to see patients who have taken the baths in their rooms at the hotels with the same water, but under different conditions from the regular bath-houses, not do so well until a change has been made to the latter. When it is not possible for one to avail himself of the opportunity of taking the baths as just described, a special steam-heat apparatus has been devised for producing diaphoresis, but as I have had no experience with this method, I will not go into details; however, with proper precautions and surroundings I believe it to be reliable.

If mercury is indicated during the course of baths, it is rubbed into the skin each day after the patient has taken the bath. This is done by a trained attendant, who, with rubber gloves to protect his hands, continues to rub until the mercury is thoroughly absorbed by the skin. The patient is not allowed to perspire freely during the course of mercury, only enough to keep the pores of the skin open for the reception of the drug. After the course has been completed, the patient is given vapor baths for a few days to eliminate any excess of mercury which may be in the system; he is then ready for the course of iodids, taking the baths usually through the entire course. It is better to have the inunctions administered by a trained attendant, as experience shows that the patient will not as a rule devote the proper time and attention to the rubbing.

In the internal administration of mineral waters to produce the absorption of exudates, I have had little experience, as usually the methods already described have been satisfactory. It is a question in my mind whether they exert their usefulness through any mineral properties they may contain, or whether it is in the great quantity of water taken into the system which will necessarily stimulate elimination.

The limitation of therapeutic remedies used to promote the absorption of exudates is very circumscribed in a way, and after all has been said, alteratives, mercury and iodids, pilocarpin, salicylate of sodium and the hot baths constitute about the whole number of remedies on which we can place much reliance. Exudates of specific and uric acid origin can without question be controlled, but in other cases we are frequently disappointed, do what we may in the case.

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## SUPPURATING MASTOIDITIS, WITH THE REPORT OF CASES.

SUPPURATING OTITIS MEDIA, BOTH EARS; SUPPURATING MASTOIDITIS ON THE RIGHT SIDE, ABSCESS EXTENDING INTO THE DEEPER TISSUES OF THE NECK, AND EXTRADURAL ABSCESS.

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The following cases represent some of the various forms of mastoiditis resulting from epidemic influenza, and are instructive as they do not all present the uniform indications for operation.

CASE 1.—I saw this patient, a boy 6 years of age, May 1, 1897, in consultation with his family physician, Dr. G. L. Magruder, who gave me the history of a case of suppurating otitis media in both ears, resulting from epidemic influenza. The little patient was extremely emaciated, with a small and feeble pulse; there was a profuse purulent discharge from both external auditory canals, and over the right mastoid region, extending back toward the occiput and downward into the neck for several inches, there was a large boggy swelling, very sensitive to pressure; the right auricle was also very prominent. There were no brain symptoms, as far as could be ascertained. An operation having been decided on, the following morning, May 2, the child was etherized, and the head shaved in the region of the operation; an incision was then made in the swelling, commencing just above the auricle, and extending downward some distance on the neck. Following the free incision there was a profuse discharge of pus, which was found to be flowing from a fistulous opening in the upper part of the mastoid bone, the whole outer layer of which was in a highly necrosed state. This was removed with the chisel and gouge, and it was then discovered that the whole mastoid

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process was badly diseased. The pus, finding a second exit through a large fistulous opening in the tip of the process, had burrowed its way into the deeper structures of the neck.

With a sharp curette all the diseased bone that could be felt was removed, and in so doing the lateral sinus was exposed to nearly its full extent; but as it was soft to the touch it was decided not to make an exploration of it. In working upward, a collection of pus was discovered between the dura mater and the roof of the mastoid antrum, and, after a complete removal of all diseased bone in this region, the dura mater was found to have been exposed from 1½ to 2 inches. The wound was thoroughly cleansed with a solution of bichlorid of mercury, 1 to 3000, and packed with iodoform gauze.

Before operation the thermometer by the axilla registered 99.4; after the operation, by the mouth, 103.2. The patient rested well during the night.

May 3, at 8 a.m., the temperature was 98.4; 12 m., 102.5; 8 p.m., 103. No record of the pulse could be kept, owing to the extreme irritability of the patient. He rested fairly well during the day, and did not complain of pain.

May 4, at 8 a.m., the temperature was 102; 12 m., 102.2; 6 p.m., 103.4. The patient was extremely restless during the day.

May 5, with Dr. Keen in consultation, the dressings were removed and a thorough exploration of the wound was made. There was some further diseased condition of the bone discovered and this was removed. The wound in the neck was further extended to within two inches of the clavicle. Although no further purulent collection was found, the tissues themselves were in a sloughing state; this was scraped away as thoroughly as possible, and the wound packed with iodoform gauze. Owing to the left mastoid process showing some redness and tenderness on pressure, a free incision was made back of the auricle, through the periosteum, and the antrum opened, but nothing beyond a high degree of congestion was observed, and the wound was then closed. At 8 p.m. the temperature was 105, and he was slightly delirious.

May 6, reports showed he had slept very little during the night. At 8 a.m. his temperature was 104.3; 12 m., 104.2; 8 p.m., 103.2.

May 7, at 8 a.m., the temperature was 103.3; 12 m., 103; 8 p.m., 103.4. There was little or no change in the patient's general condition.

May 8, at 8 a.m., the temperature was 100.4; 12 m., 100.4; 8 p.m., 101.4. The wound was dressed, and showed a decided improvement.

May 9, at 8 a.m., the temperature was 100.2; 12 m., 100.2; 8 p.m., 100.4. The patient was very much stronger and less restless.

May 10, at 8 a.m., his temperature was 99.4; 12 m., 100.1; 8 p.m., 100.4. The wound was dressed, the slough coming away in small pieces.

May 16, the slough having been detached in large masses, a healing granulating surface was left. The patient was etherized, the edges of the wound in the neck freshened and united by means of eight sutures. Good union was obtained, except for an inch of the upper portion of the wound, which was broken open by the constant movement of the child's head. The rest of the wound continued to be dressed every third or fourth day with iodoform gauze, and in the course of a few weeks gradually closed.

This patient made a slow convalescence, but finally made a good recovery, and is now in robust health, with good hearing for the voice and watch.

ACUTE SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

CASE 2.—Alice, aged 4 years, was seen by me on Nov. 21, 1899. Her family physician stated that after an attack of influenza an abscess developed in the right ear. This was quite persistent, and did not yield to treatment. In the course of three or four weeks the mastoid commenced to show signs of being involved.

When first seen by me there was a profuse purulent discharge from the right external auditory canal. The mastoid was only moderately swollen, but quite tender on firm pressure. There was no elevation of temperature.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital, and on the following day the mastoid was opened. After detaching the periosteum the cortex immediately over the antrum showed signs of softening, while that over the remainder of the process was firm. The antrum was opened with a chisel, and was found filled with pus. The probe revealed an advanced state of caries, both toward the aditus, and in the cells as far as its tip. The cortex was removed as far as the tip of the process, and all diseased bone scraped away with the curette. The cavity was packed with iodoform gauze, which was carried well up toward the tympanum.

This patient made a rapid and uninterrupted recovery, and was discharged from the hospital at the end of the third week, cured.

ACUTE SUPPURATING OTITIS MEDIA.

CASE 3.—Eva A., white, aged 8 years, was admitted to the Episcopal Eye, Ear and Throat Hospital Jan. 1, 1899, giving a history of an acute suppurating otitis media on the left side, of three weeks duration, following an attack of influenza. No clear idea could be obtained as to the form of treatment adopted before entering the hospital, except that the physician had prescribed drops for the ear.

On admission the child was very much emaciated, exceedingly nervous, and with a temperature of 100 degrees.

On examination there was observed a profuse purulent discharge from the left external auditory canal; no swelling over the mastoid, but from about the tip of the process extending down into the neck there was a swelling about the size of a pigeon's egg, very painful to the touch. There was little or no sensitiveness over the mastoid process. After preparing the parts for operation, the child was placed under ether, and an incision, commencing just above the auricle, was carried down over the mastoid process into the swelling in the neck; in doing this a large quantity of pus was evacuated. After detaching the periosteum from the mastoid process, the cortex portion was found to be in a healthy condition; a curved probe, however, could be introduced at the tip of the process, and carried some distance upward. The antrum was then opened, found filled with pus, and, with the rongeur, the cortex as far as the tip was removed, revealing an entire breaking down of the mastoid cells, the pus finding an exit into the tissues of the neck through the very thin walls of the cell in the tip of the process. Caries was found to have extended upward for some distance, as well as toward the tympanic cavity. This was very thoroughly removed with a sharp spoon, and the cavity packed with iodoform gauze.

The temperature for several days ranged from 100 to 101, after which it fell to 99.4, but the slightest excitement would cause it to rise.

The subsequent dressings were conducted with some difficulty, owing to the exceedingly nervous condition of the child, but she finally made a complete recovery, and was discharged from the hospital at the end of the sixth week, with the wound completely healed.

CHRONIC SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

CASE 4.—Bessie M., white, aged 13, on admission to the hospital, gave a history of a chronic purulent discharge from the right ear, of several years' duration. During a recent attack of influenza the discharge was greatly increased, and at the same time there was considerable swelling and tenderness over the mastoid process. There was also marked cerebral irritation, manifested by delirium, which passed off with the subsidence of the attack of influenza.

On examination, quite a profuse discharge from the right external auditory canal was observed coming through a large perforation in the posterior inferior quadrant of the membrana tympani. There was no pain over the mastoid, but she suffered from headaches referred to the right temporal region. On firm pressure over the mastoid there was slight pitting. Temperature was 99.2 F.

The patient was prepared for operation, and, on the day following her admission to the hospital, the mastoid was opened in the usual manner. The antrum was found filled with pus and granulation tissue. The caries, which was exten-

sive in this region, did not involve the lower mastoid cells, but extended upward and toward the middle ear cavity. This was completely removed with a sharp spoon, and the cavity packed with iodoform gauze. The day following the operation the temperature rose to 100, but dropped to normal on the following day, and remained so during the patient's convalescence.

This patient made a rapid recovery, and was discharged from the hospital in two weeks, cured.

SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

CASE 5.—R. L. T., white, aged 24, consulted me on April 20, 1899, complaining of a suppurating otitis media on the right side, of six weeks' duration, following an attack of influenza.

On examination, a profuse creamy purulent secretion was observed, coming from the right external auditory canal; this, when cleared away, was observed to come through a perforation in the anterior inferior quadrant of the membrana tympani. This membrane was very much swollen and congested. The upper and posterior wall of the canal bulged somewhat. There was no swelling, and no pain over the mastoid process, except a very slight sensitiveness on firm pressure over the tip; but no more pain than was caused by the same amount of pressure on the tip of the corresponding mastoid process. The temperature was 100.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital the same day. Not being quite sure as to any mastoid involvement, he was kept under observation. On the second day after admission the temperature rose to 101.3, with little or no tenderness on pressure, and no swelling of the mastoid. He, however, complained of severe headache referred to the right temporal region. Believing there was an abscess in the mastoid process, he was prepared for operation, which was done on the following day.

On stripping the bone of its periosteum, the cortex was found in a healthy condition, but as soon as the antrum was opened pus flowed most profusely from the opening. This continued to flow for some minutes, without any diminution, but it finally gave way to a severe hemorrhagic flow, and it was only after the continued use of hot applications that this could be checked. As soon as this was done, however, the opening was enlarged, and the whole mastoid process was found to be one large pus cavity. The cortical portion was removed as far as the tip, and all caries, which was also found extending into the tympanum, was scraped away. In doing so the lateral sinus was exposed to nearly its full extent, but was found intact and in good condition. The middle ear and mastoid cavities were irrigated with a solution of bichlorid of mercury, 1 to 3000, and packed with iodoform gauze. His temperature on the evening of the operation fell to 98 F., and during his convalescence ranged from 98.4 to 99.4.

This patient was discharged from the hospital at the end of the third week, with the mastoid wound not quite healed, but otherwise well, and with normal hearing.

In selecting these cases from my service in the Episcopal Eye, Ear and Throat Hospital, it was with the view of presenting different phases of mastoid disease complicating epidemic influenza, and with the hope that they might elicit some discussion that would enable us to formulate some definite rules which will enable us to decide when to operate.

**Depopulation of India.**—Since 1896 it is estimated that five millions have died in India from causes due to the famine. In western India matters are far worse. The latest advices from Simla say the census returns of the central provinces show a decrease of over a million since 1891, when an increase of a million and a half might have been expected. The Oodeypoor State returns show a decrease of 840,000 or 45 per cent. of the population; the State of Bhopaul shows a decrease of 808,000; the District of Banda a decrease of 124,000, and soon in Bombay City the population will have diminished by 50,000. The localities which have escaped the plague show a satisfactory though uncompensating increase. Madras, for instance, has gained 8 per cent. over 1891.

## REMARKS ON THE AFTER-EFFECTS OF OPERATIONS FOR THE REMOVAL OF ADENOID TISSUE AT THE VAULT OF THE PHARYNX.*

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In view of the great frequency of operations for the removal of adenoids from the nasopharynx, it is a little surprising that serious accidents or sequences are not more often heard of. For this reason it might seem superfluous to the philosopher for any one to attempt the awakening of apprehension over so simple and safe a surgical procedure as this one; still, it is not by any means entirely devoid of grave complications. Having met with a few cases where the operation was followed by troublesome results, it will not be amiss to bring the subject before the Section for discussion.

*Classification.*—For convenience of consideration, cases of adenoids or lymphoid hypertrophy at the vault of the pharynx may be classified as: simple, or those cases presenting enlargement or overgrowth of the lymphoid tissue at the vault of the pharynx only; and, complex, or those cases in which the enlargement is either dense or encapsulated and accompanied by hypertrophy of the faucial tonsils, the peritonsillar tissue and possibly the turbinated bodies. The untoward effects of removal of adenoids—either with the curette or forceps—may be classified as immediate and remote. The immediate effects may be considered as: hemorrhage; injury to pharynx; reactionary acute inflammation affecting the pharynx, larynx and tonsils, ear, accessory cavities; and sepsis.

Among the remote effects may be considered subacute disease of the pharynx, chronic diseases of the ear, diseases of the accessory sinuses, and tuberculosis.

*Hemorrhage.*—This, to an alarming extent, is not frequently encountered, excepting in hemophilia; nevertheless, there are several cases of fatal hemorrhage on record. There are but few reliable premonitory signs. Among them may be mentioned a highly vascular and villous character of the overgrowth and a cachectic or scorbutic appearance of the patient. Sometimes, however, a very smart hemorrhage may follow the evulsion of a hard lobulated mass of adenoids. Whenever suspicious indications are present the growths should be removed by means of the galvano-cautery loop applied at a red heat.

*Effects.*—Unnecessary injury to the nasopharynx or Eustachian tubes may be produced by either a badly-adapted curette or the exercise of too much force. Cutting forceps, as well as the curette, may be made to produce similar results. Unusual reactionary inflammation, however, of the parts operated on, and also of neighboring regions, such as the middle ear, faucial tonsils, accessory cavities and larynx may occur under the best management. The writer has met with several unfortunate occurrences of this sort which could not be properly accounted for. In one case the operation was followed by a very severe peritonsillitis, and, in another, "a run" of facial erysipelas. In each of these cases the ordinary antiseptic precautions were taken, and the subjects were apparently in good condition. The writer saw two cases, in consultation, of severe peritonsillitis following adenoid operations in patients who were suf-

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fering at the time from gonorrhea, and one case of severe laryngitis following curettement. More than ordinary reactionary inflammation is likely to follow all such operations if the patients are just recovering from influenza, diphtheria or the exanthemata. Indeed, it has been pointed out, by many writers, that these operations should be avoided during the prevalence of influenza, diphtheria and other epidemic infectious diseases. Inflammation of the middle ear and accessory sinuses may follow these operations. Such unfortunate circumstances, however, usually pass off in a few days, but may remain as subacute catarrhal inflammations or terminate in purulent inflammation. A few cases of general sepsis following these operations are recorded, but, happily, not many. The writer has seen one case, with meningeal symptoms, which terminated fatally. Among the remote effects sometimes ascribed to adenoid operations are subacute and chronic inflammation of the middle ear or accessory sinuses. The middle ear, however, suffers much more frequently than the other regions mentioned. Inflammation of the middle ear, under some circumstances, will follow the operation, notwithstanding great care in the manipulation. The general supposition is that these untoward effects are always due to a lack of antiseptic precautions, such as improper cleansing of the nasopharynx and incomplete sterilization of the instruments used. I think, however, that this criticism in many instances is unjust, for I have met with cases of this sort where every possible preliminary antiseptic precaution has been taken. A few cases have been reported of chorea and other neurotic affections having followed these operations in weakly children. The writer has never met with any such instance and is inclined to regard the appearance of such affections at such a time as merely coincidental. Much has been written concerning the induction of tuberculosis of the nasopharynx, and tuberculous adenopathies, by adenoid operations. Several well-authenticated cases in Europe and in this country have been reported. The writer, however, has never met with a case excepting in subjects who were some time previously tuberculous. Undoubtedly this danger has been very much overrated, judging from the very few well-established cases reported. One can easily understand that an operation of this sort, upon a tuberculous child, may lead to an outbreak of the disease in the nasopharynx, or in its vicinity. It seems unnecessary, however, to add that a practitioner of good judgment would hesitate to remove adenoids in such a patient unless the necessity were very pressing, and, when such is the case, it is obvious that the galvanocautery should be selected in preference to the curette or the forceps. With the complicated cases—such as those attended by hypertrophy of the surrounding lymphoid tissues and turbinates, the question often arises as to whether all of this tissue should be operated on at once or by successive stages. In the writer's experience the reactionary inflammation can, as a rule, be measured by the extent of the wounded tissue. It seems to me that it may be laid down as a rule that much more trouble may be expected after an operation including the removal of the adenoids, faucial tonsils and peritonsillar tissue at once, than if only one of these regions be operated on at a time. Notwithstanding this, if the subject be healthy and the surrounding circumstances favorable, there can be no serious objection to clearing out the whole obstruction to the pharynx in the majority of instances. Regarding the regrowth of adenoids, the consensus of opinion seems to be that regrowth seldom takes place when the tissue has been thoroughly removed. The writer, however, has met with three instances of such an event after thorough removal of the hypertrophied tissue at the vault of the pharynx. This experience coincides with that of several other laryngologists, and is a point which certainly deserves attention.

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## MEDICAL TREATMENT OF ACTINOMYCOSIS.

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In presenting the following cases of actinomycosis I have selected, with one exception, only those in which I have been able to verify the diagnosis with the microscope. My chief object in reporting them is to call the attention of the profession: 1, to the frequency of the disease, especially in agricultural communities; 2, to direct attention to a mode of treatment that has proved very satisfactory in all the cases coming under my observation for the past two years:

Case 1.—Mrs. D., aged 29, a farmer's wife; had good health prior to her present illness, but for two years hard lumps or swellings had from time to time appeared about the lower jaw. Four times the swellings had been incised and cleaned out with a sharp spoon. After this procedure the disease would be quiescent for a month or two, and then the swellings would recur.

At the time I was called to see her, Aug. 24, 1898, she was very much emaciated, with marked pallor. The lungs, heart, liver, spleen and kidneys were normal except for polyuria; her appetite was poor, there was constipation, and she was seven months advanced in pregnancy, and troubled with insomnia. She presented an enormous swelling of the right side of the face. A sinus that would admit the little finger led down to a piece of nickel-sized, denuded bone of the lower jaw. The sinus was lined with ill-nourished granulations, and discharged a thin whitish pus. The surrounding tissues were very firm, almost bony hard; surrounding the area of hardness and gradually shading off was a zone of edema, involving the temple, right cheek, upper and lower lips to the median line. Trismus was marked; she could scarcely separate the teeth.

During the week before my visit the swelling had been very painful, the pain being so intense as to prevent her sleeping for three or four nights. Prior to that time she had suffered comparatively little pain. The second lower right molar was carious. The temperature was 101.

I directed that the sinuses be washed out with peroxid of hydrogen, followed by Lugol's solution. Internally I gave iodid of potash grains v, four times daily, with laxatives, and began the injection of 15 minims of a 1 per cent. solution of iodid of potash into the tissues. The effect was very striking. Three days after the first injection the swelling had subsided, the pain had almost entirely disappeared and the temperature had fallen to the normal; it never went above 99 degrees during the subsequent course of the disease.

The patient reported that in a few hours after the injection there was an increase in the swelling, but it began to decline after twelve hours, and at the time of my visit, three days after the hypodermic, the swelling was decidedly less than at my previous one. I mention this because I have since found it a constant manifestation following the injections, i. e., a temporary increase in the swelling, reaching its acme in about six hours, remaining stationary for about six hours, and beginning to subside in twelve. By the end of the third day the swelling had disappeared, with a decided decrease of the original swelling.

Her subsequent recovery was rapid and uneventful, except for iodism, which appeared in March, 1899. She had been taking 15 grains of iodid four times daily and had been given hypodermics every three or four days during October and

November, every six days during December, three times in January, and three times in February, 1899.

By March 1 the swelling and induration had almost entirely disappeared, and the trismus was gone. I left off the iodid and the symptoms of iodism quickly disappeared. July 29, Aug. 12, and Sept. 15 I gave her hypodermics to clear away the last vestiges of the swelling and induration. The patient had in all forty-one hypodermic injections.

I neglected to state that she was delivered Oct. 23, 1898, after a normal labor which was followed by a perfectly normal puerperium. The urine, low in specific gravity, showed some albumin all through September, but this disappeared by November, 1898, and the specific gravity returned to the normal. This patient has presented herself for examination several times since the last-named visit, but has never at any time shown any evidence of the disease. A noticeable feature of the case has been the improvement in the scarring; from a large, depressed, adherent scar, the case now presents a movable, scarcely noticeable one. The general health is excellent, with no vestige of the local trouble.

CASE 2.—N. R., a male, aged 28, came to my office March 18, 1899, for examination and operation. His general health had always been good. For two years he had had a sinus 2½ inches in length running horizontally beneath the skin, just above the hyoid bone, discharging a thin white pus; the surrounding tissues indurated. The pus showed the ray-fungus under the microscope, as did also the granulations. The internal organs and urine were normal. I advised iodid of potash internally and hypodermically, and injected the sinus with peroxid of hydrogen, followed by Lugol's solution.

The patient declined treatment, as he expected to be married in two weeks, and insisted on an operation. I opened the sinus, curetted thoroughly, cut away all suspicious tissue with the scissors, covered up the wound by sliding the skin, put in a silk thread drain and dressed it antiseptically. I removed the drain on the third day, injected the wound with a 1 per cent. solution of iodid every day, and began the administration of iodid of potash internally. The wound healed perfectly and promptly, much to my surprise, as experience has taught me that these old sinuses about the neck rarely heal up promptly; by March 28 it was entirely healed. He continued the iodid for two months. A recent letter from him says he is well, with no evidences of the trouble.

CASE 3.—A. B. N., aged 63, a farmer, consulted me first on June 26, 1899. His previous health had been good. Sept. 1, 1898, he was sitting on a board fence with his thumb-nail resting on the top board. A neighbor came along and rudely jerked his hand, tearing the nail off. During the autumn months he gathered his corn with the thumb imperfectly protected, and was also at this time treating a lumpy-jawed cow. The ungual phalanx of the left thumb was very much enlarged, hard, and ulceration over the matrix of the nail. As I picked up his hand to examine it my eye lighted on a sulphur-yellow granule in one of the granulations. I removed it, and under the microscope it showed the ray-fungus.

I put him on iodid of potash and gave him peroxid and Lugol's solution for a wash, to be used twice daily, and directed the wound covered with borated gauze. I administered, hypodermically, a 1 per cent. solution of iodid of potash every third or fourth day. The secondary swelling following the hypodermic administration of the iodid was so painful that after two weeks he insisted on an operation, and I amputated the thumb. The subsequent course was uneventful, and there has been no recurrence. My mistake in the case was, I believe, in giving 15 minims of the solution; if I had only given 5 minims every third day I feel that the hypodermic medication might have been more satisfactory.

CASE 4.—F. M., aged 70 years, an attorney, suffering from diabetes mellitus, frequently picked his teeth with a straw. He consulted me first in June, 1899. He had noticed a swelling the size of a hazlenut on the lower jaw two months before, and had consulted a dentist, who said his trouble was dependent on an improperly filled tooth; he removed the filling, but was unable to detect anything wrong with the tooth or establish any connection between the tooth and the swelling. I found a hard, firm filbert-sized swelling on the outer aspect of the lower jaw, corresponding to the lower, left, first molar tooth. I incised the swelling and found a small collection of pus, thin, whitish, containing whitish-yellow granules. The microscope showed actinomyces. I cleaned out the abscess cavity with peroxid of hydrogen, swabbed it out with tincture of iodin and packed it with iodoform gauze, treating it daily for two weeks, every other day for four weeks. Recovery was gradual, but apparently perfect, at the end of two months.

CASE 5.—I was called to see A. H., a farmer and stock feeder, aged 53, on June 14, 1899, Dr. Clearwater in attendance. Prior to this illness his general health had been good. For one year he had been annoyed by a dry, irritating cough, with no expectoration, and during the preceding three years had frequently assisted in the treatment of big-jawed cattle. For four days prior to my visit he had suffered from headache, malaise, slight febrile movement, dyspnea and aggravated cough. Two days after the onset of his illness, after a violent paroxysm of coughing, he felt something in his throat that he thought was a piece of timothy straw. Its presence occasioned a choking sensation, and he thought he swallowed it. Following this paroxysm he began expectorating blood-stained pus with a very offensive odor. He would be attacked by a violent paroxysm of coughing, after which he would expectorate freely.

At the time I saw him he was pale, his pupils dilated, his voice feeble, although the patient was about the house. Anteriorily, on the right side, there was an area of dullness, a finger's breadth out from the sternum, reaching from the first intercostal space to the third rib, and shading off laterally. The resistance to the finger was marked. Bronchial breathing, and large and small mucous râles were present. Posteriorly, there was a corresponding area in the right interscapular region, with similar physical signs, the axillary region dull in the upper part; aside from the above-described area and an occasional râle, the lungs were free. The heart was slightly dilated, the sounds normal. The liver and spleen were normal. The urine had a specific gravity of 1022 and was acid, with a trace of albumin, indican, granular casts, uric acid and wide mycelial threads with clubbed ends. The albumin increased until September, then began to decline. Indican was usually present in small amounts. Casts were found until the middle of September, when they disappeared. The mycelial threads with clubbed ends were prominently present until the last week in August. I introduce this detail because of the continued presence of this unusual vegetable organism in the urine.

Nothing was to be found in the mouth or throat, and no carious teeth. The temperature was 100.5 F., the pulse 96. The patient was expectorating a very offensive purulent matter, made up macroscopically of gray, grayish to yellow and black expectorate. Insomnia and anorexia were marked symptoms. The anorexia was due to the foul taste left by the expectorate.

I was impressed by the comparatively low temperature, the macroscopic appearance of the sputum, the circumscribed, marked resistance, and the history of the suspected piece of timothy straw, and advanced the diagnosis of abscess of the right lung, from a foreign body lodged in the right bronchus, with secondary peribronchitis, and gave as my opinion that there was an actinomycotic infection. Later I was able to demonstrate with the microscope the presence of the ray-fungus in the sputum, and verify it by repeated subsequent examinations.

I ordered iodid of potash, 5 grains every four hours, alternately with capsules containing quinin and salicin, had iodin vaporized constantly in his room, and every three hours had him inhale a mixture containing creosote and oil of eucalyptus.

He ran along with aggravation of his symptoms coincident with the formation of pus in a new focus, and a decline of symptoms with the escape of pus, but his symptoms growing graver and general condition worse as time went by. His weight had declined from 150 to 105 pounds, with increased feebleness, pulse below 100 during June, from 100 to 120 during July, and during the last week in July never below 114.

The temperature was progressively higher, ranging in June from 99 to 101 degrees; in July from 99.5 to 102, occasionaly 103.5 degrees. August 10 I began the injection of a 1 per cent. solution of iodid of potash, one-half dram every third day, in addition to the other treatment.

He had refused this treatment up to this time, and only consented to it because he believed there could be but one result, viz., speedy death, unless something stopped the course of the disease. The area of dulness in the right lung had increased, and plenritic sounds were to be heard over this area. An area of dulness could be detected posteriorly on the left side, corresponding in location to that on the right. So desperate was his condition that Dr. Matthews, of Chicago, who saw him with me, and confirmed the diagnosis, said that he would die in one week; an opinion that was concurred in by Dr. E. T. Hall, the physician in charge, and myself.

We made the injection with a large hypodermic exploring syringe, after preparing the surface with scrupulous care to avoid pus infection. After determining the point of greatest dulness, we introduced the needle detached from the syringe; if blood flowed freely through it—or if the patient expectorated freely of blood, as he did on several occasions—we would withdraw the needle and reintroduce it (a little precaution that I have found useful in injecting the thyroid). We never injected more than one-half to 1 dram, for we feared the traumatism to the tissues from the distension might result disastrously.

The result of this change, or rather addition to the treatment, was very striking. In three days his strength and general appearance had improved. After the second injection his temperature never went above 101 and his pulse 104. He was given, in all, twenty-five injections. After each there would be a temporary increase of dyspnea, cough and temperature for six hours, followed by marked improvement after twelve hours. Three days after the physical signs would be noticeably improved. The area of dulness on the left side described, disappeared after the third injection into it.

In October he presented himself at my office with dulness on the right side in front. The lungs were clear posteriorly. He was anxious to leave off the injections, in fact he had not had one for two weeks. I directed him to return home and resume them. He had two anteriorly at intervals of three days, and each contained one-half dram. Twelve hours after the second injection the irritation of the right lung left him "as if by magic"—his own words—and he has never had any cough or expectoration since.

Dec. 15, 1899, his weight was 165 pounds. He was well nourished, with no cough nor expectoration, and no pulmonary dulness nor rales were present. His heart, liver, spleen and temperature were normal, his pulse 72. I have had occasion to examine him several times since December, 1899, and have never been able to detect any evidences of the disease.

I take this opportunity to thank Dr. E. T. Hall, of Plano, Iowa, for his valuable assistance in the care and reporting of this case.

CASE 6.—I was called to see T. P., aged 30, a conductor on a freight train, March 4, 1900, Dr. Severs in charge. His previous health had been good. One month before, the lower right wisdom tooth, carious for some time, began to ache, and he had it extracted. Almost immediately he was seized with a most excruciating pain, which was relieved after several hours by heroic doses of morphin.

The jaw swelled very rapidly, increasing until it became enormous; but, after the first few hours, the pain was moderate. The temperature varied from 100 to 102 degrees. The swelling had been incised at four different times, giving vent to small accumulations of pus. The second, and later the first molar on the right side, were erupted by granulation tissue.

At the first time I saw him he was emaciated, with prostration marked, and he was confined to his bed, taking very little nourishment and presenting an enormous swelling of the right side of the face, especially the lower jaw, with two sinuses leading down to the bone, the one admitting a lead pencil, the other the index finger, both filled and pouting with granulations and discharging a thin whitish pus containing whitish-yellow granules. Trismus was marked. From the second lower biscupid, rearward, the alveolar process exhibited a fungous mass of granulations, discharging the same character of pus. The swelling over the jaw was stony hard, and surrounded by a zone of edematous swelling that partially closed the right eye, puffed out the cheek, thickened the lips and extended on the lower jaw to the median line.

There was numbness on the distal or anterior side, and the circulation was interfered with, as evidenced by the slow return of blood when it was driven out by pressure. There was no glandular involvement. I made a diagnosis of actinomycosis, based on the history, symptoms and clinical picture, and was able to verify it by finding the ray-fungus in the pus. His temperature was 100.5, pulse 114, the lungs, heart, liver and spleen normal. The urine, whose specific gravity was 1018, was acid, with no albumin, but phosphates in excess and with wide mycelial threads with enlarged rounded ends like those found in Case 5. I put him on iodid of potash every four hours, ordered the sinuses syringed out with peroxid of hydrogen followed by 50 per cent. Lugol's solution, and covered with borated gauze; the mouth washed every two hours. Hypodermically I administered 15 minims of a 1 per cent. solution of iodid of potash directly into the infiltrated tissues. At first I pushed the hypodermic medication, administering it daily, and injecting at three or four points, but the sequent swelling, described previously, deterred me, and I finally settled down to injections every third day. I was especially anxious to push treatment in this case because I feared the opening in the mouth might lead to the invasion of the internal organs.

Progress has been favorable and rapid. Improvement was first noticeable in the general condition, then locally. When the injections are given every third day there is a noticeable diminution in the size of the swelling by the third day. During the progress of the disease I increased the iodid to 10 grains four times daily, and on several occasions I cauterized the granulations in the sinuses with nitrate of silver to favor drainage and destroy with the granulations some of the organisms. Examination made April 27, 1900, showed the internal organs and urine normal. The sinus in the mouth had been closed for one week, the outside sinuses for two weeks. Three pieces of necrosed alveolar process had been removed from time to time. The swelling was very much diminished in size, the induration almost gone.

CASE 7.—D. C. B., aged 41, a banker and cattle dealer, of robust health. Fourteen years ago noticed some swelling about the angle of the lower jaw on the left side. He had been engaged before that in the care of lumpy-jawed cattle. Four years ago he presented himself to me with an indurated swelling on the outer aspect of the lower jaw, just below the articular neck, the size of a small hickory nut, and another just behind the ascending ramus, connected, but not intimately, with the inferior maxilla. There was no suppuration. He had suffered for sixteen years from a troublesome wisdom tooth on that side. I made the diagnosis of actinomycosis, and ordered iodid of potash, 30 grains daily, and iodin ointment locally.

This was followed by decided improvement, but he left off the treatment in one month, and before the swelling had entirely disappeared. At times since then there has been temporary enlargement of the swelling, followed after a time by subsidence, but showing a progressive enlargement. He consulted me April 7, 1899, when the swellings were noticeably larger than when last seen, the induration marked, some trismus, no glandular enlargement, temperature normal. His general appearance was that of one in robust health. I cite to show that pure actinomycosis is non-suppurative.

Actinomycosis is defined as an infectious disease, usually chronic in its course, rarely acute, occurring in man and animals and caused by the growth in the tissues of actinomyces—the actinocladothrix—giving rise usually to swellings resembling sarcoma.

*History.*—Langenbeck found actinomyces in 1845, in

an abscess with caries of the vertebræ in man, and Lebut, in 1848, in a thoracic abscess. Bollinger, 1877, published his cases in cattle. In 1878, Israel published two in man, and in 1879 a third case. Ponfick, in 1882, wrote an article giving the history of several in man, and establishing the identity of the disease as seen in man and cattle. Belfield was the first to make a study of the disease in cattle in this country. Murphy, in 1892, reported the first case of actinomycosis in man published by an American author. Since that time numerous ones have been reported by various observers.

*Etiology.*—The disease is caused by the entrance of the actinocladothrix into the tissues. An open wound is necessary for the entrance of the cryptogam. With an open atrium, and the organism present, it may gain access to any part of the body, the skin, mucous membrane of the mouth, alimentary canal or respiratory tract. A carious tooth or an inflamed gum afford especially inviting points of entrance, due to the fact that they offer and maintain a wide-open door and are the parts most frequently brought in contact with the organism, which is carried into the mouth on grain or grass, straw or seeds; it may be inhaled or taken in with the drinking water. Hence farmers should be cautioned against the common customs of chewing or picking the teeth with straws or eating raw grain.

The literature and personal observation make me confident that the disease may be inoculated into the tissues of man from diseased beast or man. Murphy reports a case where the disease was presumably acquired from a dog, and Ponfick one following the bite of a louse. Numerous cases are reported in man after contact with big-jawed cattle. You will recall that Cases 3, 5, and 7, reported above, show that the patient had, prior to his illness, been engaged in caring for big-jawed cattle. Three cases have been reported where the disease was presumably carried by kissing.

*Bacteriology.*—The etiologic factor, as stated, is the actinocladothrix. According to authorities there are three distinguishing morphologic elements: 1, club-shaped formations; 2, a centrally-placed net-work of fungous filaments of varying shape and size; 3, fine coccus-like bodies.

My observation is that the club-shaped formations are often absent, or, more properly speaking, I have rarely found them present. The dichotomizing threads are frequent and may often be found running out from a common center, reminding one of a tuft of tickle-grass. The fine coccus-like bodies are, according to my observation, the most constant and characteristic element. You will often see these Meischler's corpuscles in contact with threads in such a way as to make you doubtful whether the organism is properly classed a cryptogam.

In staining I used Gram's method in most cases. Pierocarmin is a very practical stain, staining the fungus yellow and the other tissues red. I have, in common with many observers, found it difficult to study the organism in pus, and have found that treating the pus with a weak solution of caustic potash, say 1 to 2 per cent., was of great practical value in baring the organism. Ether may be used for the same purpose, but did not prove so satisfactory in my hands.

*Pathology.*—Almost every organ in the body has been named as the seat of primary actinomycosis. The most common points of entrance are: 1, the lower jaw; 2, the lungs; 3, the cecum. An analysis of five hundred cases showed that 55 per cent. occurred in the head and neck, 20 per cent. in the thorax and lungs, 20 per cent. in the abdomen, and in other parts 5 per cent.

Wherever the process is found, the microscope shows round cells with epithelioid and often giant cell infiltration, associated with connective tissue proliferation. The disease never extends in the direction of the lymph stream, but may grow into a vein or large lymphatic, and a fungous mass containing the organisms be carried to a distant organ.

The constitutional symptoms are not very marked in cases of actinomycosis unless there is combined with the ray-fungus one or more of the forms of pus organisms. Cases of advanced actinomycosis, even when complicated with pus formation, offer a striking contrast to cases of tuberculosis, sarcoma or carcinoma that have progressed to the same extent in the comparatively slight degree of pallor, emaciation or cachexia.

The temperature is but slightly or not at all elevated in cases of actinomycosis uncomplicated by septic processes. Even when sepsis is present the temperature runs low compared with the local manifestations. This is due, in my judgment, to the interference with absorption of the ptomains by reason of the dense infiltration of the tissues. The absence of glandular enlargement in actinomycosis is in striking contrast to the marked glandular enlargement found in tuberculosis and carcinoma.

Locally, the actinomycotic nodules or swellings are, as a rule, strikingly firm and hard, with a surrounding area or zone of edema. When the jaw is the seat of the trouble, associated with the induration there is a marked degree of trismus due to the muscular infiltration.

As a result of the infiltration of the tissues the nerves are compressed, giving rise to anesthesia and numbness; hence pain is only exceptionally a prominent symptom. In fact the reverse is true, the swellings being strikingly free from pain and sensitiveness. The painlessness of the swelling serves to distinguish it from phlegmon or carcinoma. In Cases 1 and 6 the pain was very intense for a short time, but subsequently they ran a comparatively painless course. The compression of the blood-vessels from the infiltration, as stated, gives rise to a surrounding zone of edema, and obstructs the circulation as evidenced by the slow return of blood after pressure on the swelling.

When the induration nears the skin or mucous membrane, the covering becomes red, later purplish and puffy, followed by spontaneous opening of the abscess. Its opening leaves a ragged wound, filled with pouting granulations which, as the process recedes, leaves a large ragged sinus leading down to the subadjacent bone or abscess cavity.

The density of the infiltration may be more nearly appreciated if we recall that when the process occurs in the jaw, the teeth are frequently erupted by the granulations. With the further subsidence of the process the tissues retract and contract, presenting a dense, scar-like feel. It is surprising, however, to see how perfectly the tissues are restored to their former consistency and elasticity with perfect recovery. I have seen extensive losses of substance about the jaw recovered from with strikingly little scarring.

The pus poured out, usually scanty in amount, varies in appearance with the associated pus germ, but in all cases is characterized by the occurrence of small bodies, pin-point to pin-head, rarely split pea in size, varying in color in different cases, from light gray to yellow, now and then green or black. These bodies contain the characteristic organism, and are made up largely of collec-

tions of them. Sometimes these bodies are surrounded by a calcareous covering.

The following summary from Murphy, bearing as it does chiefly on the symptomatology, I take the liberty to introduce here: 1. The growth of the disease is very indolent and sluggish except in the peritoneal cavity. 2. It is accompanied by very little pain. 3. The microbe does not produce a ptomain capable of causing a rise in temperature. 4. Pure infection with actinocladothrix is not accompanied by pus. Pus means secondary infection by streptococcus pyogenes. 5. The amount of infiltration around each nodule of granulation and its sero-purulent contents is very great compared with the small contents. 6. The greater the amount of suppuration the more malignant and rapid the progress of the disease. 7. Diffusion of the actinomyces *in loco* and by entrance into the blood-stream are the modes of extension; never the lymphatics and glands. Its extension is greatest in the direction opposite to the course of the lymphatics. 8. After evacuation of the contents the nodules heal rapidly, but recur in a few weeks if the germs are not all removed. 9. Fatal symptoms are tardy in appearing, the dense infiltration acting as a bar to the disease.

*Treatment.*—The weight of authority has, until the last three years, been decidedly in favor of surgical measures in the treatment of actinomycosis. All surgical authorities are agreed that anything short of complete removal is ineffective, if not positively detrimental. During the past three years the trend of the profession has been in the direction of medical treatment for this class of cases.

If we will impartially review the literature, we will be forced to admit the great value if not advantages of the treatment by iodid of potash. Since the iodid was first suggested by Thomasson, in 1885, for the treatment of actinomycosis in cattle, case after case has been reported in man and beast cured by its use. The United States Government Commission at Chicago, in 1893, reported 63 per cent. of recoveries in beef cattle suffering from actinomycosis where iodid of potash was administered to them. Berard, of France, says in recent cases 25 per cent. are cured by iodid alone, and 75 per cent. cured by combined surgical measures and the administration of iodid of potash. In chronic cases he reports one-third cured by iodid of potash.

The above report made by Berard, in 1897, certainly does not represent the present position of the iodid. A résumé of the literature of to-day would give a much higher percentage of recoveries. In fixing the percentage of recoveries under iodid, the first difficulty to be met is the frequent combination of surgical and other measures with it; the second, the lack of thoroughness in its administration; and third, the lack of long-continued administration. In the limited literature at my command I find sixty-three cases reported cured by the use of iodid alone, and only two cases where the iodid failed after a fair trial. A number of these were inoperable. The actinocladothrix is not destroyed by the iodid, but its growth and reproduction seem to be retarded. In view of these facts, the theory has been advanced that the iodid increases the fighting properties of the phagocytes.

I have, at the risk of being tedious, gone into this synopsis of the history of the use of iodid of potash in this disease because I feel that we have in this drug a most valuable agent for its management, and that one who subjects his patient to a hazardous surgical operation before giving the iodid treatment a thorough trial has taken unwarranted liberty with the life of his fellow man.

A case of actinomycosis of the lungs is reported cured by the internal use of oil of eucalyptus, and inhalations of the same drug three times daily. In estimating the value of any form of medication or surgical procedure in this disease, we must not lose sight of the fact that many cases of spontaneous recovery are recorded.

Various local measures have been used with advantage. The sinuses have been injected with peroxid of hydrogen and solution of iodin, the exuberant granulations cauterized with nitrate of silver and solutions of this nitrate injected into the sinuses with evident advantage. In the local treatment I try to control the suppuration and close the sinuses as quickly as possible, for, in common with other observers, I am satisfied that the disease yields much more promptly and satisfactorily to the iodid in the absence of suppuration.

Parenchymatous injections of a 5 per cent. solution of permanganate of potash, a 5 per cent. solution of carbolic acid—15 to 45 minims—and a 1 per cent. solution methyl violent have all resulted in cures.

Billroth reported a cure after the injection of tuberculin. The results of Gautier by the electrolytic action of a galvanic current of 50 milliamperes through two platinum needles on a 10 per cent. solution of iodid of potash injected into the actinomycotic induration—with success in his hands—do not seem to have been received with favor. Gould's "American Yearbook of Medicine and Surgery," for 1897, contains a brief résumé of two cases treated by Rydgier, and reported in the *Wiener Klinische Wochenschrift*, of Sept. 12, 1895. The treatment was by the injection into the tissues of a 1 per cent. solution of iodid of potash. From this report I adopted the plan of treatment which served me so well in Cases 1, 5 and 6.

I have adhered to the 1 per cent. solution: 1. Because that strength of solution has the greatest osmotic power, i. e., the greatest power of penetrating the tissues. 2. I have feared that a stronger solution might prove injurious to the tissues.

I have used the limited amount, viz., 15 minims, because I feared the damaging influence on the tissues of too much distension, and because the reaction seemed to be too marked when a greater quantity was used, or more than one injection employed. I think the increased edema after the injection, if too great, may retard absorption. I have not made use of any other drug, hypodermically, because I have been satisfied with the results.

In conclusion, I trust we have added some testimony to establish the following positions: 1. That actinomycosis is not an uncommon disease. 2. That, where pure, it is a non-suppurative, afebrile, comparatively painless, slow-progressing disease. 3. That the clinical signs and symptoms are often pathognomonic. 4. That the club-shaped bodies, single and in asters, are often absent, the threads more frequently present, and the coccus-like bodies most constantly present. 5. That combined surgical measures and the administration of the iodid of potash give the best results. 6. That iodid of potash administered internally cures a large percentage of cases. And, finally, that the interstitial injection of iodid of potash into the infected tissues exerts a strikingly salutary influence over the disease.

Since preparing this article my attention has been called to an article published by Ruhräh, of Baltimore,

in the *Annals of Surgery*, vol. xxx. He has collected all the American cases of actinomycosis, sixty-five in number, reported to January, 1899. His statement that "the thoracic cases do badly, as a rule, no matter what treatment is followed," is in accordance with the prevailing opinion of the profession.

## TROPICAL ABSCESS OF THE LIVER.

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With the continuous residence of our army in the tropics and the constant return to the United States of scores of invalided soldiers, the subject of tropical diseases has assumed new importance to the medical profession of this country. Probably no subject has been brought so intimately to its attention as that of abscess of the liver. Its relation to dysentery is known, and the frequent development of liver abscess late in the course of this disease explains its appearance so often in the United States.

From the earliest times dysentery has been the scourge of armies, but in our own campaign in the Philippines we have had superimposed on the malevolent influences of the massing of great bodies of men together the presence of an endemic disease. The record of the First Reserve Hospital in Manila for one year—March 1, 1899-1900—shows that dysentery and diarrhea were the cause of more than one-fifth of the sickness in our army. In this year there were treated at this hospital alone 2251 cases of diarrhea and 1391 of pronounced dysentery. Dysentery and diarrhea followed directly the course of the rainy season. During June, July and August the sick report was crowded with these cases. Often whole companies would be stricken as with an epidemic. The sudden chilling and exposure of the first rains made the number of cases during the month of June more than three times as great as that of any other month. With the American in the tropics dysentery is always present, and with it abscess of the liver. The conditions which favor the development of the one makes more evident the existence of the other.

Numerous statistics demonstrate this fact. In 3680 dysentery autopsies made in various tropical countries and reported by Manson, 21 per cent. showed abscess of the liver. The exact number of cases among our own troops can not be definitely stated, but the prevalence of the disease and its intimate relation to amebic dysentery is well shown by the examination of the records of ninety-six dysentery autopsies performed at the First Reserve Hospital, Manila, during the year 1899. Abscess of the liver was present in twelve cases—over 12 per cent. While this number is a small one on which to base a statistical opinion, yet it gives very nearly the correct estimate of the percentage of liver abscesses developing in cases of chronic tropical dysentery among Europeans. The native population in the Philippines rarely develops this disease, although dysentery is common among them. Not a single case of liver abscess was seen among the natives in my own experience in the islands, and I am informed by well-educated Spanish and Philippino physicians that to them the disease is almost unknown.

The life led by Europeans in the tropics doubtless explains the frequency of liver abscess. Overeating and overdrinking, together with lack of exercise, favor hepatic engorgement, and the sudden chilling and exposure incident to the first few months of residence furnishes the exciting cause in the development of an acute amebic dysentery.

Although dysentery is without doubt a cause of tropical abscess, the part played by the ameba coli in its development is as yet undetermined. Whether it was a cause or a result in our own cases we have no evidence to offer. All were of the amebic type of dysentery. The organism was either found in the stools or the pathologic picture was so typical that search was not made for it. From the pus of the abscess, or the abscess wall itself, there is record of the ameba in only five cases. This should not, however, lead to the conclusion that the organism had not been present in the remainder, for most of these cases were long standing, with great destruction of liver substance, and a sufficiently persistent search was not made in every one. Only one case of liver abscess was not dysenteric, but was apparently a multiple idiopathic abscess. There was no history of dysentery or diarrhea, nor any postmortem evidence of previous amebic infection, and the organism could not be obtained from the liver pus.

Of the 13 cases on our records, 5 were single and 8 were multiple abscesses. As Manson[1] very aptly remarks: "Whether the resulting abscess be single or multiple is more or less a matter of accident. If the weakened liver is efficiently inoculated at one point only, there will be only one abscess; if at many points, then there is multiple abscess."

The right lobe was most commonly affected. In only 2 instances was the left involved. Five cases of abscess of the liver came under our observation clinically; 3 were multiple abscesses in which nearly the whole liver substance was destroyed; 2 were large single abscesses. All 5 were operated on, and only 1 recovered.

In the diagnois of abscesses of the liver symptoms are of but little value. Local signs and the detection of pus by aspiration establishes the diagnosis. Great emaciation and an anemic jaundice are apparently commensurate with the destruction of liver substance. The word anemic is applied to this jaundice to indicate a peculiar "diluted," faded, almost dusky, yellow color of the skin common in these cases. A hectic temperature, a rapid running pulse, with the early development of typhoid symptoms are in proportion to the amount of pus present; for there seems to be no tendency to limit absorption in abscess of the liver. Sordes soon collects on the teeth and lips, and mental hebetude develops early. The pulse is rapid and running, often being out of all proportion to the temperature. It may remain at 140 to 160, or even higher, for weeks just before death. Constipation is the rule, with offensive gray-colored stools, but diarrhea is common late in the disease. A leucocytosis is generally present, but is of little value in the diagnosis as it is very often associated with localized peritonitis, or involvement of the mesenteric glands, in cases of chronic dysentery. Often the local and general symptoms of abscess may develop from a patch of necrosis without the formation of pus. In these cases it is evident aspiration would fail to detect the infected area in the early course of the disease. Two cases came to autopsy from dysentery, and the abscesses would have undoubtedly developed had life been prolonged. A localized peritonitis is present in most cases of long duration. Involvement of the diaphragm is evidenced by persistent cough with increased pain on deep inspiration. Rupture of the abscess into the pleura, with involvement of the lung, is the commonest form of spontaneous evacuation; two of our autopsies showed

1. Tropical Diseases, p. 364.

this condition, and it was present in one operative case.

The great increase in the area of liver dulness, not only above and below, but particularly to the left of the median line was found in all of our cases. Persistent pain over the whole liver region, with a point of local tenderness just below the margin of the ribs in the anterior axillary line is present in most cases. Local bulging, increase in the width of the interspaces, with local edema of the right side makes abscess most probable, but aspiration alone establishes the diagnosis. In our cases a long needle of goodly size was used, so that the thickened pus might be drawn through it. A general anesthetic was given and the needle introduced in the mid-axillary line in the eighth interspace and passed in five or six different directions to its full extent. If this failed to detect pus additional punctures were made both in the right and left lobes, for very often a liver abscess may not be detected by the ordinary puncture in the eighth interspace. This condition was present in one of our cases, and it was not until additional punctures had been made near the median line below the ribs that an abscess was discovered in the left lobe.

In order to determine the extent of liver accessible to aspiration from this point a series of liver punctures were made with long needles, postmortem. The needles were left in situ and dissection carried down through the liver substance, when it was found that not one-half of the organ was accessible from the eighth interspace. In one case an echinococcic cyst the size of a small orange lay in the posterior inferior portion of the right lobe toward the median line, and entirely escaped detection.

From these facts we were led to the conclusion that additional punctures other than in the eighth interspace must be made before an abscess of the liver can be excluded in the diagnosis. With ordinary care there is little danger of injuring the gall-bladder, or the large vessels, and with strict asepsis the operation is entirely justifiable as a means of differential diagnosis. Not an untoward complication resulted in twenty-one cases of aspiration. The presence of pus once established makes operation imperative. Only a limited number of patients recover; not from the fact that the operation is difficult, but because the abscess is generally multiple, or, if single, involves a great amount of liver substance, and comes to the surgeon only late in the course of the disease. Unless there is evidence of pointing, it is best to excise a portion of a rib and drain from the side, as there is thus less danger of infection and greater facility in gaining access to the abscess cavity.

Even in most extensive liver abscesses the lower anterior border of the liver is often not involved, the infectious process being confined to the substance of the organ. In many instances the abscess can be reached only with the greatest difficulty by the incision below the costal margin. By excising a portion of the eighth or ninth rib in the mid-axillary line there is almost no danger of infection, but little shock and the freest possible drainage in the most dependent position. Large double drainage tubes are used. The removal of a portion of a rib not only gives more room for exploration, but insures against compression of the tubes as the case progresses. If the liver is adherent, and the peritoneum or pleura thus protected by adhesions, the abscess may be opened at once. If there is danger of infecting either, a delay of forty-eight hours is obviously wise. The instruction to "stitch the capsule of the liver to the margin of the wound" is more didactic than practical. Rarely, if ever, can this be done, as the liver capsule—particularly that of an inflamed liver—is so friable that no stitches will hold, and but little protection would be afforded if they did. Simply packing the wound with iodoform gauze and waiting forty-eight hours will accomplish the desired result. On account of free hemorrhage in opening a deep-seated abscess the thermocautery may be used, but this is rarely necessary, as access can be readily gained to the abscess cavity by puncture with the finger or a blunt instrument. Severe hemorrhage, if it occurs, can be controlled by packing. Usually it is best simply to drain the abscess at operation and to use no irrigation for forty-eight hours, owing to the weakened condition of the patient and the danger of infecting the pleura or peritoneum. Normal salt solution, sterile water or weak antiseptic solutions should be used, as absorption is very great and strong antiseptics are dangerous. Under daily irrigation with such solutions the discharge will completely disappear in a surprisingly short time— a week or ten days even for a large abscess. Free stimulation and most nourishing foods are particularly essential in the after-treatment.

*Case 10,635.*—April 20, 1900, Private T. S., Co. F, 42d U. S. V., was seen. He had never been sick since childhood until six weeks before, when he was attacked with diarrhea. The symptoms of dysentery rapidly developed, and on his admission, April 25, he was passing from five to twelve bloody mucous stools a day. His temperature was 101, tongue dry, brown and cracked, pulse 140 and thready. The spleen was slightly enlarged, and the abdomen tympanitic and tender on pressure. A point of great tenderness was evident just below the ribs over the region of the gall-bladder. The liver extended from the fourth interspace to the level of the umbilicus, 1½ inches below the costal margin in the right mammillary line, and about three inches to the left of the left median line. He was in a condition of mental hebetude, and complained of little pain except at bowel movements. The blood count revealed a leucocytosis of 18,000. Widal's reaction was negative and the plasmodium malariæ was not found. Under ether, an aspirating needle was inserted through the eighth interspace and pus was found on the first puncture. An incision 1½ inches long was made over the eighth rib, 1 inch of the rib excised and the abscess at once opened and drained. More than one pint of fetid liver pus escaped. The abscess cavity was not irrigated until the second day, and then daily irrigations of sterile water were begun. The pus had completely disappeared on the tenth day and the man was out of bed. Recovery was complete. Amebæ were found in the abscess cavity.

*Case 8215.*—Sergeant J. D., Troop E, 11th Cav., for many months had had chronic dysentery. On admission, Nov. 21, 1899, he was having from four to ten stools daily, his temperature was hectic, 99 to 102, pulse 138 and weak, and he was very weak and greatly emaciated. For several weeks he had had marked tenderness over the region of the gall-bladder; this had greatly increased. Intermittent hiccough and a persistent dry cough were troublesome, and suggested involvement of the diaphragm. The liver extended 1 inch below the costal margin in the nipple line, and there was marked bulging at this point and marked edema of the whole right side.

No aspiration was made in this case, as pus was evident—either an abscess or a suppurating gall-bladder. An incision was made one inch below the ribs in the nipple line, down to the peritoneum. This was found adherent, and so the abscess, very large, "big as your head," was at once evacuated. The cavity was irrigated with normal salt solution and three large drainage-tubes inserted. The pulse was so weak during operation that three pints of normal salt solution were given intravenously and one pint by hypodermoclysis. Despite this and the freest stimulation, the patient steadily grew worse, and died five days later. The autopsy showed multiple amebic abscesses, which had destroyed nearly the whole liver substance.

*Case 4786.*—Private Wm. H. H., Co. K, 13th U. S. Inf., had never been ill until Aug. 4, 1899, when he developed a severe case of acute dysentery. From the onset his temperature was

unusually high—103 to 105. The discharges were of the characteristic mucus and blood, and so frequent that he was constantly on the bed-pan—more than forty movements in twenty-four hours. Almost from the first he complained of pain over the region of the liver. The organ rapidly enlarged, and by the twelfth day the whole right side was edematous. Aspiration revealed the presence of pus and incision was made in the mid-axillary line, excising a portion of the eighth rib. Only a small amount of pus was evacuated. The patient never rallied from the operation, and died on the thirteenth day. The autopsy showed one small abscess with several necrotic patches throughout the substance of the organ, which would undoubtedly have formed additional abscesses had the patient lived.

*Case 10,741.*—G. M. W., a clerk, was seen March 7, 1900 There was no history of dysentery or diarrhea. The patient had been in the Orient five months, and in fair health until about four weeks before, when he rapidly lost weight without assignable cause. On admission to the hospital, March 7, he was much emaciated and of a peculiar dusky, jaundiced color. His temperature was subnormal and his pulse rapid and feeble. Pain over the liver was constant, with the point of greatest tenderness one inch below the costal margin in the mammillary line. The organ was very much enlarged, extending four finger breadths below the ribs. Under ether the aspirating-needle revealed pus. An incision 2½ inches long was made below the costal border in the right nipple line. The liver was found adherent to the parietal peritoneum. On attempting to open the abscess such free hemorrhage occurred that the wound was packed with iodoform gauze and partially closed with silkworm gut sutures. Further operative procedure was delayed forty-eight hours, when it was intended to open the abscess with the Paquelin cautery. However, on separating the capsule from the diaphragm, about one pint of pus was evacuated. A drainage of double tubing was instituted, and the patient left the table in a very weak condition and died forty-eight hours later. The autopsy showed multiple abscesses of the liver involving nearly its whole structure. They varied in size from one to five inches in diameter and contained peculiarly fetid pus. There was no previous history or evidence of dysentery, nor could the ameba be found. Apparently the case was one of multiple liver abscess following general hepatitis. The mesenteric glands were much enlarged and the spleen was septic.

*Case 220.*—Private C. F. B., Co. I, 4th U.S.Inf., gave a history of chronic dysentery of several months standing, but on the date of admission considered himself cured of that disease. His present illness began so insidiously that he could not state the time of its onset. During the preceding month he had lost greatly in weight and suffered from a constant steady pain in the epigastrium. On admission, the temperature was subnormal and his pulse rapid and feeble, with a dry brown tongue and mental hebetude, and his skin a dusky jaundiced color. The liver was much enlarged, extending fully three inches to the left of the median line and 1½inches below the ribs. Aspiration at the eighth interspace, in five or six directions, failed to detect pus, so the needle was introduced into the left lobe from a point just to the right of the median line, ½ inch below the costal margin. Here puncture was successful and an incision was made down to the liver. The capsule and parietal peritoneum were adherent and a large abscess was opened and drained, with no irrigation. The patient rallied from the operation, but died on the fifth day. The autopsy revealed a large single abscess occupying the whole left lobe. It had perforated the diaphragm, and opening up the pleura had set up a septic pneumonia. Healed amebic ulcers were found in the intestines, but the ameba coli could not be distinguished.

**Migration of Needles.**—The *Medical Press and Circular* for April 24 reports the removal of about sixty needles from a domestic, aged 16, who says that five years ago, on a wager, she swallowed four or five packages. No inconvenience was noticed until recently, when the needles presented, usually by the head, in various portions of the body.

## THE PREVENTION OF INSANITY.

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The necessity for more radical measures for the prevention of insanity must be manifest to any one who will judicially consider the question of its rapid increase; for while there has been some attempt to minimize this important question, yet it is capable of easy demonstration that insanity has increased out of all due proportion to the increase in population in the last thirty or forty years. The statistics of Great Britain show that the proportion of insane to the whole population in 1860 was 1 to 523, and in 1890, 1 to 320; and in Illinois the proportion of insane to the population is about 1 to 400.

Preventive measures must come from the States. The learned and self-sacrificing profession to which we belong can show the way, but the state must compel people to walk therein. The state has assumed the care and maintenance of the insane; indeed, has made it a criminal offense for any one to restrain them without the consent of her courts. Inasmuch as the state has assumed this great responsibility, it is her duty, in the interests of altruism and of economy, to use every possible means for the prevention of insanity; to find out how this may be done; to educate the people as to methods of doing it and to enforce those methods. The state should, through her State Board of Health, furnish the people with information that they can comprehend as to the causes of insanity, and with methods that may be applied for its prevention; and the state should be as ready, with the same paternal power she uses in smallpox, cholera, etc., to enforce those methods that have the approval of the medical profession. The state should make her insane hospitals schools for the instruction of medical students in insanity. The state should, by competent authority, select by competitive examination senior students in medicine from our medical colleges, and place them in the hospitals for the insane as medical internes. At least half a dozen can be placed in each hospital for the insane in this state. These internes should remain at least one year, receiving board, lodging, and a small gratuity at the end of the service, and by this means at least thirty physicians every year, with mental attainments of a high order, will be sent forth with a good clinical knowledge of insanity, its prevention and its treatment, and become so many prophylactic centers in as many communities. But a few years would be necessary to have, from one end of Illinois to the other, an abundance of well-skilled medical men competent to solve this great problem.

The state should assist in providing treatment for carefully selected cases in wards connected with the hospitals now to be found in every city and almost every town in the state. Admission to these wards should be by the same rules as apply to any other disease. The family of the patient would make but little objection to the prompt treatment of the case in such a manner, while it would decidedly object to the patient being sent to a hospital for the insane by a jury trial at some distant point, and especially to-day when our hospitals have become political machines for the reward of political favors. The patients in these hospital wards, under such scientific treatment as they may promptly obtain, will recover in very much larger proportion than is

possible now, when the prejudices of the people, the court proceedings, and the management of these institutions are all barriers to their prompt and successful treatment. Provision for the treatment and care of the acute cases of insanity near their homes is very much better than the building of palatial institutions in favored localities in the state.

The time allotted to this paper will only permit a very superficial consideration of the prevention of insanity in detail.

At the head of causative factors must stand heredity, that great biologic law by which living beings repeat the character of their ancestors, the sum of ancestral influence directly transmitted, whether as a specific tendency, or as a deficient vitality, or both; "that tyranny of organization," as Maudsley puts it, in them from which no one can escape, that destiny which unconsciously and irresistibly shapes our ends, and some have sought to minimize it and to substitute for it what they call tradition. This heredity is not necessarily the heredity of insanity, for nervous diseases, as is well known, undergo transmutation in transmission, so that any neurosis may be the basis of insanity. Heredity as a factor in the production of insanity can be reached radically by only two methods: 1, the regulation of marriage; 2, the asexualization of the degenerates; or both. But in order that either one of these methods may be established, there must be a great deal of educational work done by the medical profession.

My attention was called a few days ago to a prominent stock raiser in Kentucky, who refused to purchase a bay stallion, a very valuable animal, because back in the fifth or sixth generation one of his progenitors had bred gray. This stock raiser married a woman whose brother at the time was insane, and whose father and grandfather died insane. Fortunately in this case, so far there has been no progeny. Some say that the regulation of marriage is an utter impossibility. Such people forget that in Illinois to-day marriage, to a very limited degree, is regulated, and all we need to do is to extend the regulating powers of the present law to make it meet the indications of the present conditions. Asexualization, as is known very well, can be accomplished without danger to life, without producing deformities, without destroying sexual desire, by ligating the Fallopian tubes on the one hand, and the seminal ducts on the other.

It is not necessary for me to emphasize the fact that a mother with this neurotic inheritance, when she becomes pregnant, must be carefully guarded during the whole period of gestation, placed under the very best hygienic rules and conditions, compelled carefully to avoid the use of narcotic drugs and stimulants; and when her child is born, if possible, a healthful wet nurse should be provided, and in its early days, careful training, so that as the child grows older he may have a robust body. His education should be largely directed to producing a body with fine muscular development; his intellectual training should be carried on with the greatest possible care, and an occupation should be selected for him which will be the least likely, by its extraordinary demands, to dethrone his reason.

It is unnecessary for me to consume time by saying that our educational system in the public schools, so far as the great bulk of neurotic children is concerned, is sadly deficient. We know the causative effects of syphilis, of tuberculosis, of infectious and miasmatic diseases, of the arthritic diatheses, of the effect of intoxicants, not only voluntary intoxication by alcohol and numerous similar drugs, but by auto-intoxication through physiological instability, defective metabolism, defective gland secretion from the alimentary tract, the liver and kidneys. We know the effect of deficient alimentation, and for all these several important factors we are familiar with the preventive measures.

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## WHEN SHOULD WE OPERATE IN APPENDICITIS?

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So much has been written on the subject of appendicitis, that I have hardly the temerity to proceed and I am sure I would not have if it was not for the memory of many cases that I feel could have been saved and others "in futuro" that never will until some of the general practitioners rise above their prejudices. I believe it is the duty of all operators to agitate this subject until the correct position of operative procedures is thoroughly appreciated. If men who do not operate and meet these cases would have in mind septic ones and their serious termination—if not in death, they go on to abscess, drainage, ventral hernia, and a long convalescence—as well as catarrhal ones with their recoveries, then much will have been accomplished. To diagnose and correctly appreciate the uncertain cases is the most essential feature. Like other surgical conditions that invite procrastination, appendicitis may lead us to a serious or fatal termination. I purpose treating only one feature of the disease, and that the old one, namely, shall we operate in all cases, or shall we follow an expectant line of treatment? There are many able men in favor of both expedients.

*Important Factors.*—There are important factors in every case that the general practitioner should consider, viz.: Are the symptoms clear-cut and urgent? Is it a primary or recurring case? How far advanced is it? What is the opinion of the patient's friends or advisers? Has some one in the vicinity had a slight catarrhal attack of appendicitis, or other local disease with the character of appendicitis, which has ended in recovery without surgical interference, or has surgical interference in some neglected or fulminative case ended fatally? Either condition will have a material effect on the family and friends in deciding concerning an operation. Then there is the clinical experience of the one in attendance and the class of cases he has met, the question whether or not he does surgery, whether he is opposed to calling in a consultant, how many cases he has had and their outcome, and lastly, whether he concludes his consultant is advising an operation purely because he is desirous of performing it.

There is no fair comparison between the eminent specialists of the large centers, whose every utterance is law to so many, who have such a wide territory to draw from that their patients and even their professional brethren do not know of their results, and the practitioners of smaller places. We general practitioners are most excusable—with our limited opportunities—for the feeling of anxiety and apprehension that comes with each case of appendicitis, when we review the great variation in the views of our most eminent men. One will say, "Operate at once;" another, "Be conservative and follow an expectant line of treatment that you may have the advantage of an elective operation;" while still another equally eminent man says that operative

procedures are seldom indicated. Errors of judgment will occur with us all, but these conditions must be met and corrected by men of the greatest experience. I am sure that mistakes, if properly interpreted, are powerful for good.

*Indicative Symptoms.*—What symptoms are of service to us in reaching a conclusion that we should operate in a case of appendicitis? Temperature, pulse, respiration, general or localized pain, vomiting, sudden onset, tenderness in the immediate region of the appendix, the facial expression, the presence of a tumor, rigidity of the abdominal muscles, edema of the abdominal walls, distension of the abdomen, tympanites and chill, are all at one time or another observed in appendicitis. The pulse, temperature, respiration, nausea and vomiting are in no sense a guide in the first stage because different patients react so differently to the first impressions of the toxins. The pain is at first referred to the umbilicus or epigastric region, and then after a few hours settles down in the region of McBurney's point; you can readily appreciate that the exact point varies according to the location of the appendix. Later, we may have a severe paroxysm of pain, which so many characterize as the time at which the rupture occurs; it is of value in that it indicates the time at which the alarming symptoms commenced.

The presence or absence of pus in an inguinal tumor is a condition which must be considered very carefully in estimating the value of the symptoms; as an acute general peritonitis may appear in a case of appendicitis in which the general cavity is not protected, or a perforated appendix may be walled in by lymph which is barely sufficient to close the opening or surround the slough. It is of interest to note that the abdominal muscles protect an inflamed appendix by their rigidity, and that they do so regularly, and that they do not protect in the same way an inflamed ovary or tube, only an inch or two distant, but remain normally relaxed.

The rigidity of the abdominal muscles is an important symptom, and when associated with the anxious facial expression and rapid pulse, I always feel that there is trouble ahead. In late cases increased edema of the abdominal walls, with distension of the abdomen and progressive inflammation, marked at first by a rise in temperature, which is shortly followed by a fall, with a weaker and quicker pulse, is characteristic of a diffuse septic peritonitis; this condition, preceded by a severe paroxysm of pain in that region, indicates a ruptured appendix, which may be diffused or walled off. A chill sometimes occurs at the onset, again at the stage of perforation, and later if sepsis supervenes.

*Remarks.*—During the past year I have been called in consultation in nine cases of septic appendicitis which succumbed to the disease, and which, I believe, could have been saved if those in attendance had acted along the lines of our present conclusions in these cases. I have also operated on at least a dozen cases of fulminative appendicitis, during the same period, sent to me by another class of observers, without a death, and in five of this number rupture had occurred though it was not thirty-six hours from the initial symptoms. How can we avoid the fatality of the first variety? Only by the attending physician associating with himself, when in doubt, some one thoroughly familiar with these cases, and so being in a position to differentiate the catarrhal from the septic cases, and thus reaching those requiring operative procedure early.

## OPERATING UNDER X-RAYS.

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The removal of foreign bodies which have been accurately located by the fluoroscope or skiagraph has come to constitute every-day operations in surgical work. I have not, however, as yet seen any report of a case in which the surgical work itself was done under the light furnished by the *x*-ray and with the aid of the fluoroscope. Having had one such experience I deem it worthy of presentation to the profession.

George E. R., aged 9 years, was shot July 4, 1899. The bullet was a Flobert and entered just above the right patella. The injury seemed to be slight and the wound healed by first intention. Some three weeks later, the joint beginning to give him trouble, an examination was made by his physician, Dr. S. M. Sherman, of this city, who thought he detected the bullet under the skin at one side of the patella. He cut down upon the supposed bullet, but found nothing. I saw the case for the first time on July 25, at the office of Dr. Early, an expert radiographer. With the fluoroscope the bullet could be seen with very great distinctness, as the boy lay on his back, on a line with the upper border of the patella and apparently resting on the upper portion of the articular surface of the inner condyle of the femur. It could be seen very distinctly and its removal was apparently a matter of great ease. A skiagraph was made which verified the view afforded by the fluoroscope.

The bullet, which seemed to be superficial, was located on the opposite side of the patella from that which had been operated on by Dr. Sherman a few days before. The operation wound was suppurating freely. Under an anesthetic, administered by Dr. Sherman, an operation was made for the removal of the bullet, July 29. A small incision was first made and enlarged as necessary, but notwithstanding a most thorough search no bullet could be found.

The only explanation that could be offered of the failure to find the bullet was that it was free in the joint and had simply changed its location during the intervening period. The patient was therefore returned to Dr. Early's office and the fluoroscope again used July 30. This showed the bullet at the back of the joint, but movable; its position could be shifted by rolling the boy upon his abdomen. Since it was plain that the position of the bullet varied with changes in the position of the limb, it was evident that unless we wished to open the joint widely the operation must be made with the use of the fluoroscope. Accordingly preparations were completed and the operation made on the following day.

The bullet was located at the bottom of the joint, the patient lying upon his back. When he was rolled on to the abdomen the bullet dropped down a little but could not be brought to the dependent portion of the joint. The joint was therefore opened through a small lateral incision, and a pair of delicate forceps introduced, hoping to catch the bullet. The operation consisted in an attempt to catch a shadow with a shadow. In order to determine the position of the bullet and also of the point of the forceps, it was necessary to locate them in two planes, and this could only be done by rolling the patient back and forth from back to side, so as to get two views. With great difficulty the bullet was finally grasped, when it was found to be impossible to withdraw the forceps with the bullet in its grasp owing to the approximation of the articular surfaces. The bullet was therefore pushed up to the opposite side of the joint and extracted through a minute counter-opening.

All things considered, I never performed a more difficult operation. The room was necessarily dark, the day was hot, and the noise of the machine was almost intolerable, while the fear of infection from the suppurating wound, which was in close proximity to my own incisions, was constantly before me.

Fortunately, although there was some inflammatory exudate present in the joint at the time of operating, there was no infection from the outside. The incision was closed carefully without drainage, a splint applied to secure fixation, and recovery was entirely uneventful, the ultimate motion of the joint being perfect.

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## THE PROTOZOON OF CANCER.

After some three or four years' work the New York State Pathological Laboratory at Buffalo, established by the state for the purpose of studying the etiology of cancer, proclaims, through its director, Dr. Harvey R. Gaylord,[1] that the cause of cancer has been found to be a protozoon or animal parasite. This article represents the official report of the laboratory to the legislature of New York. Reports of this announcement have been referred to previously in THE JOURNAL.[2] The facts in the case, on the study of which interest as to the nature of certain bodies observed in cancers was aroused, are briefly as follows: An adenocarcinoma, probably originating in the appendix, spread to the peritoneum, underwent mucoid degeneration, and the peritoneal cavity was filled with a clear, straw-colored fluid. A quantity of this fluid was secured under aseptic conditions and found to contain a large number of small hyaline bodies which changed their form and size under the microscope and passed through a cycle of development to what appeared to be a spore-forming stage. This fluid was injected into the abdominal cavity of a dog and a guinea-pig, producing a marked peritonitis, the exudate containing similar bodies to those mentioned above. Some of the bodies were observed to send out pseudopods toward air-cells in the microscopic preparation. Peritoneal fluid from the case of peritoneal carcinoma was also injected into the jugular vein of a guinea-pig, which, when killed fifty days later, had numerous white nodules in the lungs, and on microscopic examination these nodules proved to be beginning foci of adenocarcinoma. Peculiar bodies were found in the cells of the splenic follicles and in the cells of the tumors of the lungs. Efforts to cultivate these bodies failed at this time. Later cultivation experiments are said to have been more successful, but unfortunately no details are given in this article. Following these experiments much study was given to fresh scrapings and hardened sections of cancers. Bodies interpreted as parasites were found with almost unvarying constancy in all cancers examined. Observations seem to indicate that the bodies increased very rapidly just before or soon after death. Several forms are described, the earliest being round like a coccus, then a larger form much like oil drops, but not giving all the reactions of fat, then an ameboid, nucleated form resembling a clear leucocyte, and finally a spore sac, seen mostly post-mortem, in which the young forms arise. The so-called cancer milk of the older writers is said to consist of an almost pure culture of these bodies. The development of the smaller forms was followed in hanging-drop preparations through the ameboid and nucleated stage into the spore-sac. In sections of fixed preparations only the small forms remain demonstrable and appear as the fuchsin bodies described by Russell in 1890, and believed by him to be yeasts or blastomycetes.

In the efforts to determine the nature of these bodies or organisms, full consideration is given to the work of Sanfelice, Russell and many others who champion the blastomycetic theory of the origin of cancer. Gaylord reviews the principal features of this work, which has formed the subject of reviews and abstracts in the columns of THE JOURNAL.[1] Plimmer's work of demonstrating certain peculiar "cancer parasites" or "Plimmer's bodies" in 88 per cent. of 1278 carcinomas is considered at length. Plimmer's bodies, as revealed by his special method, are rounded bodies of diverse size, with a central portion not unlike a nucleus, yet differing in staining reactions from ordinary nuclei, a body, and a capsule. Budding forms are rarely seen, and sometimes there is merely a capsule with central dot or dots. Russell's bodies as a rule are homogeneous. With the aid of Plimmer's method Gaylord and his associates were able to substantiate Plimmer's claim that these bodies are present in carcinomas; they also found them in sarcomas and even in histologically non-malignant adenofibroma. Plimmer's bodies could not be found in other tissues, such as the lesions of bacterial and blastomycetic infections. As is well known, hyaline bodies morphologically indistinguishable from Russell's bodies occur sometimes in great abundance in a variety of lesions other than tumors and even in the normal tissues. Gaylord found Russell's bodies quite numerous at the periphery of growing tumors and in adjacent lymph glands, even when these were free from metastases. He calls attention to the similarity between Plimmer's bodies, especially as seen in the fresh condition, and certain appearances in carcinoma described by Sjöbring and by Eisen as protozoa. And in the next place he traces a direct morphologic relationship between Plimmer's bodies and those of Russell. Failing to find in tumors any structures that could be considered as blastomycetes, and an elaborate series of culture experiments with tumors proving of uniformly negative results, Gaylord reaches the conclusion that Plimmer's bodies, Russell's fuchsin bodies and the forms regarded by others as protozoa are identical with the organism—a protozoon, he thinks—studied in the fresh state and referred to in the beginning of this article. He finds that the protozoon of cancer repeats many of the developmental stages of the "vaccin organism" of Gorini

1. Am. Jour. of Med. Sci., 1901, cxxi, 503-539.
2. JOURNAL A. M. A., April 6, 971 and 979.

1. May 27 and Dec. 2, 1899.

and of Funk, which is regarded as a protozoon. Numerous animal inoculations have been made with carcinomatous and sarcomatous material of different sorts. The experiments are to form the subject of a subsequent report. It has been found, however, that animals are readily infected; they become emaciated and die at varying intervals, sometimes not until several months after inoculation. The lesions are not striking. A moderate amount of fluid occurs in the peritoneal cavity and there is enlargement of the abdominal lymph glands. The peritoneal fluid, the organs, and the blood contain large numbers of "the parasites" when examined fresh. One dog showed a large lymphoma of the spleen. Another dog inoculated with sarcoma showed typical metastases in all of the regional lymph nodes. Two guinea-pigs and two rabbits, inoculated in the jugular vein, showed similar lesions in the lungs to those in the guinea-pig mentioned in the foregoing, and these are all interpreted as beginning adenocarcinoma of the bronchi. One guinea-pig presented lesions regarded as primary carcinoma of the lungs and liver, and one dog a lymphoma of the spleen following inoculation with dried lymph nodes from a case of carcinoma. In all these animals the tumor cells contained "the characteristic forms of the parasite."

Similar organisms are said to have been found in syphilis. All organs, including the blood of all patients dying from cancer, contain large numbers of the organisms, which are present in the peripheral blood in all cases of cancer cachexia. A large amount of work along the lines suggested by the results here summarized is foreshadowed, and if the expectations of the Buffalo laboratory are fulfilled we are on the verge of an era in which the protozoa will occupy a large part of the field of etiologic investigation. But we must not expect too much. The exact nature of the organism, or group of organisms, spoken of by Gaylord as protozoic in character, is not settled. The developmental cycles have not yet been traced by authoritative zoologists. Its occurrence in so many different conditions and the production in animals of different lesions are bewildering, to say the least. Definite, distinct, typical tumors with metastases, regional and general, have not been produced in convincing numbers and with convincing regularity. That many of the cell inclusions in carcinoma are not satisfactorily explained on the score of degenerations can not be doubted, but the claim that Russell's fuchsin bodies, Plimmer's bodies, and the protozoon forms and blastomycetes of other authors are all parts of the developmental cycle of one organism rests as yet upon too purely a morphologic basis to be accepted without hesitation.

## LEUCOCYTOSIS IN TYPHOID FEVER.

It has become generally appreciated that, while in ordinary, uncomplicated cases of typhoid fever, the number of colorless corpuscles in the blood is, as a rule, diminished, or at any rate not increased, leucocytosis develops in the presence of complications; so that the discovery of this condition should put the clinician on his guard and stimulate to increased watchfulness. Systematic and repeated examination of the blood in cases of typhoid fever may thus be the means of detecting complications that might otherwise be unsuspected or be discovered only when they had reached a point at which relief could be afforded with difficulty, if at all. The presence or absence of leucocytosis, further, may be a most valuable diagnostic guide when perforation of the bowel is suspected or more or less well-defined symptoms of this condition have already developed. The importance of this sign under such conditions resides in the increased success with which surgical intervention for perforative peritonitis is being attended when the operation is undertaken early, before the inflammation of the peritoneum is too extensive or the constitutional disturbance too profound.

That leucocytosis, like other diagnostic aids is, however, not an infallible guide in this connection, is shown by several observations of more than ordinary interest, recorded by Dr. Colin K. Russell,[1] from the medical clinics of the Montreal General and Royal Victoria hospitals. He reports one case presenting doubtful signs of perforation of the bowel with a leucocytosis of 28,000, in which operation was performed, a perforation found and sutured and recovery followed. In a second case, in which definite signs of perforation were present, with a leucocytosis of 12,000, operation was likewise undertaken, the bowel sutured and recovery ensued. In a third case, on the other hand, in which classic symptoms of perforation developed, the colorless blood-cells numbered only 6100 and 4800 in two examinations at intervals of four days. Operation was undertaken, the ruptured bowel sutured, but the patient succumbed. In a fourth case in which pain and rigidity developed in the abdomen, chiefly in the left lower quadrant, a leucocytosis of 16,000 was found on one occasion and one of 13,000 on another. Operation, however, failed to disclose any indication of perforation or peritonitis. The wound was closed and healed without complication, the patient recovering promptly. The colorless blood-corpuscles averaged in three counts after the operation less than 10,000. A fifth case was attended with pain in the right iliac fossa, of sudden development and progressive intensity, and gradually developed rigidity, marked tenderness and distention and 17,000, 14,000 and 10,500 leucocytes to the cubic millimeter on three occasions. On operation no perforation was found, although two of the ileocecal glands were unusually tense and swollen. The wound was closed and the patient made an uninterrupted recovery. In a sixth case pain developed suddenly in the left hypochondrium, with tenderness on pressure, but without rigidity or tenderness elsewhere. The pulse remained unaltered, but the leucocytes were found to number 12,000 to the

1. Boston Med. and Surg. Jour., April 18, 1901, p. 374.

cubic millimeter. The general condition grew worse, some tenderness developed also in the right iliac fossa and the pulse became accelerated. On repeated examination the colorless blood-corpuscles numbered 12,000 to 14,000 per cubic millimeter. On account of the doubt operation was deferred, but sudden collapse developed, with signs of peritonitis, vomiting, rigidity, great tenderness and rapidity of pulse. The colorless blood-corpuscles now numbered 32,000. Operation was undertaken, but the patient succumbed.

As a result of these experiences the following series of conclusions seems justifiable: In the presence of perforation it is a general rule for leucocytosis to occur, the degree of which, however, may vary within wide limits. The increase in the number of leucocytes, while appearing early, as a rule, may not be at all marked until general peritonitis and collapse have supervened. There may be an utter absence of leucocytosis in the presence of marked perforation and peritonitis; in fact, the number of colorless blood-corpuscles may be lower than normal. With typical signs of perforation and a definite leucocytosis, no such complication may be present, and an operation may be performed unnecessarily. A marked degree of leucocytosis may also attend complications other than perforation, for example, bronchitis, cholecystitis, etc. In the presence of pain and tenderness of the abdomen coming on suddenly in the course of an attack of typhoid fever—and in the absence of evidences of cholecystitis or other definite complication—and of a distinct leucocytosis, even without other symptoms of perforation, an exploratory operation is justifiable, even advisable, thereby obviating the danger of a fatal issue from too great a delay.

## THE CLINICAL PICTURE NOT ALWAYS SUFFICIENT FOR DIAGNOSIS.

For some time the opinion has prevailed that the typical clinical picture of an infectious disease corresponds to the activity of a single typical organism. The clinical picture of many infectious diseases is usually a characteristic one, reappearing with satisfactory regularity in various epidemics and in isolated instances. Hence it would seem quite logical to conclude that diseases of this character always are caused by the same specific organisms. But the relations between the clinical picture of disease and the cause of disease are probably not as simple as apparent at first sight. As pointed out by Petruschky,[1] in a consideration of this question, the peculiarities of pathogenic organisms and of the individual patients modify greatly the relations between cause and disease as presented by the clinical picture. The varying virulence of the organisms and the varying susceptibility of the animal and human beings naturally lead to often great variations in the clinical manifestations. The comma bacillus does not cause severe cholera in all persons; there are mild forms of cholera, and comma bacilli may pass through the intestinal canal without causing any noticeable symptoms. Not only may diphtheria bacilli persist in the throat for long periods after an attack of diphtheria, but the bacilli may be found in healthy persons who have not had diphtheria, and the bacilli may be so persistent that it is practically impossible to remove them for good. After recovery from typhoid fever the typhoid bacillus may persist in the urine in enormous numbers even for years. These examples, and others are not hard to find, show that the active cause of a disease may be present, but not the disease.

On the other hand there may be present the clinically typical picture of a distinct infectious disease without its specific organism being present. Such cases are cleared up only by means of the most searching bacteriologic study. "Cholera nostras" may present the identical symptoms of Asiatic cholera, but it is not Asiatic cholera etiologically. Certain streptococcus infections of the throat reproduce perfectly the clinical picture of genuine bacillary diphtheria, and Petruschky claims that croupous pneumonia may be caused by a variety of organisms, especially streptococcus longus and Friedländer's bacillus. In this case, however, it is always possible that the pneumococcus may have escaped detection. Pleuritis, peritonitis, cystitis, cerebrospinal meningitis, etc., may be caused by various different bacteria, the clinical and even the anatomical pictures being quite alike. The clinical differentiation of typhoid fever is difficult. It took a long time before it was separated from other fevers. Miliary tuberculosis and meningitis are even now distinguished from typhoid with great difficulty, the definite diagnosis at times being made only after careful bacteriologic examination. Recently it has been indicated that other bacteria than the typhoid bacillus, namely the so-called para-typhoid bacilli, may produce the clinical symptoms and signs of typhoid fever. As has recently been made clear, dysentery may undoubtedly be caused by several different micro-organisms.

One conclusion that may be drawn from the foregoing considerations is that, strictly speaking, the recognition of the clinical picture of an infectious disease is not always sufficient for its diagnosis. The clinical picture owes its existence to the infecting agent. The clinical examination as ordinarily done can not possibly reveal with certainty the cause of the clinical and anatomical disturbances, and it must be accepted that bacteriologic examination is essential for the scientific diagnosis of an infectious disease. In order to emphasize this aspect of diagnosis Petruschky urges the introduction of an etiologic nomenclature. An exact nomenclature would spur to renewed study and to bacteriologic examination in order to establish exact etiologic diagnosis. Streptosis, staphylosis, spirillosis, plasmodiosis, bacillosis are some of the terms he suggests, which may be modified in various ways to meet the special indications. It is a well-known fact that our nomenclature can not be changed through the spasmodic efforts of any one

1. Zeitschrift f. Hyg. u. Infectionskr., 1901, xxxvi, 151.

reformer, be the reasons ever so just. And yet we believe that all thoughtful physicians are in hearty sympathy with all effort that tends to make diagnosis more definite, and out of this feeling there may in time spring a more precise terminology than the present.

## THE ASSOCIATION OF AMERICAN PHYSICIANS.

The sixteenth annual meeting of this medical body, just held in Washington, D. C.—where all its meetings are held—seems to have been exceptionally successful from the point of attendance as well as in the scientific program and discussion. In the president's address, Dr. William H. Welch, of Baltimore, made the significant observation that the day for formal addresses before bodies like this had passed. It would be well if this sentiment became more general, because much valuable time is consumed in the delivery, and much valuable space in the printing, of introductory addresses of but little real value. Dr. Welch emphasized that while the opportunities for research in the more technical branches of medicine at present are unexcelled in this country, yet scientific work of an advanced character in clinical medicine had not developed as much as might be wished. As has been pointed out in the columns of THE JOURNAL,[1] the majority of our large hospitals are not yet organized in such a way as to render the proper sort of post-graduate work in clinical branches practicable and inviting. Dr. Welch recommended the introduction of the system of hospital residents as an important step toward the development of clinical post-graduate work. The essential point is that under the hap-hazard and too frequently political methods of appointing hospital staffs no regular, systematic plans for training young men in clinical medicine have been developed.

Many papers worthy of special note were presented and discussed. The work of Dr. Reed[2] and his associates on the etiology of yellow fever, the main facts of which are now quite generally known, has been corroborated and supplemented by more recent investigations, the results of which were presented at the meeting by Dr. Reed. It seems to be definitely settled by these researches that the cause of yellow fever is present in the blood of those attacked, that it is inoculable by certain mosquitoes, and that it is not transferable by fomites. Hence a large part of the mystery of the etiology of yellow fever has been removed, and the remark, in the discussion of Dr. Reed's presentation, that next after the discovery of anesthesia these demonstrations in the etiology of yellow fever are the most important medical discovery made in this country, is probably not at all an extravagant statement.

Dr. Billings's remarks on the progress of pernicious anemia, as illustrated by the course of the twenty cases reported by him at the meeting in 1900, were received with interest. Longer periods of improvement than ordinarily taught have been observed, and also the fact that with decided exacerbation in the condition of the patient large numbers of nucleated red blood-cells appear in the circulation. The spinal cord lesions of pernicious anemia were also discussed.

The demonstrations of specimens of experimental and spontaneous acute and hemorrhagic pancreatitis by Dr. Flexner and Dr. Opie are noteworthy because it was shown that the disease may be studied experimentally, and especially because Dr. Opie's specimens illustrated the intimate relation that appears to exist between pancreatitis and calculi in the ampulla of Vater.

Dr. Herter presented important work on the relation of acid intoxication to the development of diabetic coma. By special chemical methods the amounts of organic acids in the urine, especially di-acetic and B oxybutyric, may be measured accurately. In diabetes the amounts of these acids may increase to such an extent that they are not neutralized by bases. Such increase precedes and coincides with diabetic coma, so that the methods offered afford a practical method for recognizing the onset of this most dangerous complication. Sugar determinations alone have no particular prognostic significance.

Finally mention may be made of the fact that the members of the recent commission sent by the authorities in Washington to investigate the plague in San Francisco gave a summary of the results of their investigations. With these the readers of THE JOURNAL are familiar already. The great value of the work of the Commission was freely recognized.

The foregoing may serve to indicate the high character of the work of this meeting of the Association, a more detailed account appearing in our Society Reports.

1. April 13, 1901, p. 1048. 2. JOUR. A. M. A., February 16.

## A CORONER ON DOWIEISM.

The verdict of a Cincinnati coroner[1] in the case of a girl who died under Dowieite neglect is worth quoting from. After giving the history of the case and the cause of failure of their treatment as given by the Dowieites, viz., that it was due to disobedience in not perfectly using the light which they claimed she had received from God, he says: "Their explanation, if it reflects the teachings of their church, implies the existence of an angered Deity, who refused the petition for restoration to health to a smitten child because of a fancied disobedience. Such doctrine is unnatural and unmerciful; it destroys the solacing influence of prayer and makes religion the merest travesty." He then goes on to say that while the state does not dictate the treatment of the sick, it favors the calling in of men of skill and science whose efforts have arrested the spread of disease, and pleads, for the sake of those afflicted, the use of human aid, which he says has more in it of religion in these cases than all the prayers for the repetition of the miracles of Scripture. It is a pity he could only plead, and did not hold for some punishment the false teachers and inhuman parents who claimed to see a just punishment of the victim in the results of their own cruelty and neglect.

1. Lancet-Clinic, May 4, 1901.

### A DISHONEST REFERENCE.

We recently printed, in the Current Medical Literature Department of THE JOURNAL, a brief abstract of a paper—from the pen of a Chicago physician—on medical advertising, that appeared in a leading eastern medical weekly. The abstract baldly reproduced some of the more striking opinions and some of the criticisms, made by the writer, of the advertising methods by which the spirit of the Code of Ethics is evaded and its provisions surreptitiously violated. We are somewhat shocked and surprised to find this abstract quoted *verbatim* as an expression of opinions in a "review of a current medical literature article" by "the highest ethical authority of the country," in an alleged quotation from the remarks of a disgruntled Leadville physician. The flagrant dishonesty of such use of a simple uncritical résumé of a published paper is self-evident; the supposition that it was honestly taken as the expression of opinion in a "review" is too untenable.

### THE HOLMGREN TEST.

In the text-books on ophthalmology the Holmgren test for color-blindness is generally mentioned as the most satisfactory and practical; in some of them other tests are scarcely even mentioned. The efficacy of the worsteds has become as it were an established dogma of ophthalmology, that it is almost heresy to question, and any mistake or even hesitation in sorting them is held to be enough to establish the existence of an irreparable color defect. Dr. Edridge Green, however, is one of the heretics, and in a recent article[1] he reiterates his views and quotes a number of authorities to show that he is in respectable company. It is not his object, he says, to point out in what ways the test is defective, as he has done that elaborately enough elsewhere, but to quote the similar views of others, including some of those who had hitherto opposed him. Among these are Dr. Anderson Critchett, the president of the British Ophthalmological Society, Mr. T. H. Bickerton, one of the former advocates of the test, Dr. Karl Grossman, St. Clair Buxton and others, and he points out internal evidence of its insufficiency in the report of the Committee of the Royal Society, on the basis of which it was adopted by the Board of Trade. In its summary of cases detected it includes five where the wool tests failed, but none that passed all the lantern tests; hence the presumption of the superiority of the latter. While he is convinced that Holmgren's test causes the rejection of many normal sighted persons, and that three divisions of the dangerously color-blind nearly always escape detection by it, Green only asks for a renewed careful and unbiased inquiry. It is a reasonable demand and should be acceded to, and there is unquestionably good reason for it. The Holmgren test certainly is about as far as possible from reproducing the actual conditions where color vision is demanded, and this alone should be an efficient argument against it. A test on which the safety of the public may depend, to say nothing of justice to the individual tested, should be reliable beyond reasonable criticism. It should take into account quantity as well as quality of color vision, and should fairly meet all the actual conditions where a perfect sense of color is required. There are so many points in regard to color vision yet unsettled that any dogmatic adherence to a questioned method would seem like the worst kind of false conservatism.

1. The Lancet, April 13.

### SOME ODDITIES IN SUICIDE.

A young man, an ardent advocate of "Christian Science," recently committed suicide rather than be prescribed for by a physician. It is one of the anomalies apparently of that special sort of faith, that it has no confidence in itself in competition with medical practice. If a physician gets the case it would seem that "Christian Science" or Dowieism goes to the wall in the belief of their adherents. Hence the suicide, and the general opposition they have always shown to medical interference. Disease does not exist, according to Mrs. Eddy, but apparently the baleful action of drugs or even of a physician's advice is a reality. Like the victim of persecutory delusions, who kills himself for fear of death, such "Christian Science" paranoiacs commit suicide actively or passively for fear of medicines. Unfortunately the most of them are only too ready at all times to commit homicide on some unfortunate babe or irresponsible invalid. Another case of attempted suicide of some medical interest in its sequelæ is reported in the newspapers. A millionaire finding life burdensome cut his throat, it is said, "in an earnest and painstaking manner." A physician, called in by outsiders, sewed up the wound and saved his life. When he sent in his bill, however, there was trouble; not only was it considered exorbitant, but there was no authorization for the services rendered; they were uncalled for and unwelcome, and being thus gratuitous in one sense should be so in the other. The defense certainly would have been good for most services thus bestowed, but the case did not come to trial, being finally settled out of court. It is unfortunate in some respects that the medicolegal questions involved could not have had a judicial decision, such for example as the right to claim a fee for professional services demanded as an act of humanity or to prevent crimes. Suicide, if we are not mistaken, is or has recently been a felony under New York law and the defendant here may have had reason for not wishing this point to be too much elaborated. The case is an interesting one at least in its suggestiveness.

### PESTIS MINOR.

A suggestion that will carry the more weight as coming from the editorial columns of the *Journal of Tropical Medicine*, for April 15, is at first sight a little startling. It is that we have occurring in various civilized communities occasional cases of a disorder at least closely allied to true plague. The writer gives the account of a case, with bacteriologic examinations, that occurred in a European hospital, so far as could be ascertained, without any history or suspicion of contact with plague cases. He classes this case as pestis minor, with a bacillus allied to that of true plague, and says: "What are we to infer from this and other cases which have occurred? The conclusion seems obvious, namely, that in Europe at the present moment sporadic cases

of pestis minor are occurring which are unrecognized and excite no suspicion of their true nature. We have become familiar with the term 'glandular fever' of late years, and it is possible that the illnesses of many children with febrile symptoms and general adenitis are being grouped under this head, which, were they as carefully tested as the boy referred to in this article, would exhibit bacteriologic indications justifying their being placed in the plague category as pestis minor." If, as the writer says, plague may exist in a sporadic form and pass unrecognized, the idea that there are unpleasant possibilities where they are perhaps least suspected is hardly avoidable. It is true, he claims that pestis minor is a fairly well-defined ailment that may precede, run concurrently with or continue after true plague as well as occur independently, and quite distinct from pestis ambulans which is only a mild form of the latter, though the two are frequently confounded. It seems also to be the case that, as in the boy referred to, the bacilli may be few in number and wanting in the virulence of those of true plague. In this we have a parallelism with certain other diseases that apparently exist in attenuated or modified forms; the question is whether this is a modified form of true plague and whether there is any possibility of its giving rise, under favorable conditions, to the more virulent type. Thus far there is no real evidence that it does, and the isolated character of such a case as the one reported would indicate no connection between the two. It is stated that no plague was known to exist in the city or even in the country where the case occurred. On the other hand, however, we can not ignore the possibilities of unrecognized cases or means of infection, and it has been charged that many unreported cases of plague have occurred in European ports. There are evidently many points in regard to the plague yet to be elucidated, and this question of pestis minor, the conditions and frequency of its occurrence, and its connection with the severer types is one of them.

# Medical News.

## CALIFORNIA.

**Dr. Albert H. Taylor**, San Francisco, has sailed for Europe. He will take post-graduate work in Vienna.

**Cooper Medical College**, San Francisco, graduated a class of 27, April 23. Rev. Bradford Leavitt delivered the address to the class, on "A Man's Duty to His Mind."

**Health Officer Dr. John A. Colliver**, San Bernardino, resigned April 20, and Dr. Charles A. Mackechnie was elected in his stead. Dr. John N. Baylis was elected permanent chairman of the board of health.

**French Hospital Changes.**—With the change of superintendent of the French Hospital, San Francisco, certain changes in the staff have become advisable. On April 17, Dr. F. Dudley Tait was re-elected surgeon and Dr. F. P. Canac-Marquis, formerly of St. Paul, Minn., gynecologist; Dr. Marcus W. Fredrick, oculist; Dr. Martin Krotoszyner and Dr. Casimir F. Pawlicki were elected to the staff.

## DISTRICT OF COLUMBIA.

**Dr. Luther H. Reichelderfer**, Washington, has been appointed superintendent of Garfield Memorial Hospital.

**Howard University Medical Department**, Washington, held its commencement exercises, May 8, and graduated a class of 19, which included 3 West Indians and 1 Burmese.

**The Episcopal Eye, Ear and Throat Hospital**, Washington, has purchased a lot for its new buildings, at an expense of $9500. The erection of the new buildings, will be begun as soon as $25,000 bas been subscribed to the building fund. Of this amount more than $3500 has been already secured.

**The late Dr. Samuel C. Busey**, Washington, bequeathed his collection of Washingtonia to the Columbia Historical Society, and the remainder of his miscellaneous library to the Washington Free Public Library. He further directed that his medical library, instruments, and appliances be presented to some public hospital or medical association, institution, or library, on condition that the recipient provide proper rooms therefor.

## ILLINOIS.

**A bill** has been passed authorizing the erection of a permanent hospital at Camp Lincoln, near Springfield.

**The new building** of the Cottage Hospital, Peoria, was saved from destruction by fire, by the timely discovery of combustibles so prepared that the building probably could not have been saved had the fire been started. It is supposed that the labor troubles which have delayed the completion of the building are responsible for the attempted crime.

### Chicago.

**Dr. George W. Webster** has been appointed a member of the State Board of Health, to succeed Dr. M. Meyerowitz, resigned.

**Dr. William T. Belfield** was elected president of the American Association of Genito-Urinary Surgeons, at the meeting at Old Point Comfort, Va., May 1.

**A hospital** for its employees and for the residents of the vicinity is to be constructed at a cost of $50,000 by the Crane Company, at Judd Street and Twelfth Place.

**The Cook County Hospital Investigation** has closed. The following is the report of the grand jury: "From the evidence submitted to us we are glad to state that, in our judgment, the charges of general bad management, neglect and cruelty were not sustained."

**Public Health Conditions.**—These are fairly satisfactory. With the exception of measles the contagious diseases are all of a mild type and their mortality, especially that of diphtheria, is unusually low. Some increase of the influenza and pneumonia organisms is reported, undoubtedly due to the recent dry and dusty condition of the atmosphere.

**Effect of Speculation.**—The Department of Health says speculation is beginning to tell on the death-rate. For the week ended May 4 the deaths numbered 566, or a mortality per 1000 of 16.77 per annum. For the week previous the deaths were at an annual rate of 13.55 per 1000, and for the week ended May 5, 1900, 1498. Heart disease, pneumonia, Bright's disease and consumption accounted for 87 of the total excess of 109 deaths of this week.

**Streets Should be Watered not Sprinkled.**—The economy of water for public uses is peculiar to Chicago. With the most abundant supply of any large city, upward of 190 gallons daily for every man, woman and child, against an average of 118 for other large American cities and less than 40 for European cities—there are no fountains to wash and cool the air nor running streams in the gutters to catch the dust from street and sidewalk. It is little wonder that catarrh is universal and dust diseases more prevalent than elsewhere. The proposition to flush the streets into the sewers after they have been swept, says the Health Department, should be carried into effect forthwith as a sanitary measure of the first importance.

## INDIANA.

**Dr. W. C. Duddenhausen**, Evansville, has been appointed house surgeon at the Good Samaritan Hospital, Lexington, Ky.

**Important Omission.**—It was discovered on May 1 that Representative Minturn's amendment to the Wood medical law, exempting from its provisions practitioners of osteopathy, electropathy, hydropathy and massage, had been cut out and does not appear in the printed acts requiring such practitioners to obtain licenses from the State Board of Medical Examiners. An investigation is in progress.

## KANSAS.

**Dr. Charles L. Ebnother**, Downs, has been elected a member of the city council.

**Smallpox.**—During March 1612 cases of smallpox were reported in the state, with 8 deaths. Four new cases of the disease were reported to the Topeka Board of Health April 18. On account of the increase of smallpox in Iola, the City Board

of Health is considering the advisability of forbidding all public gatherings.

**Reforms in Care of Insane.**—The board of charities will divide the three insane asylums into special institutions. The new asylum at Parsons will be used for the care of epileptic patients; the Topeka asylum for incurables and the Ossawatomie institution for convalescents, or patients who can recover. Instead of erecting one large building at Parsons, it has been decided to build a number of cottage buildings, enough to hold from fifty to eighty patients each. The cost of their construction will be a little more than if one large building were erected, but the board thinks the results will justify the increased cost.

## KENTUCKY.

**Dr. George B. Young** has succeeded Dr. H. R. Carter, in charge of the Marine Hospital, Louisville.

**The new Isolation Hospital** for Flemingsburg and Fleming County has been completed and now has about ten patients.

**Louisville National Medical College** held its thirteenth annual commencement April 10. Miss Prima A. Fitzbutler delivered an address on "Specialists."

**Dr. Emmett B. McCormick,** Owensboro, has been removed from the superintendency of the Western Kentucky Insane Hospital, Hopkinsville, on account of alleged improper conduct. Dr. McCormick states that he will sue those who have conspired to secure his removal and promises interesting disclosures in his final official report.

## MARYLAND.

**Dr. S. F. Thomas** has been appointed health officer of Frederick City.

**Hagerstown** has three cases of smallpox in two houses. Dr. Fulton has directed the local board to vaccinate all laborers going to the town.

### Baltimore.

**The Health Department** reports 188 deaths for the week ended May 4, an annual death-rate of 18.07 per 1000.

**Suit against the city** has been brought by a woman to recover $10,000 damages for alleged unskilful and careless vaccination stated to have caused paralysis in her left side.

**Dr. Melvin S. Rosenthal,** formerly assistant quarantine physician, has returned after a study tour of thirteen months in Europe, during which he took special courses at Berlin and Vienna.

**The Maryland General Hospital,** belonging to Baltimore Medical College, has been placed in charge of the Sisters of Charity, eight in number, from various convents. This will not interfere with the nurses' training school of the college.

**Trained nurses** are being added to the various dispensaries, to attend the physicians during examinations and operations. This is required now by the Board of Charities through which all appropriations to hospitals and dispensaries are made.

**An Experiment Station.**—A building for this purpose is being erected in the courtyard of the Health Department. It will be stocked with animals for bacteriologic and antitoxin experiments by City Bacteriologist Stokes, and Secretary Fulton of the State Board of Health. The experiments will be directed for the present toward observing the effects of pneumonia and typhoid fever antitoxins. The antivivisectionists have protested against it.

**Baltimore Medical College.**—This institution conferred the doctorate degree on a class of nine-six, April 23. The following were elected to places on the resident staff of Maryland General Hospital: Dr. E. H. Hayward, resident physician; Dr. M. MacCallum, first assistant; Dr. W. C. Abel, second assistant; Dr. J. S. Woodward, third assistant; Dr. G. H. Dill, lying-in hospital resident; Dr. H. F. Gorsuch, alternate assistant.

## MISSOURI.

**State Board of Health.**—The governor has appointed as members of the State Board of Health, Drs. Benjamin G. Dysart, Paris; A. W. McAlester, Columbia, and Winn F. Morrow, Kansas City.

**Weltmer and Kelly,** the "absent" healers of Nevada, who plead guilty to practicing medicine without a license, were find $1500 each by the judge of the Federal Court, Kansas City, April 26.

**For failing to report smallpox** two physicians of South St. Joseph were arrested April 29, on warrants sworn out by the city physician, who attributes the spread of the disease to such neglect.

**New City Hospital, St. Louis.**—The building commissioner estimates that six of the fourteen buildings contemplated for the new City Hospital will be completed this year, costing $300,000. The buildings erected will be the isolation ward, two surgical wards, one surgical operating building, laundry and power house building, kitchen and employees building. These will accommodate 200 patients and 63 employees.

## NEW YORK.

**American Congress of Tuberculosis.**—Drs. John H. Pryor, Buffalo, Frederick C. Curtis, Albany, and Alfred Meyer, New York, have been appointed delegates to represent the state at this Congress, to be held in New York City, May 15 and 16.

**State Mortality.**—According to the monthly bulletin of the State Board of Health, there were 11,913 deaths from all causes and a death-rate of 19.2; a decrease from a daily rate of 394 in February to one of 384. During the first three months of the year there have been 35,529 deaths, including delayed returns, a daily rate of 395, which exceeds that of the same months in 1900 by 12 deaths daily.

**Increase of Insanity.**—The State Charities Aid Association, in its eighth annual report, calls attention to the alarming increase of insanity in the state, altogether out of proportion to the increase in population. The average rate of increase per year is 700, and it is estimated that by next October accommodations must be provided for 2100 additional patients. There are now 22,000 dependent insane in the state. The report suggests that, in order that the insane may receive the benefit of the best medical skill at the outset, reception hospitals be established, where better opportunity would be given for careful observation and intelligent classification before distributing the patients to the various state hospitals. It proposes to establish such a reception hospital in New York City, under the charge of the Manhattan State Hospital, thus doing away with the insane pavilion at Bellevue Hospital. Eminent neurologists and alienists have already signified their willingness to serve as attending and consulting physicians to such a reception hospital if it is established in a reasonably accessible locality.

**Smallpox.**—The monthly bulletin of the State Board of Health says that the matter of chief interest affecting the health of the state continues to be smallpox and epidemic influenza. The bulletin states that smallpox exists in nineteen separate municipalities of the state at this time. In most of them it has no foothold and will disappear with the recovery of the initial cases. In some it has established itself widely from failure to discover the first case. From the health officer's standpoint chicken-pox is an untenable diagnosis, at this time; many prolonged epidemics would have been prevented by holding to this. "Cuban itch" is a name given to outbreaks like that of Brockport, lasting for weeks until a well-marked case has shown it to be smallpox, as it always proves to be. La grippe with eruption has also been a mal-diagnosis. The extraordinary mildness of the type of smallpox now prevailing should make health officers guarded even in the least suspicious case. Every acute eruption, papular in quality, on the hands and face, following even a slight initial fever, should be suspected and isolated. With insignificant cases come some typical cases, severe and even fatal; otherwise it might almost be ignored. There were thirty-nine deaths from small-pox during the month, two in Gloversville, the rest in New York City.

### Buffalo.

**Dr. George A. Himmelsbach** and wife have sailed for a three-months' visit to Europe.

### New York City.

**Dr. Carlo Savini** has been made a Chevalier of Italy, for professional services rendered to a friend of the King of Italy.

**Dr. Edward W. Lambert** recently left for a continental tour, to include Russia.

**Dr. Roger S. Tracy** has retired from the position of registrar of records in the Health Department, after thirty-one years of service in that office. He is responsible for the present system of keeping records of vital statistics in this city, a system which has been followed in others.

**Edward N. Gibbs Memorial Prize Fund.**—The trustees of the New York Academy of Medicine announce the receipt of $10,000 from Mrs. Sarah Barker Gibbs and Miss George Barker Gibbs, for the establishment of the Edward N. Gibbs Memorial Prize Fund, the income to be awarded triennially to the physician of regular standing, in the medical profession of the United States of America, who shall present the best original essay on the etiology, pathology, and treatment of the diseases of the kidney.

**New York Pathological Institute.**—In spite of indignant protests from eminent scientific men both here and abroad, politics has gained entrance to the Institute. The medical director, Dr. Ira Van Gieson, has been making strenuous efforts to secure an injunction restraining the State Commission in Lunacy from removing him from office, although the institute has no funds and has been practically legislated out of existence. The members of his staff have submitted their resignations to take effect when he is removed.

## OHIO.

**Dr. David B. Steuer** and wife, of Cleveland, sailed for Europe May 4.

**By the will** of the late Dr. Ellis Jennings, St. Elizabeth's and Deaconess hospitals, Dayton, each receive $2000.

**Dr. Alexander J. Erwin,** Mansfield, who spent the winter in Egypt and recently has been visiting the eye, ear and throat clinics of Paris and London, has returned to Mansfield.

**Dr. Starling B. Wilcox,** assistant surgeon U. S. army, has succeeded Acting Assistant Surgeon Najib Taky-ud-Deen, U. S. Army, as surgeon of the hospital at Columbus Barracks. Dr. Wilcox recently returned from Manila, and Dr. Taky-ud-Deen is under orders for the Philippines.

### Cincinnati.

**The Medical College of Ohio** held its commencement exercises, May 7, and graduated a class of fifty-eight.

**Laura Memorial Medical College** held its commencement exercises May 2, when five young women were graduated. Dr. A. H. Freiberg delivered the valedictory.

**Miami Medical College** held its commencement exercises May 1. A class of twenty-five was graduated. Dr. E. W. Mitchell delivered the valedictory. The meeting of the Alumnal Association was held in the evening.

**Cincinnati College of Medicine and Surgery** held its semi-centennial and annual commencement exercises May 1. Sixteen were graduated. Dr. W. H. Wenning delivered the valedictory. The alumni of this institution held their annual meeting in the afternoon and appointed a committee of ten to devise means for raising $30,000 for the erection of a new college building.

**Prompt Action Saves Life.**—Considerable interest has been aroused in this city by the prompt and commendable action of a physician. A child, about 2 years old, had swallowed at least an ounce of rather strong carbolic acid, and when taken by the mother to the hospital was then *in extremis*. The child was so young and the throat and esophagus so swollen by the acid that no tube could be passed. The doctor succeeded in passing a small catheter, and filling his mouth with olive-oil, forced several ounces of this through the tube into the child's stomach, and then sucked out the mixture, repeating the operation several times. The child has made a complete recovery and the doctor, beyond anesthesia of the mucous membrane of the mouth, was none the worse for his trying ordeal.

## PENNSYLVANIA.

**West Penn Hospital,** Pittsburgh, has elected Drs. Ewing W. Day and Lawrence Litchfield, Pittsburgh, as members of its staff.

**Through the will** of Henry Amole, of West Nantmeal township, a residual legacy will revert to the Chester County Hospital and Chester County Insane Asylum.

**East Side Hospital, Altoona.**—A number of Altoona physicians have taken the first steps toward starting a private hospital at Altoona, and have agreed to pay $20 a month each until the hospital is self-sustaining. Among the organizers are Drs. George A. Ickes, Elmer E. Neff, Frederick H. Bloomhardt; William M. Findley, Joseph D. Findley, James E. Smith and Charles W. McConnell.

### Philadelphia.

**Dr. William E. Hughes,** professor of clinical medicine at the Medico-Chirurgical College, gave a reception to the medical society of the college, at his home, May 1.

**A Committee of Physicians.**—Provost Harrison, of the University of Pennsylvania, has appointed the following committee to assist him in promoting the welfare of the University: Drs. James Tyson, Thomas J. Yarrow, D. M. Cheston, Radcliffe Cheston, George S. Gerhard, Richard Cleeman, James Darrach, Frederick A. Packard, Edward L. Duer, William R. Dunton, Theodore Fassitt, Joseph Leidy, Charles A. Oliver, Thomas C. Potter, Charles Seltzer, Wharton Sinkler, A. P. DuSmith, Samuel Stryker, J. B. Walker and Matthew Woods.

**Pay Hospital for Contagious Diseases.**—Through the energetic efforts of Drs. J. Madison Taylor, George M. Gould, Edwin Rosenthal and others the pay hospital for contagious diseases will soon be a reality. The plans for the building have been made and the contract will be let within the next few weeks. Five acres of ground have been purchased. The plans call for the construction of three fireproof buildings, one each for smallpox, diphtheria and scarlet fever, and three isolated cottages, each of which shall contain four rooms for the treatment of other contagious diseases. Each ward of the hospital proper will contain twelve rooms for patients.

**A Large Medical Fee.**—Concerning the medical fee of Dr. Browning, noticed in last week's JOURNAL, he advises us that the $190,000 was made up of the monthly accounts rendered to the patient, and the total named was simply a total of the bills rendered. As an inducement Mr. Magee—the patient—offered Dr. Browning double his regular charges for night service, to give him exclusive attention at nights, and while the Doctor rendered his bills at regular charges each month, Mr. Magee, according to his promise, crossed out the regular charges for night service and doubled them, certifying the bills thus changed by him. By this change of his own, had the executors paid these bills, they would have paid, without public knowledge, $317,000. During the twenty-one months he was under treatment the patient received nearly 5200 hours of the Doctor's service, and nearly 3200 hours of this was attention at night.

## GENERAL.

**Quarantine** exists against the City of Mexico, according to press reports, on account of the typhus fever prevalent there.

**The Surgeon General** of the U. S. Marine-Hospital Service has received a report from the chief quarantine officer of Cuba, under date of April 23, stating that there were, at that time, no known cases of yellow fever on the Island of Cuba.

**The antivaccination bill** that recently passed both houses has been protested against by Honolulu physicians, through the Honolulu Medical Society. A committee was appointed to ask the governor to exercise his veto.

**Epidemic Among Indians.**——A disease said to be similar to smallpox is epidemic among the Indians of Sitka and Baranoff Island, on which the ancient capital of Alaska is situated. Three deaths have occurred. Sitka physicians do not agree as to the nature of the disease. No case has occurred among the whites of Sitka so far. The same disease is said to prevail among the Indians of South Eastern Alaska.

## CANADA.

**Dr. James Stewart,** of Montreal, at the meeting of the American Association of Physicians, was elected vice-president.

**Montreal's** civic health committee has ordered that the three hundred prisoners in the common gaol be vaccinated, as some of the prisoners slept recently in a smallpox-infected house.

**Convocation Exercises** were held at Dalhousie University, Halifax, on the 30th ult., when ten graduates in medicine received their degrees, one of them being a woman, the first Halifax lady to take this degree at Dalhousie.

**The Longue Pointe Asylum,** in the province of Quebec, has just been completed, and has accommodation for 2000 patients. The nursing staff consists of 200 sisters of the church. The cottage plan has been followed in the construction.

**Montreal General Hospital.**—During April, 210 patients were admitted, 190 discharged and 23 died, the greater number of deaths occurring within three days of admission. The average daily number of patients in residence was 153. In the out-door dispensary department there were 3136 consultations.

**Samaritan Hospital.**—This Montreal institution, in its annual report for the past year, shows 110 in-door patients. During the year 142 operations were performed, and only 5 deaths occurred, 3 of which followed operations, thus giving a death-rate of a little over 2 per cent. There were 250 out-door patients.

**Smallpox in British Columbia.**—In connection with the progress of the smallpox patients in the province of British Columbia, Dr. Fagan, the provincial medical health officer, reports very satisfactory progress. Dr. Fagan recently visited the Kootenays, and at Phoenix, Cranbrook, Moyle, Fernie, Michel, Nelson and Rossland there were cases of smallpox, but all necessary precautions were being taken. No general quarantine now exists against any of these towns. At the St. Eugene Mine, where one case existed, seventy-five men were isolated, but allowed to carry on their work.

**The Ladies of Carberry,** Manitoba, thought they would have a hospital for that town, but apparently everything is not working harmoniously as the male part of the population, the professional and business men are antagonizing the proposition, and the town council has refused any money for the purpose. The adjoining township of North Cypress voted $500 for the purpose, but hedged the vote around with such conditions that the ladies could not accept it. It will be interesting to watch who will win out in the fight, as "have a hospital we must," say the ladies, and now and again such determination means something.

**Victoria Asylum for Women.**—Arrangements are being rapidly made for the opening of the Victoria Asylum for Women, at Coburg, Ont., in September next. Dr. McNichol, of Coburg, has been appointed superintendent, and Dr. Harriet Cockburn, of Toronto, assistant physician, the Ontario government thus recognizing the claims of women physicians, the first instance in Ontario. Dr. McNichol has retired from private practice and is familiarizing himself with asylum work in the different asylums of the province. Dr. Cockburn has had considerable experience in hospital work, having been at one time connected with the Dakota State Asylum for the Insane.

**Action of Medical Council.**—Some 700 of the 2400 or 2500 doctors practising in Ontario have had their names erased from the register of the Medical Council, as reported in these columns a few weeks ago. On May 3 a deputation representing these delinquents waited on the Ontario government to protest against the action of the Council. The deputation, composed mostly of practitioners outside of Toronto, was headed by Dr. Sangster, of Port Perry, himself a member of the Council and the leading spirit in this matter some ten years ago. They claim that the profession is not properly represented on this body and hence their action in refusing to pay their annual fee of $2. As a matter of fact the Medical Council is composed of thirty members, thirteen of whom are representatives of the colleges and universities and the homeopathic body. One hundred of the delinquents have paid up in full. The balance expect that the government will have the Medical Council stay proceedings until the annual meeting of that body in July.

**Contagious Diseases of Animals.**—This question is receiving attention at the hands of the minister of agriculture. A bill is before the House of Commons which will amend the act respecting these diseases among animals, and will prohibit the selling or putting off of an animal suffering from infectious or contagious disease, or the meat, skin, head, horns or other part of such animal under a penalty not exceeding $200. The amendment will permit the minister of agriculture, by regulation, to exempt from the operation of this section, the meat, hide, horns, hoofs or any other part of an animal, where he is satisfied infection can not be communicated by the sale of such. A further amendment provides that where an animal has been found to be infected with any infectious or contagious disease, and such animal is afterward slaughtered while in an infected place or in quarantine, the meat of the animal may, notwithstanding anything in this act, be sold and used for human food, if previous to such sale or use it is certified by any lawfully appointed health authority having jurisdiction in that behalf, that it is not affected with such disease.

## FOREIGN.

**Progress of the Plague.**—During the week ending April 20 in Cape Town, Africa, 46 new cases of plague occurred and 28 deaths therefrom, this making the total number of cases up to that date 449, with 182 deaths. The two following days, April 21 and 22, 7 and 12 new cases respectively were reported. In Bombay, reports for the week ending March 30 ascribe 886 deaths to plague, showing a decline in the death-rate in every district in the city. In Calcutta, on April 1 and 2, there were 127 and 162 new cases respectively, with 129 and 158 deaths. In the Patna district, in Bengal, 2529 fatal cases occurred during the week ending March 23, and there was an increase of 147 the subsequent week. Reports from Mauritius, for the week ending April 18, show 2 new cases there, with no further deaths.

## PARIS LETTER.

### Cocain Injections and Narcosis.

Intrarachidian injections of cocain as a means of producing narcosis are as much as ever the subject of discussion. The discussion as to their true value and as to whether they can supersede ether and chloroform has entered on a more acrimonious phase. At the meeting of the Academy of Medicine, March 19, Professor Reclus, who has always been the champion of cocain as a means of performing such operations as kelotomy and laparotomy, discussed this method. He is not in favor of it as practiced at present, and he said that in some cases one is unable to insert the needle into the rachidian space and in others the needle is stopped up, or anesthesia does not take place for some unknown reason. In others anesthesia only comes on after half an hour, or disappears after a few minutes. Untoward symptoms may be seen, such as tremulation, nausea, vomiting, seen in one out of every two or three cases, paralysis of the anal sphincter with consequent incontinence, paraplegia and intense headache lasting several days. In some cases syncope may supervene, and there have been several cases of death. If some, like those of Julliard, of Tuffier, can not be laid to the account of cocain, the same can not be said of those of Humbert, Dumont, Jonnesco, King, where the use of cocain has been the real cause of death. When one considers the small number of operations compared to the number of accidents, one is obliged to admit that it would be premature to abandon the older methods. At a meeting held a week later, Professor Laborde, who is a well-known physiologist in France, indicated the results he had obtained by observing the effects of injections of cocain on animals. There are two periods of intoxication observed: In the first there is extreme hyperexcitability, the animal trembles, is agitated and even has convulsions; the second period is characterized by analgesia without tactile anesthesia. Intrarachidian injections, when used on man, can not prove quite harmless, as they disturb the equilibrium of the intrarachidian pressure. It should be remembered that the patient does not remain quiet after the injection, and as the cephalorachidian liquid is always in motion, cocain may be made to act on the bulb and even the brain. According to Professor Laborde, this method is, therefore, a dangerous one and cocain should only be used locally.

Dr. Reclus' remarks at the Academy of Medicine caused some comment and he, therefore, wrote a letter to the *Presse Medicale*, as follows: "Some of my provincial colleagues seem to consider my report altogether too conservative. I hardly think this can be said, as I have studied the technique of the intrarachidian injections and after having tried them have found they offered most distinct disadvantages. The day they are shown to be less dangerous than the use of ether or chloroform, I shall be glad to adopt such a method." Dr. Reclus added to this a letter he had received from Dr. Bier, which is of interest as showing that the first to use these injections in Europe is not satisfied with the technique now employed. Dr. Bier writes: "I am glad to find that I agree so thoroughly with you, the master of anesthesia by cocain. Such as the method is used in France, it can not be employed. It was hardly necessary to perform 1200 operations; the first six had sufficed to enlighten me. I cannot understand such enthusiasm, which is not quenched by so many disagreeable accidents. I would advise such operators having the injections performed on themselves, as I have done, and they might then change their mind. I have abandoned my first method after this experience, but I have continued my researches with due prudence, and I believe I can now recommend a new technique which I will describe at the Medical Congress held in Berlin on the 11th of April. If, however, you should wish to have some details on this subject before then, I am ready to send you all particulars." Dr. Reclus added that he thought it wise not to keep so good a promise for himself, and ended his letter by saying that perhaps his colleagues would stop making lumbar injections, until a safe method had at last been described. Dr. Reclus's letter could not remain unchallenged, and Dr. Tuffier, who is at the head of those who use these injections in France, wrote a letter which appeared in the following number of the *Presse Medicale*.

In it he said he did not wish to answer the criticisms made against his technique, but to indicate on what ground the debate should take place. The use of cocain as indicated by Corning and Bier is dangerous. He did not find it necessary to gather together 1300 observations, the first six had sufficed. His enthusiasm would have been sufficiently calmed by the description of the technique used and of the accident which happened to the author of the process when it was tried upon himself. Dr. Tuffier adds that his own technique does not show such imperfections. His method is sufficiently simple to have obtained the favor of his colleagues in all lands, and physicians and accoucheurs have adopted it. Every day a hundred of these injections are made, and Dr. Tuffier is convinced

that they are harmless. If certain surgeons wish to perform rash operations, he can in no wise be held responsible for their failures or their scorn, but, for those who have followed out his method in all its details, he begs of them to publish their complete statistics, for which he will hold himself responsible.

Intrarachidian injections of cocain as a therapeutic agent have been tried recently by Dr. Achard, who has injected as much as 2 centigrams into the spinal column in cases of sciatica. Professor Marie, one of Charcot's best known pupils, has been trying it recently, but in smaller doses. In one case, where a man was suffering from sciatica, he injected 5 milligrams of cocain, and there was a noticeable improvement very soon after, the man being able to get up and walk about without any appreciable pain.

### Congress of Neurologists.

The next congress of neurologists will be held in August, at Limoges, under the direction of Dr. Ballet, of Paris. Reports will be read on the following subjects: "Pathologic Physiology of Muscular Tonicity and its Causes;" "Modifications of Reflexes and of Contracture in Lesions of the Spinal Cord;" "Acute Delirium in its Clinical, Pathologic and Bacteriologic Aspects."

### Sanatoria for Consumptive Workmen.

There exist in Germany forty-nine sanatoria for workmen suffering from consumption, but none had been founded in Alsace-Lorraine, until the president of Lorraine, the baron of Hammerstein, recently inaugurated one of these institutions at Alberschwiller. It will be followed by the opening of others. This establishment, founded by private subscriptions, is very well conceived, can receive about sixty workmen, and is furnished with electric lights and sterilizers of the latest pattern.

### Blood in Pneumonia.

Dr. Prochaska, of Zurich, has been making some researches recently on the blood in pneumonia, and found the pneumococcus in all cases examined. He says the reason why so many have failed to find any is that not enough blood was examined. A fact which struck him was that in several cases the pneumococcus did not cultivate for twenty-four hours in bouillon. No other microbes were found.

### Foreign Body in Trachea.

At a recent meeting of the Academy of Medicine, Dr. Piechaud, of Bordeaux, described a most interesting method he followed out in the extraction of a foreign body from the trachea in a child 3 years old. He had swallowed a nail two months before, and the latter had got fixed in the left bronchial tube on a level with the hilum, as was shown by radiography. Slow tracheotomy was performed, with narcosis, and a catheter made of soft iron was slowly pushed down the trachea and connected with a strong electromagnet. After six attempts, the foreign body was removed and the canula was suppressed two days after. The child made a good recovery.

### Vermicular Oxyures in the Appendix.

At this same meeting Dr. Moty spoke of the frequency with which vermicular oxyures are found in the appendix, when removed for appendicitis. It should be noted, however, that to be able to discover them, it is necessary to open up the appendix immediately after the operation, without washing it, as in this way one can examine the parasites alive and moving about. Cold water kills and deforms them almost immediately. In three cases out of five operated on recently for severe forms of appendicitis, they seemed to be the only cause. It might therefore be said that parasiticide catharties form the best method of treatment in such cases, and that one should intervene surgically only when one is obliged to.

### Pregnancy in Smallpox.

Dr. Roger, who has charge of the smallpox service at Aubervilliers, has had occasion to treat eleven pregnant women who were delivered in his service. The children seemed to be perfectly well when born, but on taking their temperature, it was found below normal. In some cases it went down to 31, 30, and even 28 C. Three children died four, six, and eleven days after birth, having as the only symptom hypothermia and jaundice. Another showed signs of an eruption like that in scarlet fever. In the seven other cases the evolution of the disease was more complete. The elements of smallpox were seen. The temperature went up generally before the appearance of the eruption. Then four or five papules were formed, which were filled with a small quantity of turbid liquid; they dried up very fast. Death took place two or three days later. Only one child lived. Dr. Roger remarked that the symptoms observed were akin to those in rabbits when inoculated with the disease.

# Correspondence.

## Adhesive Rubber Dam.

CHICAGO, May 6, 1901.

*To the Editor:*—Dr. J. B. Murphy, in THE JOURNAL for May 4, presents an article entitled "Adhesive Rubber Dam for the Prevention of Possible Infection at the Site of Operation," in which he recommends a device invented by me, i. e., the rubber dam for protection of the skin around the field of operation. Dr. Murphy states that he has used it with gratifying results at Mercy Hospital. Since "imitation is the sincerest kind of flattery," I am accordingly highly pleased to see commendation of my method emanate from an authority so favorably known to the profession. I was somewhat surprised, however, not to find any mention of my work on this subject. After a careful perusal of Dr. Murphy's paper I therefore could but conclude that the Doctor, though he is undoubtedly a diligent reader of current medical literature, is ignorant of my work. The following few lines will give a short resumé of the memoirs I have had published in regard to protection of the skin during operation, by means of an adhesive, thin rubber dam, and reference to which may also be found in Reed's "Text-book of Gynecology" (N. Y., 1901, p. 102): "F. B. Turek covers the abdominal wall with a sheet of rubber dam," etc.

The first preliminary report on my method of protecting the field of operation appeared as the result of extensive experimental work, in THE JOURNAL, June 9, 1900. The following are quotations from this article: "The indications are therefore: 1, to prevent, as far as possible infection from the skin and contact of the skin with the hands, instruments, sponges, etc.; 2, to protect the skin from becoming contaminated by pus or visceral contents. To meet these indications I have devised an improved laparotomy sheet, made of thin rubber dam which is fitted closely to the body and is illustrated by the accompanying cut. (Fig. 1.)" "The former (rubber sheet) is so arranged as to fit closely and does not interfere with the field of operation." The article was entitled: "Improved Methods and Details in the Care of Patients During Surgical Operations," and was profusely illustrated.

The second memoir, in which I gave a lengthy and detailed résumé of the work done by others and myself, on the subject of infection of operative wound from the surrounding skin and laparotomy sheets, was presented to the Thirteenth International Medical Congress, Paris, in August, 1900, and appeared in the N. Y. *Medical Record* of August 11, 1900. In this paper a detailed description of my laparotomy was found, from which the following is quoted: "This (laparotomy sheet) is made in different sizes, each with an opening which may be placed directly over the site of incision or it can be left to be opened by the surgeon as an artificial skin."

The third paper from my pen, describing my improved laparotomy sheet, appeared in the *Philadelphia Medical Journal* of March 30, 1901, p. 622, and reviewed the experimental and clinical observations of others and myself in regard to wound infection during operation and shock: "I have shown" (continues the article, on page 623) "by my own experiments and those of other observers, that the skin of the abdomen is a source of infection. It was shown that these germs can not be removed even by our most painstaking aseptic procedures. That the microorganisms found are in a measure 'nonpathogenic,' but if the vitality is reduced by shock or otherwise, these so-called non-pathogenic microorganisms may produce infection and death. To prevent these germs from gaining access to or infecting the abdominal cavity, I described a method of covering the abdomen with an 'artificial skin' or thin rubber dam sheet that is made to adhere fast to the skin; hence, I designated the method by the appropriate name 'artificial skin.' (*New York Medical Record*, Aug. 11, 1900, p. 208). I have also had rubber sheets made, with an opening already formed, to fit closely to the body and securely fastened so that the same sheet may be used over again. For practical purposes, the artificial skin which I previously described is more simple, as all that is necessary is to take a piece of this rubber dam and

cement it to the skin like a surgeon's adhesive plaster. I have used various cements; simple bisulphide of carbon will dissolve the rubber and cause a sheet of rubber to adhere to the skin. I have had several special cements made for the purpose. A thin rubber cement is useful.: I have tried a cement made of galvanum. Rubber and balsam, when sterilized, forms a firm adhesive sterile plaster to fix the rubber to the skin. It can be easily removed. When the artificial skin is thus cemented, over the skin of the abdomen or any other operation area, it forms a perfect protection from infection and lessens the danger of shock that may result partly from the evaporation of the wet skin." Yours truly, FENTON B. TURCK, M.D.

## Priority in Forward Dislocation of Mobilized Urethra.

NEW YORK CITY, May 1, 1901.

*To the Editor:*—Dr. C. H. Mayo's admirable article in THE JOURNAL of April 27, contains a most practical and concise review of the several operative methods of dealing with hypospadias. The Doctor gives me full credit for my new method of forward dislocation of the mobilized urethra, but he also lays himself liable to misinterpretations when he says that "Professor von Hacker devised the new method shortly afterward."

With no desire to appear as criticising Dr. Mayo's brilliant work, I avail myself of it to clear up any possible misunderstanding, and incidentally emphasize the greater sense of justice we, in America, manifest toward each other.

Literature clearly shows that I reported my first operation Oct. 4, 1897, (see Reports of the *New York Deutsche Medicinische Gesellschaft* for that date). My first article describing my operation was published in the *New Yorker Medicinische Wochenschrift* for November, 1897. My second article on the subject (illustrated), containing some minor modifications, was printed in the *New York Medical Journal*, Jan. 29, 1898. Von Hacker described my operation, as his own of course, nearly, one year after he had learned of my first publication and six months after he had received from me a reprint of my second article. That he could, and did, completely ignore the published work of a mere humble American surgeon like me is comprehensible, for there are many in Europe who "perfume" their intellect by not grasping that anything good can come from our far-off land. And when they borrow it, hide, bone, and hoofs, then they have discovered it. It seems singular, however, that no heed was paid to my operation in this country until it came back trade-marked as "made in Europe," with von Hacker's name.

That my reclamations in Germany did not bear much fruit is evident by the fact that the leading German text-books on surgery show that they were kept ignorant of the true state of affairs. One of the authors, however, wrote me that he will remedy the error. Zuckerkandl, for instance, calls the method the "Hacker-Beck," and Tillmanns brings von Hacker to the foreground, showing at the same time four illustrations of Bardenheuer, who—admirabile dictu—devised the modification of using a trocar to tunnel the glans, instead of a bistoury, as advised by me. Koenig says that "Beck advised the method first," but creates the impression that von Hacker had suggested it at about the same time. But this is not all.

How American inventions are sometimes treated abroad is best illustrated by the "Jahresbericht ueber die Fortschritte auf dem Gebiete der Chirurgie," edited by Hildebrand (page 901, 1899), where Hj. von Bonsdorff exploits this most miraculous logic: "Von Hacker and Bardenheuer invented the method of forward dislocation of the mobilized urethra, etc., at the same time Beck of New York, used a similar method. But his being published in the *New York Medical Journal*, which is *nearly inaccessible to us*, we must assume that von Hacker, Bardenheuer, and Beck (Beck always figures as a kind of tolerated appendix) invented the same method at the same time. Similar remarks were found in the *Centralblatt f. Chirurgie*, by a Russian surgeon, which, however, were refuted in this country by Fowler.

It has touched me deeply to see that my American confrères stood up against these careless statements, Fowler, Valentine, and Parham taking energetic steps, for which I take this opportunity of expressing my gratitude. That their efforts had a retrograde effect became evident by the fact that Marwedel, of Czerny's clinic at Heidelberg, followed their examples by giving an exhaustive description of my method (Ueber die Beck 'sche Methode der Hypospadie-operation) in the same *Klinische Beitraege* where von Hacker made his remarkable publication. I am indebted to the author for giving me fullest credit for my method, and especially for setting down the facts about von Hacker, as they are evident from literature. From this essay it may also be seen that Czerny had performed my operation a whole month before von Hacker did it, according to the latter's own statement. If von Hacker's principles as to the rights of an inventor would be introduced in general, namely that the first imitator of the invention should be credited with it, then there would be no reason, why my method should not be properly called Czerny's or Marwedel's. Yours very respectfully, CARL BECK, M.D.

## Antiseptic Treatment of Smallpox.

DETROIT, MICH., May 2, 1901.

*To the Editor:*—In THE JOURNAL of March 16, page 771, there is an abstract of a paper of mine. If the abstract is allowed to stand without further comment it will injure me in my claim to priority in the antiseptic treatment of smallpox. By it the medical profession might infer that I had only suggested a "local (antiseptic) method treatment," whereas the whole burthen of my endeavor as to treatment since January 14, 1895, at which time I delivered an original paper on the pathology and antiseptic treatment of smallpox, before the Detroit Medical and Library Association—has been to induce medical men to evolve a complete and perfect treatment in which antiseptic baths should be the principal and effective part employed in the management of variola.

On the same date, 1895, I originally announced the principle that the true smallpox only extends so far as the vesicular stage, and that the vesicles are simply infection-atria through which pus germs and saprophytes are intromitted to the structure of the true skin and to the general system, thereby causing septicemia and death. I then affirmed that asepsis and antisepsis of the epidermis, especially by means of antiseptic baths, would avert such calamitous results. It is my opinion that I was the first to announce this theory.

I assumed charge of the smallpox hospital at Detroit on Jan. 22, 1895, with the intention of demonstrating my theory as to the pathology and treatment of smallpox, but I found myself grievously handicapped by the assaults of the whole newspaper press in the city, and by fierce political rancor in which I was innocently but unfortunately involved. Finally I retired from my hospital position on March 10, having beeen legislated out of office by an act of the state legislature.

While in the hospital the demonstration of my proposed antiseptic treatment by baths was obviously impossible. I was compelled to limit myself to the treatment of a patient by only applying antiseptics—in the fluid form—to the hands and forearms, and subsequently wrapping them with borated cotton, all the particulars of which have been repeatedly published. The result of this experiment confirmed the truth of my theory.

On the subject of my theory and its practical demonstration, I presented a paper to the Michigan State Medical Society in 1896, and it was published in the *Medical Record*, July 18, of the same year.

A re-affirmation of my theory of the pathology and the antiseptic treatment of smallpox, together with an account of my practical work, was read before the Detroit Medical Society on November 7, 1900, and published in *The Physician and Surgeon* for January, 1901, from which your abstract was made.

It is clear to me that my avowal of my theory and of the exemplification of it, in 1895 and in 1896—and later—gives me priority as elucidating the true pathology of smallpox, and makes me the original author of what may aptly be termed the antiseptic treatment of the disease. Yours very respectfully, ALONZO BRYAN, M.D.

# Association News.

## The Reorganization of the American Medical Association.

At the last meeting of the British Medical Association, an active propaganda was inaugurated looking to a change in the constitution of that body. Many of the members have become dissatisfied with the governing body which is known as the Council, claiming that the latter has lost sympathy with the rank and file of the association. This was brought to a focus last summer by a proposal to increase the powers of the Council. This failed, and was followed by the appointment of a committee to consider the best means of reorganizing. The association is said to number nearly 17,000 members, but only about two-thirds of these are members of branches. Both those who favored the resolutions conferring greater powers upon the Council and those who opposed them felt that the general meetings of the association were not suitably organized for an expression of the views of the great body of members. In the last conclusion of the committee, the majority of the members of the AMERICAN MEDICAL ASSOCIATION will heartily agree. The attempt to govern this great body along the primitive lines of a town meeting has utterly failed. The failure of a parliamentary body composed of from one thousand to two thousand is apparent at every session of the AMERICAN MEDICAL ASSOCIATION in which business matters are discussed. Upon this point our English brothers seem to be practically agreed. In the report of the British association's committee it is recommended that a special body be created from the various branches of the association, who shall attend the annual meetings and have their expenses paid. They shall vote upon all matters of a medico-ethical sort, and consider all business excepting that of finance and the editorial management of the journal. The present Council is to be continued, but the number of *ex-officio* members is to be diminished; it is to act as a sort of upper house, the delegates to be created under the new rule acting as a lower house. The Council is to have the power of referendum. The voting power of the delegates is to be regulated by the strength of the division which they represent. The AMERICAN MEDICAL ASSOCIATION is sadly in need of a change in the organic law relating to the formation of the governing body. The method of representation has remained the same since the organization of the Association, at a time when the number that commonly met in its annual gatherings was not larger than one of our smaller State medical societies. At present, those state, district and county societies that are in affiliation with the Association are entitled to send one delegate for each ten members upon the rolls. It so happens that the multiplication of special societies, particularly in cities, has resulted in the same man joining several; consequently his name is counted as an individual in each separate organization. The number of delegates to which Chicago, with her numerous special societies, would be entitled would make nearly one-half the local profession who are members of local societies delegates to any meeting if they take out certificates. As a matter of fact, a large number attend without the necessary certificate, as it is almost meaningless. Should they desire to take part in the proceedings and vote on the floor of the convention, there is no difficulty in their doing so, and many do without knowing the rule that those who are delegates alone are entitled to vote. A calling of the roll is such a hopeless task that it has only been attempted once or twice in the last ten years. A method of conducting business in this way would seem ludicrous if it was proposed to initiate it, but long custom has permitted the Association to drift along without any special direction. Fortunately the drift has been on correct lines, and the necessity of change has not been forced to the front. Each year, however, the Association feels more and more the cumbersome methods which are now used, and the time is ripe for the discussion of important changes. A few years ago what was known as a business committee was organized, composed of the executive members of each section. This has disposed of much business that formerly came before the general body. The work of the committee has grown in importance, and it is found to be composed for the most part of men who are interested in the scientific work of the Association, it being composed of ex-chairmen of the sections and not those interested in the politico-ethical subjects which have formed the principal topics of debate in the general session for many years past. The present delegate system should be abandoned, as it is cumbersome and useless. Its place should be taken by a smaller body, organized somewhat upon the lines of the new committee which is to be formed in the British Medical Association. Such a smaller governing body would represent hte body of the profession. It might be composed of a single delegate from each state, his voting power being based upon the number of members residing in the state. This would create a small, compact body that would be representative of the profession. It could meet at the times of the general session and matters could be referred to it, and it could initiate legislation which was thought to be for the good of the entire Association. It need not interfere with the present committee of the sections, which would still have jurisdiction over the conduct of the meetings and scientific work, and it need not interfere in any way with the board of trustees of THE JOURNAL, who have charge of the finances and the editorial management of the publication. Such a governing body combined with the referendum would unify the Association, reduce its constitution and practice to a consistent basis, and further the interests of the Association.—*Medicine*, May, 1901.

## Election of Delegates.

Delegates have been recently elected to the AMERICAN MEDICAL ASSOCIATION as follows: By the Douglas County (Wis.) Medical Society, Dr. John Specht, West Superior, and Dr. L. A. Potter, South Superior; by the Franklin County (Pa.) Medical Society, Drs. A. H. Strickler, Waynesboro; Jos. Frantz, Jr., Waynesboro; A. W. Thrush, Greenvillage; J. W. Croft, Waynesboro; and Jas. H. Montgomery, Chambersburg; by the Marion County (Ohio) Medical Society, Drs. O. W. Weeks, H. L. Uhler and A. M. Crane.

## Section on Laryngology and Otology.

Address of Chairman. John N. Mackenzie, Baltimore, Md.
Remarks on the Treatment of Laryngeal Tuberculosis. P. S. Donnellan, Philadelphia.
The Treatment of Laryngitis. O. T. Freer, Chicago.
Edematous Laryngitis with Report of Case. J. S. Gibb, Philadelphia.
Types of Membranous Pharyngitis. W. E. Casselberry, Chicago.
Total Extirpation of Thyroid Gland. G. F. Cott, Buffalo, N. Y.
Foreign Bodies in the Bronchi. F. J. Quinlan, New York City.
The Manifestations of Luetic Disease in the Upper Respiratory Passages and Ear. W. Scheppegrell, New Orleans, La.
Title to be Announced. J. O. Roe, Rochester, N. Y.
Title to be Announced. Robert Levy, Denver, Colo.
Observation on Intranasal Contract and its Consequences. J. E. Schadle, St. Paul, Minn.
The Relation of the Middle Turbinate Body to Chronic Nasal Diseases. C. S. Baker, Bay City, Mich.
The Pathology of Inflammation of the Posterior Part of the Nasal Septum. J. L. Goodale, Boston.
Asthma as a Result of Nasal Conditions: Treatment, etc. J. H. Farrell, Chicago.
The Effect which the So-called "Catarrhal" Disease of the Nose and Throat may Have upon the General Health. C. M. Cobb, Lynn, Mass.
Empyema of the Frontal Sinus. E. Fletcher Ingals, Chicago.
Diseases of Accessory Sinuses. E. L. Shurly, Detroit, Mich.
Anomalies of the Frontal Sinus and their Bearing on Chronic Sinusitis. Redmond W. Payne, San Francisco, Cal.
Carcinoma of the Nasopharynx. Chevalier Jackson, Pittsburg, Pa.
Sarcoma of Nasal Passages, with Report of Case. Dunbar Roy, Atlanta, Ga.
Case of Epithelioma of Upper Respiratory Tract. S. A. Oren, Lanark, Ill.
The Supratonsillar Fossa. J. Homer Coulter, Chicago.
An Unusual Anomaly Affecting the Faucial Tonsil. George L. Richards, Fall River, Mass.
Traumatic Affections of the Uvula. H. Seymour Oppenheimer, New York City.
The Pathology of Adenoids in the Adult. A. T. Mitchell, Vicksburg, Miss.
The Diagnosis and Treatment of Mastoiditis. E. B. Dench, New York City.
Mastoiditis after Subsidence and without Recurrence of Tympanic Disease. Hiram Woods, Jr., Baltimore, Md.
Experiments on Fresh Cadaver in Relation to Suppurative Otitis Media and Mastoiditis. F. C. Todd, Minneapolis, Minn.
Gelle's Test. Norval H. Pierce, Chicago.
Report of a Case of Suppuration of the Parotid Gland with Suppuration of External Auditory Canal. F. A. Packard, Philadelphia.
Report of Case of Unusual and Interesting Tertiary Manifestations. G. Hudson Makuen, Philadelphia.
Dangerous Hemorrhage after the Removal of Enlarged Tonsils and Adenoids, with Report of a Case. A. C. Getchell, Worcester, Mass.

The Rationale and Technic of Pneumatic Aural Massage. B. Alex. Randall, Philadelphia.
Title to be Announced. C. W. Richardson, Washington, D. C.

## Section on Pathology and Bacteriology.

TUESDAY, JUNE 4—2 P. M.

Giant Cell Embolism of Pulmonary Capillaries. Alfred S. Warthin, Ann Arbor, Mich.
Effect of Direct, Alternating and Tesla Currents and X-rays on Bacteria. F. Robert Zeit, Chicago.
Demonstration of Specimens, Slides and Photomicrographs of Uretero-intestinal Anastomosis. F. Robert Zeit, Chicago.
Primary Sarcoma of the Esophagus and Stomach. William Travis Howard, Jr., Cleveland, Ohio.
Demonstration of the Van Gebuchten-Nelis Histologic Reaction for Hydrophobia, and Remarks on Hydrophobia in Ohio. A. P. Ohlmacher, Gallipolis, Ohio.
A Case of Complete Agenesia of the Central Visual System. Wm. G. Spiller, Philadelphia.
Carcinoma of the Lung. E. R. Le Count, Chicago.
The Influence of Structure and Locality on Pathologic Processes. J. S. Foote, Omaha, Neb.

WEDNESDAY, JUNE 5—9 A. M.

DISCUSSION ON THE ROLE OF CERTAIN OF THE NONGRANULAR AND GRANULAR SOMATIC CELLS IN INFECTION.

Technics. The Origin, Fate and Significance of these Morphologic Elements. H. F. Harris, Atlanta, Ga.
The Plasma Cells in Acute and Chronic Infection. W. T. Councilman, Boston.
The Endothelial Cells in Acute and Chronic Infection. E. R. Le Count, Chicago.
The Eosinophilic Cells in Acute and Chronic Infection. Maximilian Herzog, Chicago.
The Mast Cells in Acute and Chronic Infection. Herbert U. Williams, Buffalo, N. Y.
Isolation of Bacillus Typhosus from Unusual and Interesting Localizations. O. McDaniel, Minneapolis, Minn.
Notes on the Bacteriology and Morbid Histology of Cerebrosinal Meningitis. L. B. Wilson, Minneapolis, Minn.

WEDNESDAY, JUNE 5—2 P. M.

Report on Cultures from Two Cases of Dysentery. F. F. Westbrook, Minneapolis, Minn.
A Study of a Fetal Stomach with Special Reference to the Origin of Acid-Secreting Cells. W. A. Evans, Chicago.
Report of a Case of Hypernephroma of the Kidney. W. A. Evans and Wm. Becker, Chicago.
Some Studies of Venoms and Antivenin. Joseph McFarland, Philadelphia.
Some Unusual Adenocarcinomas of the Breast. J. Clark Stewart, Minneapolis, Minn.
An Undescribed Abnormality of the Bile-Ducts. J. Clark Stewart, Minneapolis, Minn.
Reports of a Case of Primary Carcinoma of the Appendix, and a Case of Lymphosarcoma of the intestine, with a Discussion of the Etiology of the Latter. S. M. White, Minneapolis, Minn.
On the Etiology of Carcinoma. G. Fütterer, Chicago.
On the Growth of Epithelium. Leo Loeb, Chicago.
On the Nature and Significance of Granular Degeneration of Red Corpuscles. Alfred Stengel, C. Y. White, and William Pepper, Philadelphia.

THURSDAY, JUNE 6—9 A. M.

Study of an Epidemic Among Guinea-pigs in the Laboratory. V. C. Vaughan, Ann Arbor, Mich., for Louis M. Gelston.
The Influence of Boric Acid and Borax on Milk Bacteria. V. C. Vaughan, Ann Arbor, Mich., for William H. Veenboer.
The Influence of Formaldehyde on Milk Bacteria. V. C. Vaughan, Ann Arbor, Mich., for Arthur J. Hood.
Streptothrix Infections of Human Lung; a General Consideration of the Subject. Simon Flexner, Philadelphia.

## Section on Cutaneous Medicine and Surgery.

TUESDAY, JUNE 4—2:30 P. M.

Address of Chairman: Ancient and Modern Conception of Syphilis. William L. Baum, Chicago
The Relations of the Menstrual Function to Tertian Diseases of the Skin. L. Duncan Bulkley, New York City.
Pathology and Treatment of Cutaneous Cancer with Special Reference to its Non-parasitic Nature. M. L. Heidingsfeld, Cincinnati, Ohio.
The Increasing Prevalence of Contagious Skin Diseases. Henry W. Stelwagon, Philadelphia.
Syphilis and its Relations to Blastomycetic Dermatitis. Henry G. Anthony, Chicago.
Adenoma Sebaceum of the Non-symmetrical Type of Darier. William S. Gotthelf, New York City.
Notes on a Case of Keratosis Follicularis (Psorospermosis). Joseph Zeisler, Chicago.

WEDNESDAY, JUNE 5—2:30 P. M.

Lantern-Slide Demonstration on Skin Cancer. M. L. Heidingsfeld, Cincinnati, Ohio.
Lantern-Slide Exhibition Showing the Clinical, Pathological, and Bacteriological Features of eleven Cases of Blastomycosis of the Skin. James Nevins Hyde and Frank Hugh Montgomery, Chicago.
Lantern-Slide Demonstration of the Exanthemata, from Original Photographs. William Thomas Corlett, Cleveland, Ohio.
Demonstrations of Case: Lupus Erythematosus Treated by Hot Air. A Case of Leprosy in a Man Born in, and Who Has Never Been Outside of Minnesota. Burnside Foster, St. Paul, Minn.
Epidermolysis Bullosa Hereditaria. Louis E. Schmidt, Chicago.
Report of a Case of Epithelioma of Long Duration and Beginning in Early Manhood. William Frick, Kansas City, Mo.
Notes on Recent Cases of Extragenital Chancres. L. Duncan Bulkley, New York City.

THURSDAY, JUNE 6—2:30 P. M.

Squamous Erythroderma. Augustus Ravogli, Cincinnati, Ohio.
Phototherapy in Cutaneous Medicine. A Preliminary Communication. William S. Gotthelf, New York City.
Lichen Hypertrophicus. David Lieberthal, Chicago.
Feigned Skin Diseases. George W. Davis, Kansas City, Mo.
Clinical Features of Blastomycetic Dermatitis as Observed in Three Cases by the Author. A. W. Brayton, Indianapolis, Ind.

## New Members.

The following is a list of new members for April:

### ARKANSAS.

Stark, L. R., Little Rock.
Dibrell, E. R., Little Rock.
Richter, Arthur J., Pine Bluff.

### CALIFORNIA.

LeDoux, Jos. Alphonse, Los Angeles.
Church, B. F., Los Angeles.

### CONNECTICUT.

Park, Chas. Edwin, New Haven.
Miles, Henry S., Bridgeport.

### GEORGIA.

Smith, Jefferson Gilbert, McDonough.
McAfee, John C., Macon.

### ILLINOIS.

Newcomb, W. K., Champaign.
Wells, Harry Gideon, Chicago.
Rideout, Wm. J., Freeport.
Williamson, Geo. L., Homer.
Ludewig, Wm. H., Rock Island.
Grinker, Julius, Chicago.
Sims, Jas. M., Crab Orchard.
Jaquith, Walter A., Chicago.
Beam, Wm. O., Moline.
Fair, Jno. F., Freeport.
Beal, Albert M., Moline.
Wood, Chas. M., Chicago.
Morton, John B., Ridgefarm.
Miller, G. E., Hanover.
Hutchins, Linda Krape, Orangeville.
Strobecker, Samuel Martin, Chicago.

### INDIANA.

Etta, Charles, Summitville.
Furniss, H. W., Indianapolis.
Rietz, P. C., Evansville.
Winans, Henry M., Muncie.
Newman, Miles N., Ossian.
Wilson, Hubert W., Michigan City.

### IOWA.

Cole, J. F., Oelwein.
Lewis, Eugene R., Dubuque.
Nims, Chas. H., Cedar Falls.
Hofstetter, Geo., Lyons.
Fairchild, David S., Jr., Clinton.
Embree, Ed., Winterset.
Oliver, A. J., Muscatine.
Wertz, J. B., Marion.
Sartell, Erasmus N., Harper's Ferry.
Walker, H. L., Cedar Rapids.
Grimwood, Walter H., Ft. Madison.
Braunwarth, Emma L., Muscatine.

### KANSAS.

Lowdermilk, R. Claude, Galena.

### KENTUCKY.

Garland, Sherrill J., Louisville.
Johnson, Eugene Yates, Louisville.
Moore, Geo. W., Ashland.

### MAINE.

Lincoln, Jas. Otis, Bath.

### MARYLAND.

McCrae, Thos., Baltimore.
Barrett, H. G., Baltimore.
Cullen, Thos. S., Baltimore.

### MASSACHUSETTS.

Wheeler, Emma H., New Bedford
Comey, Percy P., Worcester.
Goodwin, J. J., Clinton.
Underwood, Geo. B., Gardner.
Parker, Ralph N., Lowell.

### MICHIGAN.

Bockery, M. F., Sagola.
Dewar, John R., Cedar Springs.
Tutton, Henry V., Benton Harbor.
Willis, Geo. H., New Troy.
Sowers, Chas. Newton, Benton Harbor.

### MINNESOTA.

Gillett, Arthur L., St. Paul.
Kelly, R. W., Aitkin.
Lewis, J. M., Minneapolis.
Dampier, C. E., Crookston.
Bettingen, J. W., St. Paul.
Bacon, Russell S., Montevideo.
Wilson, Wm. F., Lake City.
Heise, W. F. C., Winona.
Coulen, B. M. J., Owatonna.
Cool, Daniel M., Faribault.

### MISSOURI.

Stauffer, Wm. H., St. Louis.
Zwart, B. H., Kansas City.
Stapleton, Fielding P., Albany.
Bowline, Benj. F., Bagnell.
Deutsch, Wm. S., St. Louis.

### MISSISSIPPI.

Martin, Edw. Hamilton, Clarksdale.
McElroy, Jas. B., Stovall.

### NEBRASKA.

Peterson, Alfred O., Omaha.
Wood, Ruth M., Lincoln.
Mattice, Richard L., Omaha.

### NEW YORK.

Becker, Edouard Waterbury, Troy.
Jones, David Hughes, New York City.
Otto, Jacob S., Buffalo.
Schmunke, Jno. C., New York City.
Murphy, John, New York City.
Metzger, J. I., New York City.
Carlisle, Robt. Jas., New York City.
Ross, John, New York City.
Jelliffe, Smith Ely, New York City.
Jarecky, Herman, New York City
Probasco, E. B., Glens Falls.
Wells, Jos. E., Brooklyn.
Livingston, Alf. T., Jamestown.

### NEW MEXICO.

Crossen, Francis, Albuquerque.

### NEW JERSEY.

Richardson, Emma Miller, Camden.

### OHIO.

Obrist, J. W., Beaver.
MacMillan, Wade, Cincinnati.
Cadawallader, J. C., Cincinnati.
Phillips, Jas. McIlvaine, Columbus.
Husted, Eugene G., Bearnsville.
Bradford, Wm. N., Canbridge.
Brown, Mark A., Cincinnati.
Gillespie, Paul, Wyoming.

### OKLAHOMA.

Holbrook, Ralph W., Perkins.

### TENNESSEE.

Kane, Elizabeth C., Memphis.
Moore, Alfred, Memphis.
Burke, Robert A., Dyersburg.

### TEXAS.

Hathcock, Alf. L., Palestine.
Ferguson, Aug. D., Emmet.
Stephens, Ernest L., Ft. Worth.
Alexander, C. M., Coleman.
Simpson, Chas. W., Waxahachie.

### PENNSYLVANIA.

Bonebreak, John S., Martinsburg.
Clark, John, Smethport.
Pfaltzgraff, S. K., York.
Bishop, Frederick J., Scranton.
Ravenel, Mazück Porcher, Phila.
Knipe, Reinoehl, Norristown.
Morris, A. F. B., Pittsburg.

### RHODE ISLAND.

Peckham, Frank E., Providence.

### VIRGINIA.

Plecker, W. A., Hampton.
Feild, Edw. Evarard, Norfolk.
Old, H., Norfolk.
Jones, Herman Ewart, Roanoke.

### VERMONT.

Twitchell, Marshall C., Burlington.

### WASHINGTON.

Loe, A. O., Seattle.
Blalock, Nelson G., Walla Walla.

### WISCONSIN.

O'Connor, D. J., Green Bay.
Hewitt, M. R., Milwaukee.
Cutler, John C., Verona.

### Report of Committee on Transportation.

The Committee on Transportation reports that the following rates and time limits have been granted to the American Medical Association, the Military Surgeons of the United States, and the American Academy of Medicine, which meet between May 30 and June 7.

The Western Passenger Association has granted throughout its territory, including Colorado and Wyoming, a one fare plus $2 for the round trip from all points beyond 200 miles of St. Paul; from all points within that radius a fare and a third for the round trip will apply. Tickets will be on sale from points 200 miles and over from St. Paul, May 27 to June 3, inclusive; from points within 200 miles, tickets will be on sale from same date to June 4 inclusive. Returning tickets will be honored from May 29 to June 15, with extension as herein explained, tickets both ways to be used for continuous passage only, in either direction. Form of ticket will be of iron-clad signature form, providing punch description of passenger. Return ticket is to be executed by joint agent at St. Paul upon payment of a 50-cent fee to be used at all points from which the local one-way rate to St. Paul is more than $6. From points within that radius open form of local excursion ticket is to be used. Exchange orders require execution by joint agent. Extension, return limit of ticket sold at points from which local one-fare rate to St. Paul is more than $6, may be extended to leave St. Paul up to and including July 15, 1901, by depositing tickets with joint agent not earlier than May 29 nor later than June 15, and upon payment of execution fee at the time of deposit, all other conditions to remain unchanged. The Committee is trying to secure a stop-off privilege at Milwaukee, June 11-14, for the Neurological Society.

The Central Passenger Association so far has granted a rate of one fare and a third on the certificate plan, but have not decided on date of sale or time limit of ticket. Your Committee is urging the adoption of the time limit granted by the Western Association and a Milwaukee stop-over. Further action in this association will be published in The Journal.

The Southeastern Passenger Association, up to this date, May 4, has come to no decision on the question of rates.

The Trunk Lines Association has granted a rate of one and a third fare on the certificate plan, out-going tickets to be sold May 25 to June 5, inclusive. Tickets must be deposited with railroad special agents at St. Paul promptly on arrival, together with the certificate secured when ticket is purchased; return ticket will be issued not later than June 11 on presentation of certificate duly signed at the meeting by the local transportation committee and special agent of the company upon payment of one-third the regular first-class fare; certificates or return tickets are not transferable; railroad certificate obtained at the time out-going ticket is purchased must invariably be presented for reduction in rate on return ticket. The Committee is urging the adoption by the Trunk Lines Association of the time limit agreed to by the Western Passenger Association. We are also urging the stop-off privilege at Milwaukee June 11-14 and the Trunk Lines Association has submitted this question for final decision to Mr. Eben E. MacLeod, chairman of the Western Passenger Association, for final decision.

The New England Passenger Association has granted a fare and a third for the round trip, certificate plan. Tickets will be on sale May 25 to June 5 inclusive; tickets returning sold on presentation of certificate in proper form not later than June 11; continuous passage over same route is required in all cases. Your Committee is urging upon them the importance and necessity in the interest of the St. Paul Meeting the adoption of the time limit granted by the Western Passenger Association. All rates quoted apply jointly to the meetings of the Military Surgeons of the United States, the American Academy of Medicine and the American Medical Association which are in meeting May 29 to June 7. The Committee hopes to secure the Milwaukee stop-off concession applied for. The Committee will report in each subsequent publication of The Journal.

H. L. E. Johnson, Chairman, Washington, D.C.;
Miles F. Porter, Fort Wayne, Ind.;
I. N. Love, New York City.

## Deaths and Obituaries.

**Samuel G. Dorr, M.D.**, of Buffalo, N. Y., 1875, died at his home in that city, from angina pectoris, April 28, aged 60. He served as a recruiting agent in Livingston County during the Civil War, was prominent in politics for twenty years, and appointed postmaster of Buffalo in 1899. At one time he was an active practitioner in the eastern section.

**William Wallace Welch, M.D.**, Rush Medical College, Chicago, 1846, died from paralysis, April 29, at the Soldiers' Home, Quincy, aged 79. During the Civil War he was surgeon of the 53d Illinois Volunteers, and later Chief of Staff of the Surgeons of the Army of the West. After the war he settled in La Salle and practiced there and in Galesburg.

**Horacio Guzman, M.D.**, University of Pennsylvania, Philadelphia, formerly minister from Nicaragua to the United States, later secretary and acting director of the Bureau of American Republics, an expert Spanish-English and English-Spanish translator, died suddenly in Washington, D.C., April 23, aged about 50 years.

**James A. Summerville, M.D.**, Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1866, a founder of the Menominee River Hospital, Marinette, Wis., died from cerebral meningitis, at the hospital, April 25, aged 60.

**Howard M. Bloch, M.D.**, College of Physicians and Surgeons of San Francisco, 1898, who, after graduation spent eighteen months in special work at Johns Hopkins University, Baltimore, and then went to Berlin for further study and research, died recently in Berlin, after a short illness.

**Percy M. Graham, M.D.**, Jefferson Medical College, Philadelphia, died at his residence in Philadelphia, April 23, aged 40, as a result of an injury to the head received while a student. He had been blind for fifteen years, and with the loss of sight came ill-health, which persisted until his death.

**Irving C. Rosse, M.D.**, University of Maryland, Baltimore, 1866, of Washington, D.C., died there May 3, aged 54. He was an authority in mental diseases, a writer of repute, and surgeon of the U. S. Steamer *Corwin*, on two Polar expeditions.

**Robert W. Greenleaf, M.D.**, Harvard University Medical School, 1885, of Boston, and a member of the American Medical Association, died suddenly at Ipswich, Mass., April 28, aged 46.

**Albert Hare, M.D.**, College of Physicians and Surgeons, Baltimore, 1883, of McKeesport, Pa., died April 26, at Tarentum, Pa., after an illness of a year, aged 45.

**George Matthias Swain, M.D.**, College of Physicians and Surgeons, N. Y., 1870, of Chatham, N. J., died April 26.

**E. L. Gilliam, M.D.**, died recently at Letart, W. Va., aged 60 years.

## Societies.

### COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
North Dakota Medical Society, Fargo, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Laryngological Association, New Haven, Conn., May 27-29, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.

American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.
American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
Oregon State Medical Society, Portland, June 11-12.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 18-20.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

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**Geneva County (Ala.) Medical Society.**—This Society met on April 3, at Geneva, and elected Dr. Alpheus B. Jernigan, Geneva, president.

**Iowa State Medical Association.**—The semi-centennial meeting of this Association will be held in Davenport, May 15-17. Dr. Robert E. Conniff, Sioux City, in the chair.

**Medical Society of New Jersey.**—The State Medical Society will hold its annual meeting at Allenhurst, June 25-27, under the presidency of Dr. John D. McGill, Jersey City.

**New Hampshire Medical Society.**—The one hundred and tenth annual meeting of this Society will be held in Concord, May 16 and 17, President William Thayer Smith, Hanover, in the chair.

**Detroit Physicians' Association.**—Under the new constitution, this Association met April 29 for its annual session, and re-elected Dr. Guy L. Kiefer, president; Dr. Henry L. Obetz, vice-president, and Dr. Walter J. Cree, secretary.

**Michigan State Medical Society.**—The thirty-sixth annual meeting of this Society will be held in Battle Creek, May 15 and 16, under the presidency of Dr. Philo D. Patterson, Charlotte. Headquarters will be at the Post Tavern.

**Golden Belt (Kan.) Medical Society.**—In addition to the announcement of election of officers in the last issue of THE JOURNAL, Dr. Edgar L. Simonton, Wamego, and Enos R. Cheney, Gypsum, were elected vice-presidents of the Society.

**Detroit Medical Society.**—On April 24 the election of officers of this Society took place, with the following result: Dr. Delos L. Parker, president; Dr. F. Lydston Newman, vice-president; Dr. Wadsworth Warren, treasurer, and Dr. Louis J. Goux, secretary.

**Howard County (Md.) Medical Association.**—At a meeting of this Society held at Ellicott City, April 23, Dr. John M. B. Rogers, Ellicott City, was elected president; Dr. W. W. L. Cissell, Highland, vice-president, and Dr. William B. Gambrill, Alberton, secretary-treasurer.

**Belmont County (Ohio) Medical Association.**—The bimonthly meeting of this Society was held at Bellaire, April 24. Dr. John A. Heinlein, Bridgeport, the newly-elected president, was installed, and delegates to the AMERICAN MEDICAL ASSOCIATION were elected.

**Waller County (Texas) Medical Association.**—The physicians of Hempstead, Texas, met April 23 and organized this Association, with the following officers: Dr. James H. Morrison, president; Dr. Thomas T. Erwin, vice-president; Dr. L. Lee Mahan, secretary, and Dr. Cecil W. Le Grand, treasurer.

**Somerset County (N. J.) Medical Society.**—The annual meeting of the Society was held at Somerville, April 25. Dr. William H. Merrell, South Branch, was elected president; Dr. Sewell O. B. Taylor, Millstone, vice-president; Dr. Aaron L. Stillwell, Somerville, secretary, and Dr. John P. Hecht, Somerville, treasurer.

**Indiana State Medical Society.**—The fifty-second annual session of this Society will be held in South Bend, May 15-17, under the presidency of Dr. George W. McCaskey, Fort Wayne. Dr. John A. Wyeth, New York, will deliver an address on "The Making of a Doctor," and the subject of the president's address will be "Physiology the Basis of Clinical Medicine: A Plea for Scientific Methods."

**Illinois State Medical Society.**—The fiftieth anniversary of this Society will be held in Peoria, May 21 to 23, under the presidency of Dr. George N. Kreider. The local committee and the Peoria City Medical Society are making extensive preparations for the entertainment of visitors.

**Macoupin County (Ill.) Medical Association.**—The semi-annual convention of this Society was held at Shipman, last week. Dr. John R. Ash, Brighton, was elected president; Dr. William L. Penniman, Shipman, vice-president, and Dr. J. Palmer Matthews, Carlinville, secretary. The next meeting will be held in Greenfield, in October.

**Berkshire District (Mass.) Medical Society.**—The annual meeting of this Society was held at Pittsfield, April 25, at which Dr. Morgan L. Woodruff was elected president; Dr. Stephen C. Burton, vice-president; Dr. Lawrence C. Swift, secretary; Dr. William L. R. Paddock, treasurer, and Dr. William W. Leavitt, librarian, all of Pittsfield.

**Clark County (Ind.) Medical Society.**—At the meeting of this Society at Jeffersonville, April 23, the following officers were elected: Dr. Harry C. Sharpe, Jeffersouville, president; Dr. Cadwallader Jones, Charlestown, vice-president, and Dr. J. Trueman Davis, Jeffersonville, secretary and treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also chosen.

**Brainard District (Ill.) Medical Society.**—The twenty-fourth annual meeting of this Society was held at Lincoln, April 25. Dr. John R. Barnett, Lincoln, was elected president; Dr. W. P. Walker, Mason City, vice-president; Dr. Katherine Miller, Lincoln, secretary, and Dr. Charles C. Reed, Lincoln, treasurer. The Society will hold its next meeting at Springfield in July.

**Southwest Missouri Medical Association.**—The semi-annual meeting of this organization was held in Springfield April 25. Dr. Hilliard J. Rowe, Willow Springs, was elected president; Dr. Richard W. Paris, Lawrenceburg, vice president; Dr. William P. Patterson, Springfield, corresponding secretary, and Dr. Henry Shuttee, West Plains, treasurer. The next meeting will be held in Joplin, in October.

**American Medico-Psychological Association.**—The fifty-seventh annual meeting of this Association will be held at Milwaukee, June 11-14, under the executive charge of Dr. Peter M. Wise, New York. The sessions will be held at the Hotel Pfister. The annual address is to be delivered by Dr. Warren P. Lombard, of the University of Michigan, on the subject "Reenforcement and Inhibition of Nervous Processes."

**Toronto Clinical Society.**—This Society held the final meeting of the season on May 1. The following officers were elected: President, Dr. James F. W. Ross; vice-president, Dr. Edmund E. King; treasurer, Dr. William H. Pepler; recording secretary, Dr. George Elliott; corresponding secretary, Dr. Arthur A. Small; executive committee, Drs. Herbert J. Hamilton, Henry B. Anderson, William B. Thistle, Herbert A. Bruce and George A. Bingham.

**Association of Military Surgeons of the United States.**—The tenth annual meeting of this Association will be held in St. Paul, Minn., May 30 and 31 and June 1, headquarters being at the Ryan Hotel. Dr. Alexander J. Stone, surgeon-general of Minnesota, will preside. The meetings will be held in the House of Representatives and Senate Chamber. The Central and Western Passenger Associations have made a rate of one fare plus $2 for the round trip.

**Alumni Association of the Medical Department of the University of Buffalo.**—The twenty-sixth annual meeting of this body was held April 27, and the following officers were elected: Dr. Frank H. Moyer, Moscow, president; Drs. Alfred W. Bayliss, Buffalo; Alfred W. Henckell, Rochester; Fridolin Thoma, Buffalo; Henry S. Benham, Honeoye Falls and Jane W. Carroll, Buffalo, vice-presidents; Dr. Thomas H. McKee, Buffalo, secretary, and Dr. Herman K. DeGroat, Buffalo, treasurer.

**Medical and Chirurgical Faculty of Maryland.**—The one hundred and third annual meeting of this body was held at Baltimore, April 23-25, Dr. Samuel Theobald, Baltimore, presiding. The following officers were elected: Dr. J. McPherson Scott, of Hagerstown, president; Drs. Harry Friedenwald, Baltimore, and Dr. Brice W. Goldsborough, Cambridge, vice-presidents; Dr. J. Williams Lord, Baltimore, secretary; Dr. Thomas A. Ashby, Baltimore, treasurer, and Drs. William Osler, John D. Blake, L. McLane Tiffany and H. B. Jacobs, executive committee.

**National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.**—The first annual meet-

ing of this Society, which has for its objects the promotion of the general welfare of all sufferers from epilepsy; the stimulation of the study of the causes and of the methods of cure of this disease; the advocacy of the care of epileptics in institutions where they may receive a common-school education, acquire trades and be treated by the best medical skill for their malady, and rendering assistance to the various states in America in making proper provision for epileptics, will be held in Washington, D.C., May 14 and 15, under the presidency of William Pryor Letchworth, LL.D.

**Charity Hospital of the Louisiana Alumni Association.**—The annual meeting of this body was held in New Orleans April 22-24. Clinics were held by Drs. Charles Chassaignac and Frederick W. Parham on the first day; by Drs. Ernest S. Lewis and P. Emile Archinard the second day, and by Drs. John E. Elliott and Rudolph Matas the third day. Dr. Louis G. LeBeuf, New Orleans, was elected president; Dr. Jackson J. Ayo, Lafourche, vice-president; Dr. William H. Seeman, New Orleans, secretary, and Dr. S. W. Stafford, New Orleans, treasurer.

**Erie County Society for the Prevention of Tuberculosis.**—A meeting of this recently organized Society was held April 25. The following were chosen as directors for one year: Mayor Conrad Diehl, Dr. Ernest Wende, Dr. Lee H. Smith, president of the Society of Natural Sciences, Dr. Mary I. Denton, president of the Investigating Club. Directors for two years: Dr. John H. Pryor, trustee of the New York State Consumptive Hospital, Dr. J. C. Thompson, Rev. Thomas A. Donohue, Dr. Albert H. Briggs and Dr. William G. Bissell. Directors for three years: Dr. Benjamin G. Long, Rev. O. P. Gifford, D.D., Dr. James S. Smith, Dr. Henry Hopkins and Dr. Charles E. Congdon. Officers of the ensuing year were chosen as follows: Dr. Benjamin G. Long, president; Dr. Henry R. Hopkins, vice-president; Dr. William G. Bissell, secretary, and Dr. Albert H. Briggs, treasurer.

**Louisiana State Medical Society.**—The twenty-second annual meeting of this Society was held in New Orleans, April 18 to 20. Dr. Frederick W. Parham, New Orleans, presided. Nearly 100 delegates registered the first day, and 51 applicants were elected to membership. The president, in his address, deplored the transfer of the quarantine station at Dry Tortugas from the U. S. Treasury to the Navy Department, which would mean its transformation from a quarantine and dispensary station to a coaling station. He suggested that the Society enter a vigorous protest against this action. Dr. Luther Sexton, New Orleans, discussed the topic: "Is the Tendency Toward Prescribing Proprietary and Patent Medicines Increasing; and What will be its Final Effect Upon the Professions of Medicine and Pharmacy?" He arraigned physicians for prescribing remedies of unknown formulæ, and druggists for recommending and selling patent medicines. His paper provoked a spirited but one-sided discussion. The Society will hold its next meeting in Shreveport. Dr. T. Edgar Schumpert was elected president and Dr. Isaac M. Callaway, vice-president, both of Shreveport.

**Texas State Medical Association.**—The thirty-third annual meeting of this ASSOCIATION was held in Galveston, April 23 to 26, Dr. Berthold E. Hadra, Dallas, presiding. The committee appointed to present eighteen names to the governor for members of the State Examining Board reported as follows: Dr. Joseph W. Scott, Houston; John H. Evans, Palestine; Thomas J. Bell, Tyler, Don Juan Jenkins, Dwingerfield; J. T. Wilson, Sherman; J. C. Loggins, Ennis; Taylor Hudson, Belton; Richard H. Rush, De Leon; Matthew M. Smith, Austin; John C. Jones, Gonzales; Joseph H. Reuss, Cuero; Frank Paschal, San Antonio; P. C. Coleman, Colorado; Walter Shropshire, Yoakum; Sam R. Burroughs, Buffalo; William R. Blailock, McGregor; Arthur C. Scott, Temple; and Asa B. Gardner, Bellville. Of these the governor will select nine for appointment. The Association decided to adopt as a basis of affiliation of county and district societies, the adoption of the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION; the payment of ten cents a member into the treasury of the state association, and that one delegate to the state association be allowed for societies of fifty or less members; and one additional delegate for each additional fifty members or fraction over thirty. The following officers were elected: Dr. Taylor Hudson, Belton, president; Drs. Samuel C. Red, Houston, James W. Nixon, Gonzales, and William A. Watkins, Kemp, vice-presidents. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The next session will be in El Paso, April 4, 1902. The Association recommended that the AMERICAN MEDICAL ASSOCIATION hold its 1902 session at Houston.

## ASSOCIATION OF AMERICAN PHYSICIANS.

*Sixteenth Annual Meeting, held in Washington, D. C., April 30 and May 1 and 2.*

### Address of President.

DR. WM. H. WELCH, Baltimore, Md., delivered this address, at the opening session, comparing the present conditions in medicine with those at the time of the organization of the Association.

### Peculiar Cardiac Sound.

DR. HOBART AMORY HARE, Philadelphia, in a paper on this subject, described a peculiar sound noted during systole, one inch to the right of the sternum and the same distance to the left of the nipple, on a level with the latter. The sound is somewhat similar to presystolic friction sound and increased by excitement and fear. He considers it evidence of abnormal myocardial action, and finds it often in depression after la grippe. He considers it of value in the diagnosis in the beginning of pulmonary tuberculosis.

### Cardiac Hydrothorax.

DR. ALFRED STENGEL, Philadelphia, in his paper on this subject, considered the causes and clinical features of this condition, especially treating hydrothorax of the right side. He reported his observations on 100 patients suffering with disease of the heart, 17 of whom presented hydrothorax. Of these latter, 5 presented it on the right side and 3 on the left, and at some time during the affection it was bilateral in 9. In 2 it began on the right and was afterward bilateral. He thinks it may be traced to the obliterated lymph channels or venous pressure.

### Aortic Insufficiency.

DR. W. S. THAYER, Baltimore, Md., discussed the Flint murmur in aortic insufficiency, referring to Flint's first description of this murmur in 1862, as presystolic and confined to the apex. From his observations on patients presenting the murmur in the Johns Hopkins Hospital, he has found that since May 1889, 74 cases with aortic insufficiency were noted postmortem, and the history shows that at some period in their illness, in 45, the rumbling murmur was confined to the area of the apex. Mitral stenosis was noted in connection with aortic insufficiency in 12 of the 45; 33 of 58 cases of aortic insufficiency presented the Flint murmur, and no abnormality could be detected in the mitral valve in 17 of the 33. His observations on the physical signs in 22 patients presenting mitral stenosis without complications show that the aortic thrill was present in 54.5 per cent., a sharp "snappy" first sound in 68 per cent., and in 81 per cent. of presystolic murmur. Acute rheumatism or chorea existed in 13 of the 33 patients who gave the Flint murmur, and in more than 50 per cent. arteriosclerosis was clinically shown.

### Cardiac Degeneration.

DR. BEVERLEY ROBINSON, New York City, considered chronic myocarditis and fatty degeneration of the heart, believing that the differentiation of these two conditions is usually difficult. He enumerated the symptoms of cardiac weakness. He considers intestinal antiseptics of value. Where there are attacks of dizziness, the etiology is not understood, and the pulse is weak, missing occasional beats, the commencement of fatty degeneration is perhaps indicated and iron and arsenic are of use, also strophanthus and strychnia. He treated the etiology in detail, for example obesity, gout, syphilis, senility, mental strain, etc., all of which he considers as factors. The changes may be fibrous instead of fatty in the senile, and there may be hypertrophic dilatation, while we are quite likely to have thickened and tortuous arteries, with urine of low specific gravity, diminished in amount, but not containing sugar or albumin.

### Pernicious Anemia.

DR. F. P. HENRY, Philadelphia, at the last year's meeting of the Association, presented his observations on a number of cases of this affection and this year reported thereon. He thinks it is unnecessary to consider megaloblasts pathognomonic. In addition to the blood findings in the diagnosis, we should rely on general signs and symptoms. He says, too, that

as the nucleated cells are found in other conditions, they do not mean the presence of pernicious anemia only.

DR. FRANK BILLINGS, Chicago, presented charts showing the progress made by a number of patients suffering with pernicious anemia, reported by him last year; 10 of the 20 patients died during the year and 4 are still under observation. He pointed out that a large number of nucleated red cells appear with marked decline in the patient's condition, though there have been a few exceptions to this. He also cited a case where the patient developed the typical lesions of the spinal cord previously observed by others in pernicious anemia.

### Splenic Miliary Tuberculosis.

DR. D. B. STEWART, Philadelphia, reported a case of acute splenic miliary tuberculosis in a nurse, who, fatigued from caring for a typhoid patient, acquired la grippe and then nursed a tubercular patient before completely recovered from la grippe. The condition originated in the spleen and the patient lived sixty-eight days, dying of generalized miliary tuberculosis, the spleen being markedly involved.

### Cyst of the Omentum.

DR. A. JACOBI, New York City, presented a cyst of the omentum removed from a child of 2 years. The condition was at first believed to be tuberculosis of the peritoneum, and success followed repeated tappings of the abdomen for a year, the tumor recurring, and then disappearing after each tapping.

### Lead Poisoning.

DR. ALFRED STENGEL, Philadelphia, considered the degenerative type of red blood-corpuscles found in lead poisoning. He views it as a granular degeneration, which can be detected by its reaction in the presence of certain basic aniline dyes, for instance, thionin. The granules are round or club-shaped and may be seen in normal red corpuscles or in those of irregular shape. They may be distributed in clumps and be as large as eosinophile granules. He does not find them in freshly drawn blood and does not consider them mitotic remains of nuclei. They are always present where lead poisoning is well evidenced, and are larger the more severe the case.

### Neurasthenia and Melancholia.

DR. M. ALLEN STARR, New York City, discussed the toxic origin of these affections, classifying them as four types: 1. Where anxiety and worry are the cause. 2. Those where overexertion is the principal factor. 3. Those with neuronic evidences of beginning degeneration. 4. Those in which the etiology is toxic. In the latter type there is headache, irritability, lack of concentration, regurgitation, eructation, constipation, etc. The patient feels better from noon until 9 p. m., and then awakens at 4 a. m. with depression, which remains with him through the morning, this cycle repeating itself over and over. He associates this with gastro-intestinal absorption and hence ascribes a toxic etiology. He follows out a digestive and eliminative treatment with calomel freely repeated in 1 10 grain doses, combined with podophyllin in 1/4 grain doses, Carlsbad salts and salicylate of sodium at breakfast. He also sees to intestinal antisepsis, baths, massage and rest.

*(To be Continued.)*

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## CHICAGO MEDICAL AND CHICAGO NEUROLOGICAL SOCIETIES.

*Joint Meeting held April 5.*

The president of the Neurological Society, Dr. Hugh T. Patrick, in the chair.

The subject for discussion was "Epilepsy."

### Epilepsy: Its Definition, Pathology and Symptomatology.

DR. ELBERT WING read a paper on this subject, saying: The definitions found in the literature of this subject are of two classes. Those in one do not define anything, but are mere generalized statements applicable to several diseases and of no value. The others are carefully worded, exact definitions. Examples of the first class are: "Epilepsy is a sudden, rapid, excessive, occasional and local discharge of the cerebral cortex." "It is a syndrome of nervous and mental symptoms appearing under a variety of pathological states." The best representative of the other class is that of Gowers: "The term epilepsy is applied to a disease in which there are convulsions of a certain type, or sudden loss or impairment of consciousness, but in which the convulsions are not due to active brain disease, to reflex irritation, or to abnormal blood states, and in which isolated loss of consciousness is not due to primary failure of the heart's action." In their discussion of the subject, all writers practically accept the conditions of Gowers' definition, and it may be affirmed: 1. That impairment or loss of consciousness is the fundamental phenomenon in a paroxysm of epilepsy. 2. That convulsions of a purposeless type may or may not accompany the disturbance of consciousness. 3. These phenomena must not be due to active brain disease, blood states, reflex irritation or primary failure of heart's action; that is to say, it is possible to distinguish attacks of idiopathic epilepsy from attacks which closely simulate epilepsy, but which occur in connection with other diseases

### Diagnosis and Variations of Epilepsy.

DR. HAROLD N. MOYER spoke of the "Diagnosis and Variations of Epilepsy as Ordinarily Recognized." Epilepsy is easily identified when the convulsive attacks are typical. Unfortunately, the family physician often, and the consultant almost invariably, relies on the descriptions of lay people for the sequence of events in the seizure. Epilepsy is a symptom-complex, but unlike chorea and other symptomatic disorders of the nervous system, any of the features which make up the attack, may be absent in a particular case. The definition of epilepsy by Donath seems to be as satisfactory as any so far proposed: "An abnormal excitement of the cerebral cortex which increases suddenly, is periodical in its manifestations, has a typical course and disappears rapidly. Whether the attack occurs without unconsciousness and amnesia, depends upon the strength and extent of the irritation." He thinks the ordinary classifications of grand mal and petit mal are provisional only as they relate to the severity of the convulsions, the one type shading into the other, but such a definition is useful. A lapse of consciousness is the most constant feature in an epileptic seizure, but it may be absent even in cases which are characterized by convulsions, though the latter is very rare. In petit mal the loss of consciousness is very slight, or may not occur at all. Jacksonian epilepsy is commonly understood to mean those attacks which begin in a limited area of the cortex and extend by continuity. Sometimes the convulsions become general with a loss of consciousness, but more frequently they are only partial.

In conclusion, emphasis was laid on the importance of the early recognition of epilepsy. In too many instances the family physician shrinks from the diagnosis and not infrequently the family is advised that a single convulsion, even though it have all the epileptic characters, is due to a disturbance of the stomach, or constipation or other trivial cause, or, if it occur in a child, that the condition will be outgrown. This leads to a false sense of security and a failure of early treatment in this disease, when it is curable.

### Hereditary, Mental and Allied States, Including Psychical Epilepsy.

DR. SANGER BROWN read a paper on this topic. He thinks suddenness and violence of phenomena in epilepsy are suggestive of chemical reaction. Therapeutic measures founded on the theory that the disease is due to an excess of diminution of this or that organic substance in the economy have been disappointing. Heredity may be divided into similar and dissimilar: similar implies the existence of epilepsy in ascendents, while dissimilar heredity refers to such ancestral diseases as insanity and imbecility. Authors do not agree as to what diseases should be included in the list of dissimilar hereditary influences. Some include tuberculosis, migraine and hysteria. All agree that insanity and imbecility are by far the most important factors. Accepting the latter limitation, Gowers finds either similar or dissimilar heredity in 35 per cent. of all cases, and of these two-thirds are similar, and one-third dissimilar, with a slight preponderance of females. Similar heredity is more often transmitted through the mother, and the heritage prefers the sex of the parent from which it was derived. That

the disease is due largely to an inherited defect of the nerve elements, rendering them unduly stable, and conformably the fact that a majority of all hereditary cases begin during the same period, would be expected when the instability of the nervous system during childhood, youth and adolescence is remembered. The author's experience neither confirms nor contradicts the statement that cases of hereditary epilepsy are more amenable to treatment than those devoid of that feature.

The psychic or mental manifestations were divided into those momentarily preceding or terminating in other phenomena, or those extending over a period ranging from a few minutes to a few days prior to the seizure or seizures, those which alone comprise the individual attack, and those which are the result of the fits either momentarily or remotely, and finally, a class of cases in which the mental disorder is of such a nature that it might be more properly regarded as an association with rather an expression of epilepsy Of the first class, the most common are those which momentarily precede the fit, and fairly constitute the mental or psychic aura. To mention these in the order of their frequency, those cases come first in which a familiar environment seems strange, and next those in which the surroundings seem a repetition or at least peculiarly familiar.

### Treatment of Epilepsy.

Dr. Daniel R. Brower, discussing this phase of the subject, said the prophylaxis of epilepsy demands much more attention than it ordinarily received. A convulsion in the infancy of a child of neurotic inheritance is often the first manifestation of an epileptic tendency, and deserves serious attention. Children of this tendency should be relieved from severe nervous and mental strains. They should be kept from the use of alcoholics, opiates, coffee, tea and tobacco in early age and adolescence, and from sexual irregularities and excesses. Phimosis, errors in vision, diseases or deformities of the upper air-passages, or any other abnormality may demand attention and correction. The question of occupation is an important one, and parents must sacrifice their ambitions for such children in order to secure their bodily and mental welfare. The prophylaxis of post-traumatic epilepsy requires the prompt and judicious treatment of every head injury. The speaker discussed the prevention of individual seizures, treatment during an attack, and the care and treatment between the seizures. Hydrotherapy is an important aid to treatment. A vigorously active skin means a more perfect elimination of toxins. A tepid bath with an abundance of soap is ordered twice a week; temperature 125 F., and a cold douche of an average temperature of 75 degrees daily, to be followed by vigorous friction. Cerebral galvanization is of value. Large electrodes should be used, and a current strength of from one to three milliamperes, and daily if possible. Two steps in this cerebral galvanization are: 1, the current is passed longitudinally, the positive over the forehead, and the negative over the nucha; and 2, from temple to temple; the séance should last about ten minutes. Some form of gymnastics should be ordered for the great majority of cases. The bromids still hold the first rank in the treatment. They must be used with proper precautions, and bromism avoided. They must be used for a long time. No patient can be called cured until the seizures have been stopped for at least five years. Their curative action requires the production of their full physiologic action, but not their toxic. He rarely exceeds one dram (4.00) a day, and is of the opinion that one dram and a half (6.00) should not be exceeded in any case. A serious objection on the part of some patients to the use of the bromids is the acne which they produce, a result that depends less on the dose than on the idiosyncrasy of the patient. Taking the mixture with a very large amount of alkalinized water diminishes the amount of it, as does also the addition of liquor sodii arsenatis in from three to five minims (0.20 to 0.30) to each dose. The arsenic, by its alterative and tonic qualities, aids the cure. In ordinary cases the iodid of sodium should be given in five grains (0.30) three times a day in the bromid mixture. In the syphilitic cases it should be given in the largest dose that is possible. When the moderate doses of the bromids fail to stop the seizures, he advises a dose of grs. x to grs. xx of chloral at bedtime, often with benefit. Acetanilid is synergistic to the bromids, and when administered in grs ii to v, three times a day, will sometimes be of service. The opium-bromid treatment has not been satisfactory in his hands. Glonoin and the nitrite of sodium are valuable remedies against the petit mal attacks, when given in conjunction with the bromids. The best intestinal antiseptics are salol, salicylate of bismuth and guaiacol carbonate. As to tonics, strychnin, arsenic, hypophosphites, phosphoric acid and iron are at all times of service. He gives iron, preferably the bromid, in half grain doses three times a day, whenever the hemoglobinometer indicates it, and then it is of great value. The results that have followed cervical sympathectomy, oöphorectomy, ligating the vertebral arteries, and the carotid arteries, have not been such as to justify advising them. If epilepsy is essentially a disease of the cell bodies, of cortical neurons, and a proliferation of the neuroglia, then all such operations are unscientific.

The colony system is the highest ideal for the treatment of these unfortunates. The proof of this is overwhelming in results obtained both at home and abroad.

Dr. Maximilian Herzog spoke on the general pathology and special histopathology of epilepsy, rehearsing the various theories and hypotheses that have been advanced relative to this affection.

Dr. Sydney Kuh said he tried the withdrawal of salt, which in Dr. Brower's hand gave such good results, and his results were absolutely negative. The same is true of adonis vernalis. He has tried them both in a number of cases in this way: He has given the bromids when the bromid treatment alone was unsuccessful and added the adonis vernalis to it, and there was not a single case in which the addition of adonis vernalis yielded better results than the bromids alone would have done. He agrees with Dr. Brower as to the combination opium-bromid treatment. In some cases this combination yields favorable results for a short time, but whether they are not due to the psychic factor more than anything else is doubtful. For some years he has in every case in which the use of bromid was indicated, employed the bromid of strontium, and after an experience comprising hundreds of cases in which this drug was given, he feels that it has certain advantages over the bromid of sodium, bromid of potassium, bromid of ammonium, or a combination of these three. The bromid of strontium has not the same tendency to produce irritation of the gastro-intestinal tract that all the other salts have, more or less. In cases of neurasthenia, with nervous dyspepsia and loss of appetite, he has frequently seen a pronounced increase of appetite after the administration of small doses of bromid of strontium. It is much less liable to produce acne than other forms of the bromid.

The continued use of large doses of the bromids have a tendency to produce mental impairment. Frequent epileptic seizures almost invariably lead to terminal dementia sooner or later. The surgical treatment of epilepsy has been unsatisfactory, and a good many cases are being operated on that should not be.

Dr. Jacob Frank spoke briefly on the surgical aspects of epilepsy. Eleven years ago he presented a series of cases of Jacksonian epilepsy before the Society, after operations, and at that time remarked that operations for epilepsy would never become popular, for the reason that if patients recovered from the surgical operations, they would still be unfit to discharge their duties as business men or as men earning livelihoods. If a surgeon undertakes an operation for the relief of epilepsy, his duty should not end by merely opening the skull and the dura, but the brain should be explored. He cited a case in which he believes that if the surgeon had explored the brain at the time he operated the patient would have recovered.

Dr. Henry Gradle dwelt on reflex epilepsy of peripheral origin, and mentioned two or three interesting cases.

Dr. Frederick Leusman narrated the case of a young man, a confirmed masturbator, in whom epilepsy developed, complicated by hemorrhoids. The hemorrhoids were removed, and the vena dorsalis penis exsected for about an inch on each side, with the result of cessation of the epileptic seizures.

Dr. L. Harrison Mettler emphasized the importance of making, if possible, an early diagnosis. Recently he saw a

statement, from one of the highest and latest authorities, that a diagnosis of epilepsy could not be made on the first or a single attack. There is no doubt that in some cases it is impossible to make an early diagnosis of epilepsy, for the reason that it so closely simulates in some respects hysteria, uremic convulsions and other manifestations. In making an early diagnosis of epilepsy physicians should be extremely careful about expressing their opinions to the relatives of patients until a more positive history can be had, preceding the first attack.

DR. JULIUS GRINKER alluded to the prevention of marriages among epileptics. Although it is not known that epilepsy is transmitted directly from father to offspring, yet investigations have shown that hysteria, insanity, and other mental defects are found in idiopathic epileptics. It is not possible that an epileptic may produce another epileptic? Epileptics who have married have become much worse as a result of their marital relations. A woman, whom he treated some years ago with the bromids, for epilepsy, and who was able to stave off the attacks for months, got married, shortly after which the attacks returned three times a week. She finally consulted him as to whether or not marriage was to blame for the recurrence of the seizures, and he replied in the affirmative. In two cases he had substituted borax for the bromids with beneficial results. Inasmuch as most epileptics are benefited by bromids, the cases in which he had an opportunity to try the opium and borax treatment were naturally few, and this explains in a measure why Dr. Brower only tried this treatment in a few cases with unsatisfactory results. He would suggest that it be not entirely condemned in a disease like epilepsy, in which so little can be accomplished with any kind of treatment.

## WILLS' HOSPITAL OPHTHALMIC SOCIETY.

*Meeting held in Philadelphia.*

Dr. P. N. K. Sonwenk in the chair.

### Primary Sarcoma of the Iris.

DR. CONRAD BERENS presented a case illustrating the secondary stage of primary sarcoma of the iris. The patient, a young man, who was free from any symptoms and obtainable history of syphilis or tuberculosis, first noticed the affection some three years previously. Imbedded in a partially degenerate and comparatively uninflamed iris-tissue were five irregular tumor masses, over and through which some fine vessel ramifications could be plainly seen. The plane of the iris was pushed forward. The pupillary area, which was slightly distorted, contained some meshes of glistening lymph. The crystalline lens occupied its normal position. No view of the fundus could be obtained. Intra-ocular tension was increased to plus two. There was no ciliary tenderness. Based upon these findings and the fact that the therapeutic tests for syphilis and tuberculosis had been unsuccessfully applied, Dr. Berens felt certain of the diagnosis, and believed that it would be proven after enucleation.

DR. FRANK FISHER tended to the opinion that there might be an iridocyclitic element in the case.

DR. WILLIAM W. MCCLURE agreed in the diagnosis, giving a number of differential points between the one almost certain and the other possible processes.

DR. CHARLES A. OLIVER, while fully agreeing in the etiology of the condition was disposed to place the main bulk of the growth in the ciliary body.

### Embolism of the Central Retinal Artery.

DR. FRANK FISHER exhibited a series of water-color sketches of several stages of a case of embolism of the central retinal artery. The patient, a young subject with a mitral murmur, gave the usual history of sudden blindness. Besides the characteristic eyeground of the affection, all of the main retinal blood-currents, both arterial and venous, were found to be interruptedly flowing in their proper directions; the curious fact being that the venous currents were traveling with twice the rapidity of the arterial.

DR. W. W. MCCLURE stated that he had had the opportunity to see two cases in their very earliest stages. One of the early changes he had found consists in a lead-tinted area bounded upon its superior and inferior borders by two fine vascular twigs that are not ordinarily observable, giving the area of infiltration a caudate form. The second of his cases, which but partially closed the arteries, showed broken blood currents in the two principal veins running in the direction of that which is pursued by the ordinarily contained blood.

DR. SCHWENK had seen six clinical cases of central retinal artery embolism, one of which occurred in Dr. Harlan's service at the hospital, and showed the vascular beadings. His experience had been that vision seldom if ever returns in the pronounced type of the disorder.

DR. CHARLES A. OLIVER was greatly interested in the double rapidity of the venous current seen in Dr. Fisher's case, and spoke of the difference between trophic and functional disturbances found in these cases, drawing attention to the two forms of vascular circulation in the human retina. He made mention of the possibilities of endarteritis, vessel spasm and thrombus in such cases, and did not deem a differential clinical diagnosis as entirely certain in every instance as the several conditions might be coexistent.

DR. WALTER L. PYLE called attention to several cases in ophthalmic literature, in which, although there was complete embolism of the central artery, a small sector in the field of vision was preserved; ophthalmoscopic examination showing a cilioretinal artery supplying the corresponding retinal area.

DR. FISHER did not believe that there was any collateral retinal circulation. He considered the most remarkable feature in his case to be the visibility of both the arterial and the venous circulation in the retina at the same time. He deemed prognosis as to vision doubtful when an embolism is situated within the retina, as it is not likely to undergo absorption in such a position.

### Successful Extraction of Manganese Steel from the Crystalline Lens.

DR. P. N. K. SCHWENK showed a 45-year-old man in whom he had successfully removed a piece of manganese steel from the left lens. The points of interest in his case consisted in the facts that the form of steel imbedded in the lens substance was but feebly attracted by the magnet, and that much of the lens matter, which had appeared transparent at the time of the removal of the foreign body, afterward became opaque and greatly swollen.

DR. MCCLURE gave the details of a case of steel in the lens in which, before making the corneal section with a von Graefe knife, he created a path or track through the lens fibers with a Hay's needle, for the escape of the foreign body. After this was done it was but necessary to bring a magnet tip to within two inches of the external wound, the foreign body fairly leaping out of the eye through its open pathway. The lens mass was then expressed without any trouble. Recovery was uneventful, a corrected vision of two-thirds of normal being later obtained.

### Removal of Congenital Cataract.

DR. C. A. OLIVER exhibited a 9-year-old Hungarian boy, from whom he had successfully removed two congenitally opaque lenses by free discission, obtaining a corrected vision of normal in each eye. The case was of interest as showing the good effects of diametrically opposed forms of treatment in the two eyes, necessitated by an attack of secondary glaucoma from stoppage of lymph flow caused by a blocking of the pupillary area. He did not consider such a complication of any great moment in the young, otherwise healthy, eye as it rapidly subsided under appropriate treatment without any damage to the organ.

DR. SCHWENK presented a case of congenital cataract in a white male 30 years of age, the interesting point being that three brothers were similarly affected, while three sisters had normal eyes. Ten days previous, a free discission of the right lens was done. The lens rapidly swelled and several opaque pieces of lens matter fell into the anterior chamber. One week later, although intra-ocular tension was normal and the eye was quiet, much of the remaining lens material was extruded by means of a grooved spud. At present the eye is practically well.

### The Immediate Result of Mules' Operation.

DR. C. A. OLIVER showed the immediate results of a Mules' operation in a case of panophthalmitis. The patient was a 23-year-old sailor who had lost his eye about a year previously from gonorrheal infection. As a large area of the sclerotic coat at the upper corneal limbus was softened and infiltrated, he took advantage of excising this part while converting the circular corneal area into a lozenge of sufficient size to admit the placing of the glass ball into the scleral cavity. In less than five days, without any reaction, the conjunctival sac was clean and the eyeball freely mobile. In accordance with a suggestion from the senior resident surgeon of the hospital, he had most successfully employed pressure bandages instead of the usual iced compresses. He will order a properly adapted artificial eye for the patient as soon as the socket becomes fixed in size.

## PHILADELPHIA PATHOLOGICAL SOCIETY.

Dr. Frederick S. Packard in the chair.

### Cerebellar Lesions.

DR. WM. G. SPILLER read a paper entitled "Cerebellar Lesions without Cerebellar Symptoms." The first specimen presented had been found at autopsy by Dr. W. S. Wadsworth, in the case of a man who had not presented any physical ailment. The man had been found in an unconscious condition, death following later. On examination the left vertebral artery was found to be smaller than the right, and there was considerable sclerosis of the left cerebral hemisphere.

Specimen No. 2, presented to him by Dr. W. E. Robertson, was from a woman 39 years of age, who had been addicted to alcohol. The patient was the mother of four children. She had for a long period complained of severe pain at the base of the brain which was always worse after each confinement. After the last labor the pain became more severe. In this case there had been some renal insufficiency. Her death had been sudden. At the autopsy the brain had been found congested and a tumor was present at the base of the brain, a portion of the growth extending into the fourth ventricle. The upper portion of the growth was cystic. She had never suffered from vertigo. The third specimen was from a patient 62 years old. During life the mind had been clear. Death was due to exhaustion. At the autopsy a tumor of the corpora quadrigemina was found.

DR. W. E. ROBERTSON, in discussing the second specimen, stated that the patient had suffered from albuminuria, and that she probably had marked nephritis. The eye-ground had never been examined.

DR. D. J. M. MCCARTHY said that he is studying a specimen of brain presented to him by Dr. S. Weir Mitchell. He has found a cystic glioma which involved the superior and inferior vermis without having produced any cerebellar symptoms.

### Malignant Endocarditis.

DR. D. L. EDSALL presented specimens from a case of "Malignant Endocarditis." The patient was a girl of 18 years of age, and in whom the diagnosis was difficult. When admitted to the hospital she had considerable fever, tremor of the hands and cyanosis. The thyroid gland was considerably enlarged. She had been taking thyroid extract for some time, and it was at first thought that some of the symptoms might be due to thyroidism. Stenosis with regurgitation was present at the mitral leaflets. Some time later the blood was examined and showed the leukocytes to range between 7000 and 26,500. The cardiac dulness was continuous with the splenic dulness, and in the latter region pain was present. Blood had been taken from a vein and cultures showed streptococci, etc. At the autopsy the heart was found enlarged, and the pericardium adherent. On the mitral leaflets vegetations were present giving rise to almost complete obstruction. The kidneys and spleen showed infarcts, and a septic thrombus of the femoral vein was found.

DR. ALBERT WOLDERT spoke of a case of endocarditis occurring in his clinic at the St. Joseph's Hospital, the patient a girl of 9 years. On examining the heart a loud and rough systolic sound was heard. There had been slight inflammation in one ankle and one knee which had subsided within a few days. Afterward high and irregular fever with sweating and chilly sensations came on, and anemia was profound. In many respects it resembled a case of malignant endocarditis, but the child recovered, which argued against this view.

DR. W. E. ROBERTSON spoke of a case of endocarditis affecting the pulmonary valves, and in which the typhoid state had been present.

### Melanotic Sarcoma.

DR. M. B. HARTZELL presented specimens of "Pigmented Epithelioma or Alveolar Melanotic Sarcoma." The tumor had been removed from the eyelid of a patient about 40 years of age. The growth was about the size of a pea and slightly ulcerated. It first appeared about 4 years ago, and at that time resembled a freckle. The neoplasm was composed of large cells with round or oval nuclei, the cells of which were arranged in an alveolar shape. A few giant cells could also be found. These growths probably belong to the epitheliomata, and are apt to lead to metastasis.

### Sarcoma of Lung.

DR. NEWLIN presented a specimen of sarcoma of the lung. The patient had been under the charge of Dr. Arthur V. Meigs, of the Pennsylvania Hospital. In 1896 the man had been operated on for a tumor located in the scapular region. Another operation became necessary a year later. In 1899 the left arm, scapula, and clavicle were removed. In February, 1901, another operation was performed, but some time later he suffered from hemorrhages and death occurred. At the autopsy a fibrous, whitish tumor was found in the right lung, which showed consolidation. The pleura on this side was adherent. The aortic valves were thickened. Numerous fibrous nodules were found in the spleen. The mesenteric glands were infiltrated. The capillaries of the liver were dilated. The tumor was for the most part made up of spindle cells.

### Sections of Blood-Vessels.

DR. ARTHUR V. MEIGS exhibited "Sections of Blood-vessels." The speaker stated that he had frequently had trouble in obtaining clear-cut sections of blood-vessels on account of the shrinking which always occurred postmortem. This change would also produce more or less twisting of the nuclei. In order to overcome this he has made a series of glass tubes the size of the blood-vessels, which can be inserted inside the vessels, while they are being hardened. After being imbedded complete and smooth sections can be made. By this method all the different coats of the arteries and their relations can be accurately studied.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Dr. W. L. Stowell, chairman.

### Pathology of Typhoid Fever.

DR. MARTHA WOLLSTEIN briefly discussed this subject. She said that while water is the most frequent means of conveying typhoid bacilli into the human organism, milk plays a not unimportant part in children, and air conveyance is recognized by Osler as explaining certain epidemics. There is abundant evidence that the typhoid bacilli pass through the placenta and infect the fetus. The bacilli have also been found in the rose spots constituting the typhoid eruption, and in the urine in 25 per cent. of the cases examined in this way during the third week of the disease. For convenience, she divided the intestinal lesions found in children into the three following classes: 1, cases without characteristic intestinal lesions; 2, cases exhibiting few and limited lesions, and 3, cases presenting as deep and as extensive intestinal lesions as in the severest ones in adults. The number of red blood-corpuscles diminishes steadily until convalescence begins.

### Value of the Widal Reaction.

DR. JOHN LOVETT MORSE, Boston, read a paper on this subject. He said that in 253 cases observed at the Boston City

Hospital, having a clinical diagnosis of typhoid fever, this reaction has been absent in only ten, thus giving 4 per cent. of failures. A dilution of one in ten has been employed in these examinations, and the time limit imposed was half an hour. He concluded that the Widal reaction was present in at least 95 per cent. of all cases, but seldom present before the second week of fever. Repeated negative tests were not sufficient to exclude typhoid fever, but a negative reaction followed by a positive reaction, using a dilution of one in fifty, is the strongest possible proof of the existence of typhoid. In a series of 164 cases of typhoid fever in children, this reaction has beeen positive in 77 cases. As a general rule, it is obtained rather earlier in children than in adults, and is weaker and more evanescent the younger the subject. The evidence of typhoid afforded by the reaction in early infancy is not quite as conclusive as in later life, because of the possibility of an infection *in utero*. It has been demonstrated that the agglutinating power is transmitted through the mother's milk, even after very long periods, but when so conveyed it soon disappears from the infant's blood.

DR. W. P. NORTHRUP reported an interesting case of an infant of 9 months in whom the Widal reaction was absent, although the case was clinically one of typhoid, and two or three other members of the same family were at that time in the hospital with undoubted typhoid, as shown by the clinical symptoms and by the presence of the Widal reaction. The speaker also commented on the fact that in many years of service among thousands of children in the New York Foundling Hospital, where the conditions are such as to be favorable to the introduction of typhoid in connection with children "farmed" out, he and the other attending physicians have not met with one undoubted case of typhoid fever among these children.

DR. E. LIBMAN said that an extensive experience with this reaction in both children and adults has demonstrated its great diagnostic value in cases simulating pneumonia and meningitis.

*Meeting held April 4.*

Dr. George L. Peabody, vice-president, in the chair.

**The Duty of the Public to the Medical Profession.**

DR. D. B. ST. JOHN ROOSA pointed out the many achievements of medical science in the nineteenth century as a reason for the public taking an interest in the work of the medical profession.

DR. WILLIAM H. THOMSON thought the public's lack of appreciation partly due to the erroneous belief that the practice of medicine is only a trade, and the medical profession a close, selfish and jealous corporation. He pleaded for the introduction into all our high schools, of instruction in the elements of anatomy and physiology in order that educated people may be able to appreciate at their true value the absurd claims of osteopaths, "Christian Scientists" and quacks in general.

DR. ANDREW H. SMITH enlarged upon this line of thought, averring that the medical profession is largely responsible for the gullibility of the public in all things medical, by failing to disseminate popular information regarding what the science of medicine has actually accomplished and is constantly doing. The world at large has a right to know these things, and it is our duty to tell them in language which they can understand. A more frank and open course would inspire confidence and silence criticism, now too often made because of ignorance.

DR. A. JACOBI said that the public is sufficiently appreciative of what it understood or thought it understood, and that physicians as a class are too apt to become so engrossed in their business as to neglect their duties as citizens.

## MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

*Sixty-eighth Annual Meeting, held in Nashville, April 9, 10, and 11.*

**Address of President.**

DR. J. A. CROOK, in his Presidential Address, stated that the state society was chartered by a special act of the legislature of Tennessee on Jan. 9, 1830, and held its first meeting in Nashville the first Monday in May, 1830. From these beginnings he said there are at present about thirteen hundred regular medical societies in the United States alone. If he were asked what, in the last century, has contributed most to the enlargement and extension of medical knowledge, and has been the most potent factor in promoting its far-reaching benefits, he should unhesitatingly answer, the medical society, by the stimulus it has given its members to put forth great efforts toward scientific research. The physician learns and advances in his profession in three ways: By reading textbooks and medical journals; by his own personal experience and by observation, and by the experience of his brothers as related in medical societies. Personal contact carries with it the privilege of asking questions, witnessing demonstrations, and becoming thoroughly familiar with the subjects under discussion. Attendance on societies broadens one's ideas and views, prevents one from falling into old ruts, and gives him a higher and nobler view of his calling. The interchange of ideas quickens perceptions, awakens mental activities and brings out the best there is in us. The champion of a new faith or a new discovery must stand in front of the torch-light of past experience and present knowledge; he must endure unflinchingly the scalpel of interrogation, suffer calmly the probe of criticism, and when the ordeal is over and he has had the opportunity of defending his position, his wounds may be closed with the stitches of apology, and they will usually heal by first intention. Many a bump of self-esteem that would enlarge to the dignity of a cyst, if its owner stayed at home, is punctured readily enough with the bistoury of an exploratory question, in the amphitheater of the medical society.

This is an age of organization and progress, and if the medical profession would keep pace with others and reach the highest destiny, it must combine forces and intellects and strive to reach a common and definite aim. Instead of having four or five hundred names on the roll in Tennessee, there ought to be two thousand, and this result will be obtained when the public is given to understand that the status of the physician is fixed by his profession, and that to be an active member in his own county and state medical societies, as well as the AMERICAN MEDICAL ASSOCIATION, at least is not only an honorable distinction which no one can afford to disregard, but likewise an imperative duty which he owes to his profession; when, in short, the public shall have been given to understand that membership and active participation in medical societies is a much better criterion of professional fitness and eminence than loafing in the back-room of drugstores and relating wonderful professional achievements to the habitues of such places, then will the medical profession be regarded with a respect it has never hitherto received. And when doctors find that membership in medical societies is regarded as an index of higher professional attainments and a greater devotion to the welfare of humanity than anything else, just that soon will the question of organization be settled, and instead of the officers of medical societies being obliged to beg and implore physicians to join and take an active part in such organizations, they will be only too glad to enroll their names in order to secure the honor and prestige connected with such membership.

The ablest and most renowned men in the profession—the men who have given honor and dignity to their special calling, have ever been those who have most regularly attended the medical societies.

Another way in which the medical societies have been of value to the public is in raising the standard of medical education. Through their efforts nearly every medical college in the United States has raised the requirements for admission to a higher plane, and those for graduation to attendance on four years' course of lectures. Thus the public is assured of a more cultured, better educated and better competent class of physicians as the years roll on.

Finally, in order for the Tennessee State Medical Society to accomplish its best results and secure its greatest influence, a medical society should be organized in every county in the state, to which should belong every regular practitioner in that county. Every regular physician in the state should be interested in the general welfare of the profession, and every county society should be brought into a close relation with the state organization. To obtain recognition for its demands, the

society must increase its membership until all regular physicians are connected with it. It should then make its influence felt in all that pertains to the public welfare, and act as a unit in all matters that tend to accomplish the objects for which it was organized.

The following officers were elected for the ensuing year: President, Dr. Deering J. Roberts, Nashville; vice-president for East Tennessee, Dr. William B. St. John, Bristol; vice-president for West Tennessee, Dr. L. A. Yarborough, Covington; vice-president for Middle Tennessee, Dr. J. B. Murfree, Jr., Murfreesboro; secretary, Dr. A. B. Cooke, Nashville; treasurer, Dr. W. C. Bilbro, Murfreesboro.

Memphis was selected as the place for holding the next annual meeting, the second Tuesday in April, 1902.

# Therapeutics.

### Treatment of Tuberculosis.

Solis-Cohen, in *Merck's Archives*, states that the best antitubercular agents are the iodin and the creosote groups. The first group is better adapted to the early stages, the second to the later stages. He regards iodoform as the best agent of the first group and it should be given in comparatively large doses and over long periods. Begin with one-half grain doses three times a day and increase gradually until within two or three months the dose reaches five grains daily. He recommends the following formula:

| | | |
|---|---|---|
| R. | Iodoformi ..... gr. i-iii | 06-20 |
| | Strychninæ sulph ..... gr. 1/40 | 0015 |
| | Arseni iodidi ..... gr. 1/12 | 005 |
| | Balsami Peruviani ..... gr. ii-v | 12-30 |

### For the Obstinate Diarrhea in Tuberculosis

The following is recommended:

| | | |
|---|---|---|
| R. | Ichthoformi ..... gr. v | 30 |
| | Tannalbin ..... gr. x | 60 |
| | Bismuthi subgallati ..... gr. x | 60 |
| | Codeinæ ..... gr. ¼ | 015 |
| | Ol. menthæ pip ..... m. ¼ | 015 |

M. Ft. chartula No. i. Sig.: One such powder every two to six hours.

Ichthoform is a compound of ichthyol and formaldehyde. It is a blackish-brown powder, odorless and tasteless. It is insoluble in water.

### Cough in Phthisis.

Daly, in the *New York Med. Jour.*, recommends for the hard, dry cough of phthisis the following:

| | | |
|---|---|---|
| R. | Camphoræ ..... gr. ii | 12 |
| | Heroin ..... gr. 1/12 | 005 |
| | Creosoti ..... m. i | 06 |

M. Ft. pilula No. i. Sig.: One as needed to control the cough.

### Apocodein in Constipation.

Combemale, in *Progrès Médicale*, recommends the following formula:

| | | | |
|---|---|---|---|
| R. | Apocodeinæ hydrochloridi ..... gr. viiss | | 45 |
| | Aq. destil ..... | ʒiss | 48 |

M. Sig.: Inject thirty drops subcutaneously.

The properties of apocodein are very similar to apomorphin. It is prepared from codein by a process similar to the manufacture of apomorphin from morphin.

### Bromids in Epilepsy.

L. P. Clarke, of the Craig colony of epileptics, as noted in *Amer. Med.*, draws the following conclusions concerning the use of bromids in epilepsy: The bromids still hold the important place in treatment of epilepsy. Tonics must accompany their administration. The bromid must be given gradually to ascertain the patient's tolerance; baths, high enemas, alimentary antiseptics, massage and electricity are absolutely essential to bromid-medication. Salt starvation or semi-salt starvation is a great adjunct to bromid treatment.

[In administering tonics with bromids, Bechterew recommended the Adonis vernalis, in the form of the infusion, in combination with the bromids as a heart and vasomotor stimulant. Adonis vernalis is somewhat similar to digitalis in its action, but not so powerful. Flechsig advised the administration of opium, preceding the use of bromids. He commenced with one-quarter to one-half grain of the pulverized opium and gradually increased the dose until the patient was taking a daily dose of five or six grains at the end of six weeks; then he employed the bromids.]

### As a Douche in Leucorrhea.

Burtenshow, of New York, in an article in the *New York Med. Jour.*, states that a troublesome leucorrhea in the majority of instances will be checked after a very few applications of the douche, due to the toning up of the vaginal and uterine mucosa. The water may be used without any medicament whatever, but if the accompanying leucorrheal discharge is profuse, a tablespoonful of the following mixture can be added to the last quart of water remaining in the douche bag at the termination of the injection:

| | | | |
|---|---|---|---|
| R. | Pulv. albuminis | | |
| | Zinci sulphatis | | |
| | Acidi carbolici | | |
| | Sodii biboratis, āā ..... | ʒi | 32 |
| | Aquæ ..... | ʒvi | 192 |

M. Sig.: Use as above stated.

He further states that large hot water vaginal irrigations should never be employed by healthy pregnant women, for the reason that they reduce the bactericidal power of the vaginal secretions.

### To Produce Diaphoresis.

Von Graefe recommends the following combination to produce diaphoresis:

| | | | |
|---|---|---|---|
| R. | Pulv. camphoræ ..... gr. ss to iss | | 03-09 |
| | Pulv. opii ..... gr. ¼-½ | | 015-03 |
| | Potassii nitratis ..... gr. iv | | 25 |
| | Sacchari ..... | ʒii | 8 |

M. Ft. chartula No. i. Sig.: One powder to be taken in a hot drink at bed time.

### As an Antiseptic and Lubricant for Instruments.

Prof. Necker, in *Jour. des Practiciens*, states that the following combination possesses sufficient antiseptic properties and is a splendid lubricant for use on instruments to be introduced into the vagina or urethra:

| | | | |
|---|---|---|---|
| R. | Hydrarg. chloridi corros. ..... gr. 3 10 | | 02 |
| | Aquæ ..... | ʒvi | 24 |
| | Pulv. saponis ..... | ʒiss | 48 |
| | Glycerini ..... | ʒvi | 24 |

M. Sig.: As an application to instruments.

### Treatment of Gonorrhea by Hot Saline Solutions.

Dr. Woodruff, as noted in the *Med. Press*, states that he has derived excellent results from the use of hot saline injections in the treatment of gonorrhea. He administers these injections as hot as can be borne every two or three hours and sometimes as often as every hour. He gives no medicine by the mouth and states that the average duration of the disease is from ten to twelve days.

### Treatment of Ascites.

Dr. A. H. Bigg, of Detroit, in *Med. Record*, has used the following prescription containing elaterium or rather its active principle elaterin:

| | | |
|---|---|---|
| R. | Elaterin ..... gr. 1/15 | 004 |
| | Strychninæ sulphatis ..... gr. 1/40 | 0015 |
| | Glonoini ..... gr. 1/200 | 0003 |
| | Ext. digitalis ..... gr. ¼ | 015 |
| | Caffeinæ citratæ | |
| | Pulv. caryophylli āā ..... gr. i | 06 |

M. Ft. cap. no. i. Sig.: One capsule every three to six hours.

Dr. Bigg emphasizes the importance of pushing the treatment. Four to six copious evacuations per day may be maintained by the above formula until permanent relief is obtained.

### The Administration of Digitalin.

Dr. Martinet, of Paris, as noted in *Ther. Gazette*, states that digitalin is generally prescribed in France by means of the following formula:

| | | | |
|---|---|---|---|
| R. | Crys. digitalin (chloroformic) | gr. xv | 1 |
| | Glycerini | ʒx | 300 |
| | Aq. destil. | ʒv | 150 |
| | Alcoholis (95 per cent.) q. s. ad | Oii | 1024 |

M. Sig.: Fifteen drops in water three times a day.

### Treatment of Cutaneous Pruritus.

Eichhorst recommends the following outline of treatment for cutaneous pruritus:

As an ointment.

| | | | |
|---|---|---|---|
| R. | Acidi carbolici | gr. 75 | 5 |
| | Lanolini | ʒvi | 24 |
| | Adipis | ʒvi | 24 |

M. For inunction twice daily.

Friction with lemon juice or ablutions with dilute vinegar affords relief. Internally the following is given:

| | | | |
|---|---|---|---|
| R. | Potassii bromidi | ʒiiss | 10 |
| | Ext. belladonnæ | gr. ivss | 27 |
| | Acidi carbolici | gr. xv | 1 |
| | Ext. glycyrrhizæ q. s. | | |

M. Ft. pil. No. l. Sig.: One pill four times a day.

### A New Treatment for Anorexia.

Robin, of Paris, according to the *Ther. Gazette*, states that the pure solution of sodium persulphate is of great benefit in treatment of the ordinary forms of anorexia as well as in consumption. The drug is given as follows:

| | | | |
|---|---|---|---|
| R. | Sodii persulphatis | ʒss | 2 |
| | Aquæ | ʒx | 300 |

M. Sig.: One soupspoonful a half hour before lunch and dinner.

### Treatment of Smallpox.

Dr. Legrand, as noted in *Ther. Gazette*, states that one frequent symptom of smallpox is considerable gastric intolerance with frequent vomiting of bile. In such conditions the following combination is recommended:

| | | | |
|---|---|---|---|
| R. | Cocainæ hydrochloratis | gr. ii | 12 |
| | Syrupi etheris | | |
| | Syrupi codeinæ | | |
| | Aq. menth. pip. āā | ʒii | 64 |

M. Sig.: One dessertspoonful every hour.

For general treatment he uses the following formula:

| | | | |
|---|---|---|---|
| R. | Ammon. acetatis | gr. xlv | 3 |
| | Tinct. opii | ʒi | 32 |
| | Elix. cinchonæ | ʒii | 64 |
| | Elix. simplicis q. s. ad | ʒvii | 224 |

M. Sig.: One soupspoonful every hour.

### Calcium Chlorid in Treatment of Menorrhagia and Typhoid Enterorrhagia.

The coagulating properties of calcium chlorid have been utilized by a French confrère, according to the *Semaine Méd.* of March 20, as a prophylactic measure against menorrhagia, in the cases in which the menstruation is painless but the flow excessive. He prescibes for a week before the expected period two tablespoonsful a day of the following:

| | | | |
|---|---|---|---|
| R. | Calcii chloridi | ʒiiss | 10 |
| | Syrupi | ʒxv | 60 |
| | Aquæ | ʒvi | 180 |

M. Sig.: Two tablespoonsful a day.

This treatment repeated each month for two or three times has always cured the pathological excess of the menstrual flow. Nephritis is a contraindication. The enterorrhagia in typhoid fever is also favorably affected by calcium chlorid. Mathieu reports eight cases successfully treated by an injection once or twice a day of a liter of water at 48 C. containing 4 gms. of calcium chlorid, supplemented by 2 gm. administered by the mouth in an aqueous solution during the day, and measures to immobilize the intestines. These hot injections clear the intestines of extravasated blood and thus suppress a new source of intoxication and fever.

# Medicolegal.

**Compensation for Cold and Neuralgia.**—The Court of Civil Appeals of Texas holds, in Houston, East and West Texas Railway Company vs. Jackson, that a judgment for $500 in favor of a passenger wrongfully expelled from a train, can not be considered excessive in amount where he got wet and contracted a cold and had neuralgia by reason of the exposure, and was confined to his bed for fifteen days.

**Seven Thousand Dollars for Loss of Leg.**—The fourth appellate division of the Supreme Court of New York holds, in the personal injury case of Cosselmon vs. Dunfee, that $7,000 cannot be said to be an excessive award of damages for the loss of a leg by a young, healthy man, taking into account also the pain and suffering he endured, where he was so injured as to require the amputation of the leg between the knee and hip.

**Thirty-five hundred Dollars for Permanent Injuries.**—In Mowbray vs. the Brooklyn Heights Railroad Company, the second appellate division of the Supreme Court of New York holds that where a man of about 50 years of age was thrown out of a carriage by its being run into by a street car, and was permanently injured, his condition growing progressively worse from the time of the accident, and he had contracted doctor bills aggregating nearly $600, verdict in his favor for $3500 could not be considered so unreasonable as to warrant this court in interposing its judgment for that of the jury. The nature of the injuries are not further described.

**Not All Ambulances Given Right of Way by Ordinance.**—In the case of Dillon vs. the Nassau Electric Railroad Company, an action brought to recover damages for injuries sustained by a passenger in a street-car that had a collision with an ambulance, the second appellate division of the Supreme Court of New York holds that it was reversible error to instruct the jury to the effect that the ambulance had the right of way. There was a city ordinance giving the right of way to "ambulances of the department of health," and the ambulance in question was under the jurisdiction of that department. But it did not belong to the department, and the court holds that there was not sufficient evidence to establish the fact that this ambulance was within the ordinance. If the ordinance related to all ambulances, there was no reason apparent, it says, why general words should not have been used embracing all, for it is assumed that all the ambulances in use are in some sense under the jurisdiction of the health department.

**When no Presumption of Suicide—Use of Verdict.**—The Supreme Court of Michigan holds, in the case of Wasey vs. the Travelers' Insurance Company, that it was error to instruct the jury that the presumption was that the insured did not commit suicide, whether sane or insane, when he was insane and the evidence showed that his insanity was of a nature usually attended with suicidal tendencies. It is to do violence to the facts, the court declares, to say of a man thus afflicted, for example suffering from melancholia agitata as the insured was shown to be, that there is nevertheless a presumption that he did not do the thing which men in his state usually or commonly feel impelled to do. Moreover, the court takes the ground, contrary to some authorities, that the verdict of a coroner's jury was not admissible as original evidence of the fact that the insured committed suicide. In other words, it says that it can not see any good reason why such a verdict should be either conclusive or evidence against a stranger to the proceeding.

**Cannot Testify as to Patient's Mental Capacity.**—The Supreme Court of California holds, in re Nelson's Estate, that, under the provisions of the Code of Civil Procedure, a physician can not testify as to the mental capacity of a patient he had make a will where his information on the subject was acquired by him from the patient and from observing him

while he was in attendance upon him for the purpose of prescribing for him as his physician. It says that the information which a physician acquires from his patient for the purpose of prescribing for him is given for the benefit of the patient alone, and not for the purpose of creating a right in others.

**Imbecility as Defense to Crime—Province of Experts.**—The Supreme Court of Missouri, Division No. 2, holds that the law in its more particular bearing on the homicide case of State vs. Palmer was very fairly presented to the jury by instructions that mere weakness of intellect will not shield one who commits a crime, and that here, although the jury might believe from the evidence that the defendant was mentally deficient in some degree, yet unless they were reasonably satisfied by the evidence that, at the time the alleged crime was charged to have been committed by him, his mental faculties were so weak, and his mind so deficient, that he was unconscious at the time of committing the act that it was wrong, and that he ought not to do it, and that he had not the ability or mental capacity to choose between right and wrong, they should find him guilty as charged in the indictment. Every man is presumed to be sane, and to possess a sufficient degree of reason to be responsible for his crimes until the contrary is proven, and where insanity or mental incapacity or imbecility is interposed as a defense the law requires the defendant to prove to the reasonable satisfaction of the jury, and, to establish such defense, it must be proven, to the reasonable satisfaction of the jury—that at the time of committing the act the defendant was laboring under such defect of reason, from natural deficiency or disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong. But a case where weak-mindedness, usually called "imbecility," is the defense, the court considers very different from one where the defense is insanity either in acute or chronic form, and it declares that the rule is not applicable which holds that where a habitual chronic state of insanity is shown to have existed, extending all through the life of the defendant, the burden of proof is on the state to show a lucid interval at the time of the killing. Furthermore, the very point at issue being whether the defendant could distinguish right from wrong in doing the act charged as criminal, the court holds that this was for the determination of the jury, and an expert could not be allowed, by answer to an improper question, to usurp the province and functions of the triers of the facts. An expert witness, it says, can not be asked his opinion as to whether the accused was capable of judging between right and wrong, nor to express an opinion that the accused acted under an insane delusion or was impelled by an irrepressible impulse. And an expert witness may give his opinion as to the state of mind of the accused, but not as to his responsibility, that being a question for the jury. And, it adds, it has been generally, if not universally, held, in cases where the objection has been made that the question covered the point in issue, that the experts can not be asked the broad question whether they considered the person whose sanity is being litigated is out of his mind, or whether his mind was so affected as to be unfit to transact business; or to give their opinions on the whole case, as it would necessarily include a determination of the facts. Moreover, the court thinks that the testimony of a physician who has not studied the progress of the disease in question, and whose opportunities have been limited for observing the personal habits and conduct of the person whose sanity is questioned or who is alleged to be an imbecile, possesses little, if any, value.

**Not Libelous to Contradict Physician About Smallpox.**—The Court of Appeals of Kentucky says that the substance of the petition, in the action for libel of Manire against Hubbard and another, was that the plaintiff was a physician, with a large and lucrative practice, and that the defendants, knowing this fact, had, on a certain date, falsely and maliciously caused to be published in a certain newspaper a writing, signed by them, stating that there were no cases of smallpox in a certain town, nor had been, as set out in the letters of the plaintiff and another physician, published in said newspaper; that the negroes who were said to have the smallpox had no breaking out nor eruption until the attending physician, the plaintiff, applied a salve to their faces, and caused it to break out, "meaning thereby that the plaintiff had committed an unprofessional and disgraceful act as a physician." To this petition the defendants interposed a demurrer, which the lower court sustained. This made the sole question to be determined on appeal the one of whether or not the words in the original petition were libelous. The rule, which the court of appeals quotes, is that, to sustain an action for libel, the plaintiff must allege special damage, or the nature of the charge must be such that the court can legally presume that he has been degraded in the estimation of the public, or has suffered other loss, either in his property, character, or business, in his domestic and social relations, in consequence of the publication. Words which are published in connection with one's profession or calling, which impute to him ignorance generally in his business or profession, or such ignorance or incapacity as unfits him for its proper exercise, are actionable per se, or in and of themselves; but it is not ordinarily actionable to charge one in a business or profession with want of skill or ignorance in a particular transaction. And it was not libelous, the court holds, for the defendants to publish that there were no cases of smallpox in the town mentioned, as this was a question upon which laymen, as well as professional experts, were entitled to entertain and might express an opinion. The additional words, "That the negroes who were said to have the smallpox had no breaking out until the attending physician applied a salve to their faces, which caused it to break out," the court further holds, did not of themselves convey the meaning which the plaintiff would attribute to them. There was no charge that this was improper treatment, or that it was resorted to from any corrupt or wrongful motive on the part of the plaintiff. Nor does the court think that the words necessarily of themselves imported that the plaintiff was guilty of unprofessional conduct, or reflected upon his integrity. Wherefore, the court is of the opinion that the words complained of were not actionable per se, or in and of themselves, and it holds that, in the absence of an averment of special damage, the petition was not good on demurrer, and, consequently, that the demurrer was properly sustained.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine (Philadelphia), April 27.

1 *An Analysis of My Vaginal Ablations in 181 Cases of Pelvic Inflammation and Uterine Fibroid Degeneration. W. R. Pryor.
2 *The Good and Bad Effects Obtainable from Digitalis Used as a Therapeutic Agent. (Concluded.) William Henry Porter.
3 *Logic of Hydrochloric Acid Therapy, Restoration of Lost Gastric HCl Secretion by Medical and Surgical Methods. (Concluded.) John C. Hemmeter.
4 *Hyperplastic Colitis: Extirpation of the Entire Colon, the Upper Portion of the Sigmoid Flexure and Four Inches of the Ileum. Howard Lilienthal.
5 *The Value of Intestinal Antiseptics with Simple Aseptic Pads in Obstetric Practice. Harriet E. Garrison.
6 *Gastroptosis. Alexander McPhedran.
7 Pneumonia—A Historical Review of its Treatment. William C. Johnson.

New York Medical Journal, April 27.

8 *On Tenontitis and Tenontothecitis Prolifera Calcarea. Carl Beck.
9 *Combined Intranasal and Extranasal Operation for the Correction of a Congenital Concave Vertical and Lateral Deformity of the Nose, with the Report of a Case. Burton S. Booth.
10 *Hospital Appointments. Are They Open to Women? Helen McMurchy.
11 *A Contribution to the Explanation of the Nature of the So-called Predisposition to Infection with Staphylococci. F. W. Gaertner.
12 *Pneumonia, Its Proper Management in Children; Hygienic, Drug, and Dietetic Details. Louis Fischer.
13 *Peripheral "Anesthesia-Paralysis"—Report of an Unusual Case of Bilateral Brachial Paralysis Occurring During Narcosis (for Appendicitis). Walter M. Brickner.
14 The Relation of Arterial Changes to the Heart. Beverley Robinson.

### Medical Record (N. Y.), April 27.

15 *Experiences with Tracheotomy. John Rogers, Jr.
16 Recurrent Vomiting of Nervous Origin. Louis Fischer.
17 *Tobacco as a Factor in Glycosuria. Heinrich Stern.
18 Pityriasis Versicolor of the Face. William S. Gottheil.
19 *An Extreme Case of Simple Anemia. Rolfe Floyd and William J. Gies.
20 Albuminuric Retinitis in Pregnancy; Premature Labor; Death in Utero of Twin Child; Puerperal Convulsions; Hemiplegia; Acute Mania; Death. Joseph N. Study.

### Philadelphia Medical Journal, April 27.

21 *Scurvy in Infants. Louis Starr.
22 *Notes on Leukemia with a Report of Three Cases. Charles S. Jewett.
23 *Clinical Experiences with Adrenalin. Emil Mayer.
24 Obstructions and Tabulated Report of the Result of One Hundred and Fifty Operations for Appendicitis. Leon Brinkman.
25 *Points Connected with the General Etiology, and Pathogenesis of Diabetes Mellitus. Heinrich Stern.

### Boston Medical and Surgical Journal, April 25.

26 *Remarks on Anesthesia—General, Local and Spinal. Maurice H. Richardson.
27 *Experience in Search of a Cure for Asthma in the Far Southwest; With Observations on the Comparative Value of Different Sections in Respiratory Diseases. Robert Bell.
28 *Chorea During Pregnancy. F. S. Newell.
29 *Notes on X-Light. William Rollins.
30 A Special Form of Phlegmon of the Neck. F. P. Emerson.

### Medical News (N. Y.), April 27.

31 The Study of Internal Medicine. William Osler.
32 The Relation of the Student of Medicine and the Recent Graduate to the Field of Surgery. George Ryerson Fowler.
33 The Medical Man in the Navy. W. K. Van Reypen.
34 The Municipal Health Department System, and more Especially in Reference to its Advantages and Disadvantages as an Opening for the Young Medical Graduate. Arthur R Guerard.
35 The Advantages of Examining for Life Insurance. Brandreth Symonds.
36 The Outlook for the Young Physician in State Hospital and Sanitarium Work. Carlos F. MacDonald.

### Cincinnatti Lancet-Clinic, April 27.

37 Practice of Obstetrics in Cincinnati at the Present Day. Magnus A. Tate.
38 *A Case of Congenital Typhoid. Mark A. Brown.

### St. Louis Medical Review, April 27.

39 *Review of Hydrophobia. C. Fisch.
40 *Recent Changes in the Pasteur Treatment. John C. Morfit.

### Medical Age (Detroit), April 10.

41 Food Adulteration in its Relation to the Public Health. H. W. Wiley.
42 Remarks on Case-Taking and Methods of Diagnosis: Locomotor Ataxia. D. R. Brower.
43 Cod-liver Oil and How to Give it. A. N. Bell.

### Virginia Medical Semi-Monthly (Richmond), March 22.

44 So-called "Conservative" Treatment of Appendicitis. I. S. Stone.
45 A Case of Papillomatous Cyst in a Child Four Years and Nine Months Old. Manning Simons.
46 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.
47 Dietetic Hematuria, with Some Remarks upon Oxaluria as a Cause. John D. Thomas.
48 Infant Feeding. J. Edward Tompkins.
49 Epidermic Medication- Vel ubi Irritatio ibi Fluxus. A. B. Brooking.

### April 12.

50 One Hundred and Twenty-five Consecutive "Abdominal Operations" Occurring in My Service with Dr. George Ben Johnston, with Remarks. Charles R. Robins.
51 Unsanitary Condition of the Virginia Penitentiary. Charles V. Carrington.
52 Albuminuria without Manifest Organic Renal Lesions. W. A. Deas.
53 Some Interesting Cases of Headache Due to Nasal Trouble. Joseph A. White.
54 Pathology of the Liver. M. D. Hoge, Jr.
55 A Case of Severe Mastoid Neuralgia. John Dunn.

### The Ophthalmic Record (Chicago), April.

56 *Some Results of Dr. Allport's Sight Tests Applied to Chicago School Children. Chas. C. Krauskopf.
57 *Gonorrheal Ophthalmia with Complications. Report of Cases. Albert E. Bulson, Jr.
58 *A Case of Non-comitant Ribbon-like Keratitis, with Remarks. M. F. Weymann.
59 The Dioptric Power of the Cornea: A Reply to Dr. Weiland's Criticism. W. N. Suter.

### Interstate Medical Journal (St. Louis), April.

60 Aphasia; Sciatica; Neurasthenia; Progressive Muscular Atrophy Associated with Locomotor Ataxia; Multiple Neuritis; Brown-Sequard's Paralysis; Progressive Muscular Atrophy. Daniel R. Brower.
61 Briefs on the Surgery of the Genito-urinary Organs. G. Frank Lydston.
62 Use of Silver in Surgery. Edward Wallace Lee.
63 "Powder Monkey." J. J. M. Angear.
64 Etiology and Treatment of Diabetes Mellitus. Frank M. Floyd.
65 Report of Case of Primary Lupus of Tongue. John C. Murphy.

### Archives of Pediatrics (N. Y.), April.

66 The Blood in Infancy and Childhood. (To be concluded.) Alfred Stengel and C. T. White.
67 *Enteric Fever in Childhood. Wm. L. Stowell.
68 An Unusual Case of Erythema Multiforme. Floyd M. Crandall.
69 Duodenal Ulcer in an Infant of Ten Months. Vanderpoel Adriance.
70 Apparent Cure of a Case of Frequent Convulsions, Probably Epilepsy. Anna R. Lapham.
71 A Case of Head-nodding Associated with Spasmodic Torticollis. John H. Jopson.

### Western Medical Review (Lincoln, Neb.), April 15.

72 *A Consideration of the Different Operative Procedures in the Treatment of Displacements of the Uterus. O. Beverly Campbell.
73 Removal of the Superior Maxilla Through the Mouth. Alexander Hugh Ferguson.
74 Two Cases of Cesarean Section and one of Rupture of the Uterus in which Abdominal Section was Necessary. J. Clarence Webster.
75 The Origin and Uses of the Appendix, Together with a Short Treatise on Appendicitis. Wesley Jones Morrison.

### Cleveland Journal of Medicine, April.

76 On the Value of the Leucocyte Count in the Diagnosis and Prognosis of Appendicitis, with a Report of Cases. E. H. Senson.
77 Report of a Case of Abscess of the Brain in a Child Sixteen Months Old. F. E. Bunts.
78 Exophoria as a Cause of Asthenopia. William E. Bruner.
79 A Large Rhinolith. John M. Ingersoll.
80 Two Unusual Cases of Intubation. M. Borts.
81 Report of a Case of Hysterectomy for Fibroid with Retained Placenta, Two Cases of Extrauterine Pregnancy, and a Case of Laparotomy for Intussusception with Recovery. R. F. Skeel.
82 Case of Club-foot in an Adult. William E. Wirt.
83 Cases of Diphtheria Treated by Antitoxin. W. E. Hart.

### Medicine (Chicago), April.

84 *Intrauterine Periods of Stress. Jas. G. Kiernan.
85 *Intestinal Suture, All Knots Inside. F. Gregory Connell.
86 Acute Intussusception in an Infant; Operation, Recovery. Relapse in Three and One-half Months; Second Operation, and Recovery. Philip Schuyler Doane.
87 *Is there Such a Constituent of the Urine as "Ureine?" Walter S. Haines and Charles S. Woods.

### Kansas City Medical Record, April.

88 Report of a Case of Perforating Wound of the Eyeball. J. W. Sherer.

### Women's Medical Journal (Toledo, Ohio), March.

89 Hyperesthesia of the Uterus During Pregnancy. Helga Ruud.
90 The Medical Woman's Temptation and How to Meet It. Jennie G. Oreman.

### New Yorker Medicinische Monatsschrift, March.

91 Dammschutz bei der Geburt der Schultern. Gustav Schirmer.
92 Ein Fall von Actinomycosis. Leonard Weber.
93 Ueber den Therapeutischen Werth der Eisensomatose. L. A. Ewald.

### Medical and Surgical Monitor (Indianapolis), April 15.

94 Dental Neuralgia. S. H. Creighton.
95 Unusual Forms of Hemophilia—Report of Cases. John L. Masters.

### Texas Clinic (Dallas), January.

96 Surgery as a Specialty. Samuel E. Milliken.

### Indiana Medical Journal (Indianapolis), April.

97 Problem of Appendicitis from the Medical and Surgical Points of View. Robert Abbe.
98 *On the Advantages of the Early Removal of Benign Tumors. E. D. Clark.
99 Judicial Autopsy: Death from Angina Pectoris. R. N. Todd.
100 Case Report—Exophthalmic Goiter. Charles A. Stafford.

### Iowa Medical Journal (Des Moines), April.

101 Inflammation of the Sigmoid and Colon. R. D. Mason.
102 Ethics in the Diagnosis and Treatment of Venereal Diseases. A. R. Rogers.

Medical Sentinel (Portland, Ore.), April.

103 Some Points Often Overlooked in the Diagnosis and Treatment of Common Fractures of the Long Bones. R. C. Hill.
104 Abortion and Infanticide from Medicolegal Standpoint. W. W. Watkins.
105 Earache: Aniline in Aural Surgery. John A. Donovan.
106 Report of a Third Series of Twenty-five Operations for the Radical Cure of Hernia. J. B. Eagleson.

Medical Examiner and Practitioner (N. Y.), April.

107 Tetanus. Thos. C. Craig.
108 Exceptions to the Rule. G. S. Stebbins.
109 *Diagnosis and Prognosis of Chronic Interstitial Nephritis. Edward F. Wells.
110 *Methods of Examining for Industrial Insurance. W. S. Royce.
111 Practical Observations on Infantile Diarrhea. F. H. Pirnat.

Medical Times (Philadelphia), April.

112 Gynecological Conduct. W. Oakley Hermance.
113 On the External and Internal Employment of Argentamine. Dr. Bergel.
114 Aspirin. A. A. Nefe.

St. Louis Courier of Medicine, April.

115 Mesogastrium—Omentum Majus. (To be concluded.) Byron Robinson.
116 Pott's Disease of the Spine—Diagnosis and Treatment. D. W. Marston.
117 Appendicitis—Intracapsular Fracture of the Neck of the Femur. Robert T. Morris.
118 Hysterical Astasia-Abasia in a Child Aged Two Years and Four Months. M. W. Hoge.

Maryland Medical Journal (Baltimore), April.

119 *Epidermolysis Bullosa Hereditaria, with Report of the First Case of the Disease in the Negro Race. Henry Lee Smith. Notes on the Blood and Vesicle Cells. Thomas R. Brown.
120 *Koplik's Spots: Their Value in the Diagnosis of Measles, Particularly in Private Practice. John Zahorsky.
121 *Mycosis Tonsillaris. Hughlett Hardcastle.

Dominion Medical Monthly (Toronto), April.

122 Popular Delusions about the Insane. Daniel Clark.
123 The Surgical Treatment of Cleft Palates. Truman W. Brophy

Vermont Medical Monthly (Burlington), March.

124 Abdominal Palpation in Obstetrics. Frederick E. Clark.
125 Coughs: Their Suppression and Cure. Louis DeLorme.

American Journal of Obstetrics (N. Y.), April.

126 Notes on Vaginal Celiotomy; with Report of Cases. Thomas J. Watkins.
127 *On Puerperal Infection: With Special Reference to Douching and the Practical Value of Bacterial Examination. Augustus Wadsworth.
128 *Alexander's Operation: A Method of Picking up with Ease the Round Ligament at the External Abdominal Ring. LeRoy Broun.
129 On the Importance of Precise Definitions of Diphtheria in the Valuation of Antitoxin Therapy. Adolph Rupp.
130 Treatment of Prolapsus Uteri. E. E. Montgomery.
131 *The Relation of Ovarian Disease to Insanity and its Treatment. A. T. Hobbs.
132 *Cerebral Injuries During Birth as a Cause of Infantile Mortality. E. E. Morse.
133 Double Ectopic Pregnancy, Both Sides Ruptured; Operation; Recovery. George H. Noble.
134 *Ovarian Cyst and Suppurating Hematocele. Salpingitis with Obscure Localizing Symptoms. George E. Shoemaker.
135 *Cancer of the Cervix and Pelvis Following Supravaginal Hysterectomy. Charles P. Noble.
136 Dermoid and Other Cysts of the Ovary: Their Origin from the Wolffian Body. (To be continued.) Samuel W. Bandler.

Colorado Journal of Medicine (Denver), March.

137 Rest or Open-Air Exercise in the Treatment of Phthisis. Which? J. Frank McConnell.
138 Two Cases of Cranial Injury. J. A. Patterson.
139 Attitude and Its Relation to Diseases. H. A. Armstrong.

Carolina Medical Journal (Charlotte), April.

140 General Remarks on a New Method of Treatment. (Heroin). I. H. Gardner.
141 The Treatment of Gastric Ulcer. Charles W. McIntyre.
142 Pathology of the Liver. M. D. Hoge, Jr.
143 Use of Bromids in Hysteria, Delirium, etc. J. S. Murphy.
144 Some Practical Suggestions in Therapy, the Result of Personal Observation. B. M. Baker.

American Journal of Surgery and Gynecology (St. Louis), April.

145 *Treatment of Acute Peritonitis. Byron Robinson.
146 Report of a Successful Splenectomy. T. A. Ashby.
147 *Anomalies of the Mesentery as a Causation of Ileus and of Appendiceal Abscess in the Left Iliac Fossa. Valdemar Pleth.
148 *Normal Menstruation. Geo. J. Engelmann.
149 A Case of Papillomatous Cyst in a Child Four Years and Nine Months Old. Manning Simons.
150 *The Treatment of Cancer of the Female Breast. James Bell.
151 Wandering Kidney. Emory Lanphear.
152 Poisoning from the Application of Tincture of Iodin and Alcohol to the Cervix Uteri. G. Leo Hagen-Burger.

Pacific Medical Journal (San Francisco), April.

153 Inflammation of the Mastoid Process. B. F. Church.
154 No Specific Cure for Tuberculosis. Ethan H. Smith.
155 A Brief Contribution to the Treatment of Gonorrhea. M. Schirman.
156 Subarachnoidean Injection in Case Where General Anesthesia Could Not Be Carried Out. J. F. Conlan.

Texas Medical Journal (Austin), April.

157 Two Unique Cases of Renal Hemorrhage. J. P. Oliver.
158 Some Remarks on Abdominal Surgery. A. L. Hathcock.
159 Placenta Previa. E. D. Stokes.

Canada Lancet (Toronto), April.

160 Notes on Hydrochloric Superacidity, with Reports of Cases. Graham Chambers.
161 Latent Appendicitis. J. A. Grant, Jr.
162 Radical Cure of Large Umbilical Hernia. W. J. Hunter Emory.

Kingston Medical Quarterly, January.

163 Myxadenitis Labialis. G. C. T. Ward.
164 The Causation of Tuberculosis. W. T. Connell.
165 Diagnosis of Tuberculosis. John Herald.
166 Climatic Treatment of Pulmonary Tuberculosis. A. R. B. Williamson.
167 Laryngeal Tuberculosis. J. C. Connell.
168 Osteosarcoma of Forearm. W. G. Anglin.
169 The Outlook of Medicine. E. Ryan.
170 Melanosarcoma of the Female Urethra. D. E. Mundell.

## AMERICAN.

1. **Vaginal Hysterectomy.**—The vaginal radical operation, while apparently abandoned by some of its early advocates, is considered by Pryor as far superior in the greater proportion of operations now performed through the abdomen. Analysis of his cases shows that he has had 83 per cent. of cures and no mortality, and not by picking his cases or applying the operation where conservatism might have succeeded. In many cases sepsis was so profound that intravenous infusion was necessary before he could operate. He furnishes a tabulated statement of 183 cases thus operated on and almost all cured.

2. **Digitalis.**—Porter's article ends with the following: 1. The composition of digitalis is, chemically speaking, very complex, and some of its active principles antagonize others. 2. The different preparations differ widely in their composition and action. 3. Its cumulative action is due to its contracting the arterioles, thus shutting off nutrition. 4. It is both a useful and dangerous remedy; and one that has a very limited range of usefulness. 5. It is only of use in lesions of the mitral valve, and even then only for a short time. 6. It should only be used when there is low arterial tension and marked venous engorgements, and as soon as these conditions are overcome its action should be suspended. 7. As a diuretic it is only of value when there is low arterial tension, venous engorgement and obstruction to the exit of blood from the kidney. 8. Acting upon the normal, and in all diseased conditions in which there is obstruction to the exit of blood from the kidney, it decreases the excretory activity of the renal glands, and impairs their nutritive activity. 9. If pushed to its fullest extent it may completely arrest the functional activity of the renal glands.

3. **Hydrochloric Acid Therapy.**—Hemmeter believes that hydrochloric acid may be usefully employed in supplementing the digestive work of the stomach and bringing about normal conditions for duodenal digestion. Whenever it is indicated he would give 20 drops of diluted U. S. P. HCl in two ounces of water every fifteen to twenty minutes, beginning fifteen minutes before the meal, taking 20 drops during eating and 20 drops one-half hour after. The medicine should always be taken through a glass tube and the mouth rinsed with a weak solution of sodium carbonate afterward. Strong gelatin capsules, as suggested by Dr. C. D. Aaron of Detroit, would be good. For improving the appetite it is best given in small doses, 10 to 20 drops in three ounces of water on an empty stomach before meals. He has some doubt as to its disinfectant and antiseptic effect, as it can not be given in sufficient quantity when given with meals. Decided fermentation in the stomach is best met by lavage with HCl in the form of a 6 to 1000 solution. HCl is contraindicated when the normal gastric secretion is aug-

mented, and there are cases where there is a special hyperesthesia, not dependent on hyperchylia. The amount required for the gastric digestion of albumin is enormous, as he says here, and it is not possible that the glandular layer can secrete the requisite amount when the transit of food into the duodenum is obstructed. When gastric secretion shows absence of free HCl and it is not due to atrophy of the mucosa, one of the best methods of restoring the secretion is by lavage with a solution of HCl, three to four parts to 1000 of warm water. The diet should consist largely of foods requiring a considerable amount of HCl for digestion as these are effective stimulants for the gastric secretion.

4. **Hyperplastic Colitis.**—The case reported is of interest on account of final recovery after extensive operations including extirpation of the entire colon, the upper portion of the sigmoid flexure and four inches of the ileum.

5. **Intestinal Antiseptics with Antiseptic Pads in Obstetrics.**—Garrison concludes his paper as follows: In all obstetric cases having a normal contracted uterus with a patulous os which does not rest against any part of the vaginal wall that pure blood may constantly flow over the endometrium and vagina, cleansing them from all bacteria, bathe the vulva with antiseptics and keep it covered with an aseptic pad. Have a *prima via* free from obstructions and constantly cleansed with antiseptics. If this regime is carefully carried out 99 per cent. of the patients will make an uninterrupted recovery, and vaginal and uterine douches should be omitted until near the close of the puerperium when they will be agreeable to the patient.

6. **Gastroptosis.**—A common mistake as regards gastroptosis, according to McPhedran, is that it is considered infrequent, and another error is in the assumption that when it exists it must give rise to grave disturbances. He reports cases and sums up his conclusions as follow: 1. Gastroptosis frequently exists without giving rise to any discomfort. So long as the functions of the stomach are performed efficiently no symptoms will arise from its abnormal position. 2. The symptoms of gastroptosis are due to the protracted retention and decomposition of food in the stomach with the local irritation and constitutional poisoning resulting therefrom. 3. In the condition known as Glénard's disease the gastroptosis or splanchnoptosis plays only a part, often a minor one, in the production of the symptom-group. In not a few instances the splanchnoptosis is rather the result than the cause of the condition.

8. **Tenontitis and Tenontothecitis Prolifera Calcarea.**—The case reported by Beck was at first sight like an osteosarcoma of the hand. The Roentgen rays, however, revealed the true condition. The third metacarpo-pharyngeal joint was the seat of the focus of inflammation; the first phalanx was grown together with the metacarpus in a laterally dislocated position; the cortex of the condylar side was totally destroyed. The tumor was well outlined in the skiagraph, showing calcareous areas. The condition is described by the author as a much degenerated (cheesy) tissue in the state of necrosis which seemed to have a sort of magnetic effect on dissolved calcareous salts, causing them to amalgamate. The condition was analogous to those found in tuberculous foci of the lungs and not infrequently in endocarditis and pericarditis, in old pleuritic bands, etc. The tendons and sheaths appear to be seldom the seat of predilection for calcareous deposits, as in this case, and he suggests for this heretofore unknown condition the names "tenontitis" and "tenontothecitis prolifera calcarea."

9. **Nasal Deformity.**—Booth describes and illustrates a case of deviation of the septum with undeveloped nasal bones, producing saddle-back deformity, and to some extent involvement also of the ethmoidal and sphenoidal bones. While he was not anxious to operate, he first corrected the septal deviation and later, after this had been held in the proper position, he made a longitudinal incision along the dorsum of the nose loosening the nasal bones and elevating them, holding them in their proper position by gauze packing, and relieved the pinched-like appearance by means of a curved needle armed with a piece of antiseptic catgut which was made to take a circuitous course in the following manner: The needle was inserted into the deep tissue at a point corresponding with the lower border of the compressor muscle on the left side of the nose; it was directed upward and made its exit about three quarters of an inch above its entrance. It was then passed over the dorsum and made to enter the deep tissue of the right side at a point corresponding with the point of exit on the left side, passing downward in a shirring-like manner, emanating at a point opposite the point of entrance of the left side. The ends were now tied carefully, pulling the soft tissue up so as to fill in the depressions. This being done, the skin was brought into place and held there by a subcutaneous suture, silkworm gut being used; the nose was dusted over with aristol and dressed, the patient placed in bed and kept there twenty-four hours, at the end of which time she was allowed to get up, and the wound was dressed. The results were favorable, as shown by the illustrations. He remarks that he thinks the combined use of cocain and adrenal capsule as a local anesthetic hemostatic in correcting septal deviation is preferable to general anesthesia, since there is less danger from heart failure or respiratory troubles and there is an absolute lack of hemorrhage.

10. **Hospital Positions.**—MacMurchy gives a list of the hospital positions open to women in Great Britain and in this country, and also elsewhere so far as they could be obtained. The total number is 559, government, municipal and hospital, and 11 positions have been recently opened to competition.

11. **Infection Predisposition.**—Gaertner has investigated and performed experiments to determine the relation of predisposition to infection observed in some cases, especially in anemia. He finds, by taking the results of all of his experiments, that anemia consequent on bleeding or starving produces a quicker and greater lack of resistance to infection than in the normal animals, and concludes that the conditions which favor this predisposition to infectious diseases have to be looked for in the hydremia of anemia.

12. **Pneumonia in Children.**—In infantile pneumonia Fischer would give, at the beginning of the fever, 1 drop doses of tincture of aconite every hour, with or without spiritus Mindereri in one-half teaspoonful doses until diaphoresis is produced, also calomel until the liquid green stool is produced, which is important as stimulating the bowel and kidney action in view of the possible complication of nephritis. Water should be given *ad lib.*, as it is valuable in carrying off toxic products and stimulating the urine and diaphoresis. An occasional dose of castor-oil or calomel is advisable to clear out the swallowed sputum from the intestinal tract. This eliminative plan of treatment should be carried on through the whole course of the disease. Antipyretics of the coal-tar series are all cardiac depressants and therefore should be accompanied with stimulants. He has made it a rule not to give them at all, but rely altogether on hydriatics and if the temperature gives rise to nervous symptoms, a tub-bath is advantageous, beginning with 90 F. and gradually cooling to 70, but not prolonged usually more than five minutes. Vigorous rubbing while in the bath will stimulate the circulation and prevent collapse. In very young and delicate infants it is advisable to give a few drops of Hoffman's anodyne just before the bath. Mustard baths are also useful as a circulatory stimulant and diaphoretic. German mustard should be employed. It is best used by sewing about one ounce in a small bag of cheese-cloth, immersing this a few minutes before placing the child in the bath, adding enough water to make a full bath covering up to the knees. The duration should be about two minutes and marked local hyperemia be produced. Intense dyspnea is best relieved by dry cups over the thorax, three on each side, above and behind, to be repeated in a few hours if relief has been afforded thereby. Oxygen can be best obtained by ventilation, excluding all needless persons, opening the windows, but screening from drafts and enforcing absolute quiet. Codein should be given only to produce sleep when natural methods fail, and then in about 1/10 gr. doses, repeated in an hour or two if no effect is produced for a child 1 year old; younger and older children in proportion. In a toxemic condition we should stimulate by good Tokay wine or whisky

diluted, and lastly the sheet-anchor of the treatment should be nutrition; to feed our patients milk, good soups, egg albumin, etc.

13. **Anesthesia-Paralysis.**—The paralysis which is observed after operations and credited to the anesthetic or conditions during anesthesia is noticed and a case, which Brickner claims to be the fifth in the literature, reported. While none of the views as to the causation of the condition seem entirely satisfactory to him, the traumatic element is evident, and he deduces the following conclusions: 1. The care of the arms is as important a part of the anesthetist's duty as is the administration of the narcotic. They should never be allowed to hang over the edge of the table. This position threatens the musculo-spiral nerves by pressure, and the entire plexus by stretching. 2. Rotation and superextension of the head should be exercised only while emergency requires it. 3. Prolonged pressure of any kind should be avoided, be it that of an assistant's hand or body, or that of a harness. When used, the shoulder strap of a leg-holder should pass over the tip of the shoulder, or over a large pad of cotton wool on the neck; or, best of all, should be held by an assistant—the anesthetist can usually spare a hand to pull the strap up from the body from time to time. It should be remembered that this apparatus has occasionally caused paralysis in a leg, as in one of Garrigues's cases. 4. The common practice of drawing the arms alongside the head, however, much it may contribute to the convenience of the anesthetist and the comfort of the operator is a bad one, and should not be tolerated. Remembering that in some of the cases reported (25) the arms were lying alongside the body during the operation, the safest rule to follow is to avoid allowing either arm to remain for more than a few minutes in any one position, however innocent that position may appear to be.

15. **Tracheotomy.**—Seven cases with 4 laryngotomies and 10 tracheotomies without a death are reported by Rogers. In the majority the operation was done under difficulties and in great haste. He specially dwells on this point as showing that the fear of the operation is comparatively groundless. The greatest difficulty was from struggling, in most of his cases, and in most the cricoid cartilage was divided. This, if a canula is worn, leads to bad cicatricial contraction, but he thinks this can be overcome by dilatation with urethral sounds until specially made intubation tubes can be put in. Cocain should always be used when controllable, but children or patients who can not be kept quiet require chloroform and he has used it with no bad effects. Laryngotomy, except for tumor, is absolutely useless, but the high operation has some distinct elements of safety. Low tracheotomy has only the doubtful advantage of a less probability of subsequent stricture above a long-retained canula, but there is some danger of wounding veins, and hemorrhage. If a large vein were injured death from asphyxia might occur before it could be secured. The lower the fistula the more difficult it is to pass the intubation tube by it and to keep the lower end of the instrument from slipping out and catching the wound. This is the objection to the low operation, leaving the stenosis to be overcome afterward by intubation. In general, and especially for emergencies, and chronic stenosis to be subsequently treated by intubation, the high operation is best. Granulations are often heard of as serious dangers in cases of long retained canulæ, but Rogers thinks this complication can not be common as it was not met with in any of his cases.

**Tobacco and Glycosuria.**—Stern finds that the habitual and excessive use of tobacco increases the existing glycosuria, and is occasionally though less frequently a cause of the condition. It may influence the pre-established pathologic output of urinary glucose in the following ways: 1. By protracting the duration of transitory glycosuria, and by imparting to alimentary melliturla a certain degree of chronicity. 2. By increasing the quantity of dextrose in the twenty-four hours' urine, in the transitory as well as the chronic forms of glycosuria. 3. By transforming the lighter degrees of chronic glycosuria into the graver forms. Cases of alimentary glycosuria prolonged by the excessive use of tobacco are not at all uncommon and he has repeatedly demonstrated this by experiments on individuals. Several of these are reported. The literature is scant in this regard, but a few authors suggest the withdrawal of tobacco. Nicotin poisoning is not, he thinks, the leading cause, at least, of this effect. The main poison contained in tobacco, and one whose toxicity has not been fully appreciated, is carbonic oxid gas. It is always present, especially with cigar smoke, and habitual and excessive indulgence may produce chronic carbonic oxid intoxication. The glycosuria often follows chronic poisoning from this substance, while in the acute, non-lethal intoxication, it is always limited in degree as well as duration. CO poisoning originating from excessive cigar smoking is persistent as long as its causative factor continues.

19. **Simple Anemia.**—The history of the case reported by Floyd and Gies is one of extreme simple anemia, which showed in the beginning; H.B. 12 per cent.; R.C. 750,000; W.C. 3300. Under maximum dosage of 39 gr. of sulphate of iron, and 1/10 gr. of arsenious acid, the appetite became normal with subsidence of all symptoms, in seven weeks, the treatment being entirely suspended. The blood continued about the same while under observation for a year and a month after convalescence had been established. The case is classed as simple anemia on account of the rapidity and degree of recovery. The urine and feces were closely examined and a case of pernicious anemia is given in comparison. The similarity of the blood in the two cases was striking, the clinical features also. The authors think that the comparison demonstrates that the differentiation of primary anemia into simple and pernicious can not be made, especially in severe blood lesions merely by examination of the blood count, but that clinical features must weigh equally with it in establishing a diagnosis. To obtain a satisfactory classification of anemias it will be necessary, besides counting and studying the peripheral blood: 1, to understand the life history of the blood cells, which can be accomplished only through study of the physiology and pathology of the blood-making and blood-destroying organs; 2, to investigate more thoroughly the interrelations between the normal and diseased processes occurring in the blood and those occurring in the other body tissues; 3, carefully to correlate the results of such studies with those obtained by clinical experience.

**Infantile Scurvy.**—Starr attributes scurvy in infants to continued deprivation of fresh food; the quality of the freshness is an important one. He classifies the faulty foods as follows, in the order of their potency: 1. The different proprietary infant's foods administered without the addition of cow's milk. These foods are responsible for the greatest number of cases, and which variety most readily induces the disease depends chiefly on the extent of employment or the fashion at the time. 2. Proprietary foods employed with the addition of insufficient quantities of cow's milk. 3. Oat-meal or wheat gruel, barley and other farinaceæ administered with water alone or with water and insufficient cow's milk. 4. Condensed milk and water. 5. Sterilized milk; properly modified milk mixtures subjected to a temperature of 212 F. from thirty minutes to an hour or more. 6. Too dilute milk and cream mixtures; laboratory mixtures with too low albuminoid percentage. These explain the greater frequency of infantile scurvy in the well-to-do infants than in the poor. The symptoms and conditions are fully discussed and also the treatment. The essential features of the latter is the employment of a food composed of cow's milk, cream, water and milk-sugar, properly proportioned to the age of the infant and given, so far as the cream and milk are concerned, in the natural fresh state, not passed through a separator and not sterilized. Pasteurization and pre-digestion at a temperature of 115 F. are valuable in certain cases, but should never be employed when the cream and milk are properly handled at the dairy and can be kept clean and sweet and when the infant's digestion is even moderately active. The addition of fresh ripe fruit juices, orange juice especially, is useful, and when it can be taken, as is usually the case, without diarrhea. When orange juice can not be obtained scraped apple, fresh grape juice and grapes without the skins and seeds in addition to the dietetic treatment are useful. Inunctions of limbs with warm olive-oil may be a help and per-

haps some preparation of iron like ferrated elixir of cinchona. If there is great prostration, strychnia and alcoholic stimulants should be administered and all complications should be met as they arise. The article includes a tabulated statement of cases of infantile scurvy occurring in the author's practice in the last ten years.

22. **Leukemia.**—Three cases are reported by Jewett, who discusses the theories and thinks that the evidence is strong enough to make it difficult to doubt the infectious nature of at least the acute forms. In one of his three cases there was apparently a heredity, as it seems a brother and sister also died from a similar cause. He doubts the existence of anemia infantum pseudoleukemica as a distinct entity, and points out the difference in his two infantile cases from the description of this disease.

23. **Adrenalin.**—Mayer concludes from his experience with adrenalin in nasal disease that: 1. Adrenalin solutions supply every indication in rhinologic practice for which the aqueous solutions of the extract have been hitherto applied. 2. They can be used in sterile form. 3. They remain unchanged for a long time. 4. A solution of 1 to 1000 is very strong and is all sufficient for operative cases, and 1 to 5000 or 1 to 10,000 for every purpose of local medication. 5. They may be safely applied to persons of every age and of either sex. He believes that in isolation of the blood-pressure-raising principle of the suprarenal glands we have an epoch-making discovery.

25. **Diabetes Mellitus.**—From a study of the mortality statistics of New York City for eleven years, Stern finds that out of 1867 deaths from diabetes mellitus about one-half occurred in females, which is contrary to the usual ideas. It is a rare affection in infancy and early adolescence. In very early ages the most cases were males, though during the rest of early life the proportion of the sexes were about equal. As regards race the colored seem to be very free from it, while the Jews and Irish composed fully one-half of the cases. The disorder is not especially common among well-to-do. It occurs mostly among the working classes. He attributes the various glycosurias to one or more of the following causes: 1. To excessive ingestion of carbohydrates—alimentary glycosuria. 2. To diminution, or functional disturbance, or excessive or abnormal disintegration of the erythrocytes—glycosurias following the introduction of poisons and toxins, or the perverted function or removal of certain glands and organs—hematogenic glycosuria. (Pancreatic diabetes—Seegen's grave diabetes). 3. To traumatism—neurogenic glycosuria. 4. To interference with the glycogenic function of the liver to the extent that the ingested carbohydrates are not utilized normally—common or hepatogenic diabetes. 5. To a general protoplasmic deterioration and plasmolysis—diabetic deterioration. The latter part of his paper is given the description and discussion of the hematogenic glycosuria and diabetic deterioration, which he calls the most typical of diabetic diseases.

26. **Anesthesia.**—The bad effects from anesthesia are first noticed, which Richardson thinks are largely due to over-confidence and non-experience. He has never seen a death from ether itself, and he thinks that while there may have been such due indirectly to it, their number is extremely small. Only urinary suppression and pneumonia seem to him important. When a patient dies after a severe operation, even with these symptoms, it is an unwarrantable assumption that death was due to the anesthetic and not to the operation. It is absurd to say that pneumonia developing three weeks after the operation was owing to anesthesia. Only such beginning directly after recovery can be fairly said to be thus due. The subcutaneous use of cocain would be much more perilous than ether, accidents from the use of which come from disregard of danger signals and from over-etherization, not from the intrinsic dangers of the drug. General anesthesia is strongly contra-indicated under some conditions. The most important are the abdominal conditions or dangers which threaten the patient's life by regurgitation into the throat during profound anesthesia or when patients are operated on with full stomachs. Heart disease is usually regarded as a contraindication to general anesthesia, but that is not according to his experience. His chief anxieties have come from diseases of the lungs, but he is inclined to think that this anxiety is seldom justified by facts. Failure to breathe is a serious matter, and it is fortunate, and in this fact lies the great safety of ether, that a patient, with healthy lungs at least, always reacts to artificial respiration. Local anesthesia has worked well in advanced general peritonitis and dislocations, and in the few cases where he has tried it. Local anesthesia is to be preferred for all trivial operations where thoroughly applied. By such he means removal of small tumors, aspiration, amputation of fingers and toes, etc. He doubts the propriety of local anesthesia in operations like appendectomy, radical cure of hernia and major amputations. As a rule simple weakness does not contraindicate general anesthesia. It is rather the stout, flabby patient, past middle life, who has the accidents. He doubts whether in the acute febrile diseases the dangers of general anesthesia will be avoided by local or spinal cocainization. These new methods, however, have a reasonable application in some, as previous experience has shown, who bear general anesthesia badly. Another class of cases inviting disaster under general anesthesia comprises operations on the deep cervical phlegmons, tumors close to the trachea, involving or pressing on the laryngeal nerves. The imperative operations on the larynx and trachea are included, and the gravest emergencies may arise. He thinks the new method may be more serious than general anesthesia has been found to be, and doubts whether, after fifty years of use like ether or even chloroform, it will show a safety to be compared with them.

27. **Asthma.**—Bell considers the climate of Arizona altogether the best for chronic respiratory diseases, and Tucson the place above all others he would choose. It is mild, dry and comparatively windless. New Mexico also has several desirable places corresponding closely with those in Colorado, but Arizona is the most favored. He advises physicians to send patients there only in the first stage of their diseases as the second and third stage cases rarely recover.

28. **Chorea During Pregnancy.**—Newell says that true chorea is a definite complication of pregnancy, though it does not in the majority of cases depend on previous chorea of infancy, but upon special predisposition, either hereditary or acquired. The general opinion is that it is a neurosis due to stimulation of the utero-ovarian plexus. However this may be, it may be said that the organism is in a state of unequal equilibrium ready for the stimulus which causes the outbreak. This state is closely related to hysteria and it is the predisposing cause. Previous infectious diseases may prepare the ground; auto-intoxication, however, is so frequent that it is hardly necessary to call them into account. Pregnancy alone is to be considered the direct cause. Some more or less violent nervous shock is possibly the starting-point. The symptoms are described, both mental and physical. The disease usually lasts during the whole term and, while rare, is important both to the mother and the child. The drugs usually employed are sedatives, bromids, chloral, morphia, and alteratives as arsenic and iron. A case is reported. In conclusion the author remarks in regard to the frequency: out of 11,000 cases in the Lying-in Hospital, of Boston, there have been 12 cases of chorea; 11 of these were primiparæ and gave a history of previous attacks during childhood, and none of these were serious.

29. **The X-ray.**—The fact that *x*-light tubes deteriorate from use is noticed, and Rollins concludes that the most important study to be made in regard to them is to find how they may be made to keep the character of the light constant. Meanwhile the best way to excite an *x*-light tube is to use surges of millions of volts and many horse power, each surge lasting for not more than a millionth of a second.

38. **Congenital Typhoid.**—Brown reports the case of a child prematurely born while its mother was suffering from typhoid fever. The child's temperature was 101 when born and rose steadily to 103, afterward falling. The child grew weaker and weaker, and died in two weeks. On the ninth day after birth the Widal reaction was obtained complete in forty-five minutes. The autopsy showed enlarged spleen, enlarged mesenteric glands and characteristic healed ulcers in the ileum.

The case is reported on account of the rarity of congenital typhoid. The fact that miscarriage was produced by the disease of the mother, and that the child went nearly to full term in spite of the essential improper nourishment bears out the statement of the comparative mildness of the disease in the young. He has found but a few cases similar to this in the literature.

39. **Hydrophobia.**—Fisch reviews the facts in regard to hydrophobia as far as known, with a study of the Pasteur treatment, and concludes that there are many problems yet unsolved in regard to it. The germ, which is cellular since it does not pass the Chamberland filter, is yet to be discovered, and another question is how those persons can be saved in whom the period of incubation is too short to outrun the outbreak of rabies by means of the Pasteur treatment. Still another question is how are we to treat fully developed rabies?

40. **Hydrophobia.**—Morfit notes the recent advances in the Pasteur treatment, especially the fact that the cord of a fixed virus rabid rabbit can be kept in glycerin for at least three weeks, thus diminishing the expense of the technique of this treatment.

56. **Sight Tests in School Children.**—Krauskopf gives some results of Dr. Allport's sight tests in Chicago school children, and states the relation between school life and sight, briefly as follows: "The slighter eye defects are found to increase rapidly during the first three or four years of school life, and of this increase school conditions and work seem to be in some degree the cause. Following these years is a period when natural conditions of growth and development overcome all unfavorable forces both in and out of school, resulting in a rapid improvement in the eyesight; while later through high school life no material increase or decrease can be detected. The more serious cases seem also to show the effects of early school work and to continue to increase steadily throughout school life, but for this, especially when the visual acuity is exceptionally low, it does not seem just to hold the schools responsible." The special points of the examinations are discussed, quoting particularly the abnormal relationships between general development, mental and physical, and eyesight, etc. The conclusions are offered as tentative, but are given, he says, for what they may be worth as suggestions.

57. **Gonorrheal Ophthalmia.**—Four cases of this disorder are reported by Bulson, who says that, given a case of disease, verified by microscopic examination, the first thing to be done is, if the edema of the lids is marked, to divide the outer canthus and prevent pressure on the cornea. The next is thorough flushing with an antiseptic solution to keep the parts free from infective material. He insists on having a relay of nurses and thoroughly washing the infected eye every fifteen minutes night and day. In no other way can the eye be kept free from purulent discharge. The skilled nurse can manage this without thoroughly arousing the patient if he is asleep. Special caution is given not to touch the cornea with anything for fear of producing an abrasion and introducing infection. If panophthalmitis has set in, evisceration is always preferred to enucleation, owing to the danger of meningitis, and he thinks the latter unjustified except in very rare cases.

58. **Non-comitant Ribbon-like Keratitis.**—From a study of the cases reported Weymann infers: "1. That ribbon-like keratitis arises from trophic disturbances in the lymph spaces of the anterior layers of the parenchyma. 2. That, as a result, Bowman's membrane suffers and thus produces epithelial hypertrophy in the same manner as a low grade of irritation in a wound would produce unhealthy granulations. 3. That calcareous degeneration is an accidental result, but that desiccation being most easily effected in the line of palpebral fissure, the typical bands would naturally appear there first."

67. **Typhoid Fever in Children.**—The records of 61 cases of typhoid fever in children form the basis of Stowell's article. Most of the cases were sporadic and the etiology not often clear; 24 of these occurred in 10 families, and he thinks carelessness may have caused the spread of the disease. The youngest patient was 9 months old; the majority occurred in older children. Of the dispensary cases, 17 were females, 28 males. The temperature frequently varied from the typical, and several curves are shown. Convulsions were not frequent, nor was delirium a constant symptom. Apathy and mental dulness are common even in the very young. Headache is often present and epistaxis very common, usually during the first week. Twice he has seen the eruption almost universal; it usually appeared about the eighth day, about the time the temperature reached its height. Compressibility and non-resistance of the pulse are diagnostic. Both leucocytes and erythrocytes are diminished in the blood, unless pneumonia occurs, when there may be a decided increase. The hemoglobin is greatly reduced, but the anemia is frequently of a type from which recovery is rapid. In 95 per cent. of the cases the Widal reaction was positive; its only disadvantage is its late occurrence. Of the usual digestive symptoms, tympany is less constant in children than in adults. In two cases there was intestinal hemorrhage. At the beginning children are apt to be constipated; later there may be a slight diarrhea. The spleen is apt to be enlarged, though he can not give the percentage. The kidneys, like other organs, are disturbed; he finds the diazo reaction a helpful diagnostic test; the urine is usually not much concentrated. The complications observed were relapses in 3 cases, scorbutus, parotitis, varicella, and pneumonia. The average duration was twenty-three and a half days, though it extended to forty-one days without complications in one case. There were no fatal cases in the 61 children. The treatment should be such as husbands strength and favors speedy convalescence. Diluted milk to avoid coagulation, broths, custards, gelatin preparations and eggs were given. The medicinal treatment was largely directed to intestinal antisepsis with attention to the stimulation of the heart. Alcohol was used only as a dietetic in convalescence. With the coal-tar antipyretics the effect on the circulation had to be carefully watched, but he would not hesitate to give them in certain suitable cases. He relies more on sponging than baths; there is less trouble from fright or danger of collapse in the weak. For antiseptics he uses mercuric bichlorid 1 to 1000 for washing the hands, thermometer, etc., and if permanganate of potash is used it lessens the risk of mistaking the solution; for the excreta, chlorid of lime, a stock solution of 8 ounces to a gallon of water. Of this solution 1 ounce added to a gallon of water is used for disinfecting stools or soiled linen. There is no routine medicinal treatment. Whether the food is liquid or solid is of less importance than that it is properly assimilated. Heart stimulants should be reserved until actually needed, and we should guide the disease we can not stop.

72.—See abstract in THE JOURNAL of January 12, p. 127.

84.—See THE JOURNAL report of meeting of Chicago Academy of Medicine, pp. 1270-1272.

85. **Intestinal Suture.**—The various methods of suturing the intestine are reviewed at length by Connell, who refers to a method of enterorrhaphy devised by him and published in the *Philadelphia Medical Journal* in 1899, which is illustrated again in the present article. Its special advantage is that all the knots are left inside the lumen of the intestine and are therefore more easily disposed of. The method is in some respects similar to the Maunsell method, but does away with the necessity of a second excision and invagination. This circular enterrorrhaphy with all the knots in the lumen has been performed in eleven instances, by Franklin H. Martin, Wyllys Andrews, A. H. Ferguson, W. E. Schroeder, Emil Ries and himself. In three cases recovery did not take place, but in none of these could death be attributed to the method of suture. See THE JOURNAL, xxxv, p. 1150.

87. **Ureine.**—Haines and Woods criticize Moor's alleged discovery of ureine and, from numerous tests, conclude that it is simply a strong aqueous solution of recognized urinary solids and of chemicals used on the urine. While Moor's article shows evidence of its errors to the skilled chemist, they are not so apparent to the rank and file of the profession, and therefore this criticism is offered.

98. **Early Removal of Benign Tumors.**—The early removal of benign tumors is advocated by Clark to lessen the danger of their becoming malignant, to avoid damaging im-

portant structures by pressure and on account of the less risk of operation at an early stage of their growth, and the avoidance of unsightly scars from their removal. Each of these points is discussed in detail.

109.—See abstract in THE JOURNAL of April 13, p. 1060.

110.—Ibid., p. 1061.

119. **Epidermolysis Bullosa Hereditaria.**—The first case so far as known, in the negro race, of this rare condition, is reported by Smith, who gives a summary of the literature. The blood examination in this case was made by Brown, who found a general and local eosinophilia, which he thinks is in accordance with the pemphigus nature of the disease. The blood count in this case closely corresponds with that of the case reported by Columbini, the only other one in which the blood count is given.

120. **Koplik's Spots.**—These spots, according to Zahorsky, are a furfuraceous desquamation of the mucous membrane, and entirely analogous to the desquamation of the integument. So far as observation has extended this is present in measles alone, but it is not uniformly found in this disease. Occasionally the spots are entirely absent in mild cases. Their presence is exceedingly fleeting in many cases and they may be removed by the process of chewing of food. They also may fail to be detected on account of imperfect light. In the cases in his clinic, where they are not found, careful examination is made. If the post-cervical glands are enlarged and the prodromal fever has been very short and there is no trace of the Koplik spots, the disease is diagnosed rubella. If, however, prodromal fever lasts longer and the glands are only slightly enlarged the disease is assumed to be measles, even if the spots are absent. Often in place of the bluish-white spots very minute purple and dark red spots may be seen. These show the places where the scales have been removed. There is no question as to the value of Koplik's spots when present, but their absence does not exclude measles. The earliest sign of measles is a typical rash on the mucous membrane. Sometimes it may be readily recognized, particularly on the palpebral conjunctiva.

121. **Mycosis Tonsillaris.**—Hardcastle considers this disease rare and of interest because of the possibility of its being confused with follicular tonsillitis, though this does not occur with any one who has ever seen a case. The distinguishing points are the small milk-white spots elevated above the mucous membrane instead of the yellowish spots under or at the level of the mucosa in the tonsil. The lack also of constitutional symptoms of inflammatory disorders, which are not present in this disease, is of value. The eradication of the growths is difficult and can as a rule be only accomplished through curettage and the cautery, the galvanocautery being the better. The diagnosis can always be determined by microscopic examination.

127. **Puerperal Infection.**—Wadsworth holds that by careful technique uncontaminated specimens of secretion can be obtained from any portion of the uterus or vagina for examination, and diagnosis be quickly and readily made. It is only exceptionally that pathologic organisms are found in the vagina, and the apparent pathologic appearances here only suggest, with a variable degree of probability, the presence of such organisms. Bacteriologic tests only can decide. Exceptionally, pathologic bacteria may live and maintain their virulence during pregnancy and labor. After labor their conditions, growth and maintenance are more variable and the puerperal uterus is more exposed and vulnerable, and in those cases where natural resources of the vagina have failed and bacteria are persistent energetic antisepsis is required. Ordinarily the douche does not insure sterility. This can only be secured by similar methods, with obvious qualifications, to those used for the skin and hands. The douche may even reduce the natural protective resources of the vagina, enabling pathogenic organisms to establish themselves, and it may also carry other organisms. Therefore, routine douching before and after labor is irrational, ineffective, and often dangerous. The alkaline secretion of the uterus, including the cervix, is free from bacteria, though organisms have been found in the cervical canal without exciting any apparent reaction. The pregnant and puerperal uterus is also usually free, though after the first few days of the puerperium organisms are more often present. Occasionally bacteria invade the uterus from other parts of the body. The pathologic reactions of bacterial growths are the result of either a toxemia or an infection, but apparently not all toxemias of the puerperium are bacterial. It is believed that changes in the exudate, blood clots, etc., may give rise to products which when absorbed produce intoxication. Then nature and virulence of the bacterial species may greatly influence the processes and lesions, while the contraction of the uterus may also have its influences on diseased conditions. The various forms of infection in the early stages, when proper treatment is available, can only be distinguished by bacterial examination. In toxemias not due to pathogenic organisms the results of uterine douching are immediate and effective and attended by little danger, but where pathogenic organisms exist the process may be exaggerated or disseminated. The danger of this is greatest in the first days of the puerperium when the exposed tissues and sinuses offer the least resistance. If bacteriologic examination establishes the presence of pathogenic bacteria in the uterus indications for radical operation may be more accurately determined early in the course of this process. The indications and contraindications for the various forms of curettage are practically the same as those for uterine douching. The use of antistreptococcic serum is irrational and ineffective, especially in cases where organisms other than streptococcus are often present. Practically the routine management of cases should be freed as far as possible from all procedures which interfere with the natural resources of the body, which in the vast majority of cases are sufficient protection against bacterial invasion. In a few exceptional cases requiring interference this should be determined and directed by bacterial examination.

128. **Alexander's Operation.**—The author's technique in shortening the round ligament is described in detail, his special points summarized as follows: "1. Make a clean-cut incision down to the aponeurosis of the external oblique muscle—reaching the aponeurosis rather to the inner side of the ring than directly over it, thus affording an easier recognition of your location. 2. Bear in mind the presence of the superficial fascia, and that its density varies from such a thinness as to be hardly recognized to one of such thickness as to be readily mistaken for the aponeurosis not yet reached. The fibers of the aponeurosis are in large bundles, all running in one way. Those of the superficial fascia are finer and more closely woven. 3. Expose to a clear view both pillars of the external abdominal ring when distinctly marked. If indistinct, as in small rings and in instances of dense intercolumnar fascia, expose clearly the anatomical position. With this in view the pillars and ring can be recognized by touch." In a note Brown says that he finds this operation described in Keith's work on "Operative Gynecology" (1900), with the exception of his cutting the nerve. He was not previously aware of Dr. Keith's method of operating.

131. **Ovarian Disease and Insanity.**—Hobbs' article is similar to his other published papers, attributing remarkable results to operations on the female genitals in the various forms of insanity.

132. **Cerebral Injuries During Birth.**—The extensive infantile mortality is attributed by Morse to compression of the skull or its contents during birth. This pressure may be from uterine contractions, either short in time or severe in character and of less severe character and more prolonged or by compression by instruments. He thinks that a child after delivery by forceps through a contracted pelvis has very little chance of life and if living is practically sure of being feeble-minded or idiotic. Our strongest hope in such cases at the present time lies in symphyseotomy. He hopes in the future that the induction of premature labor in such cases will obviate the necessity of all destructive operations on the child and all cutting operations in the mother.

134.—See abstracts in THE JOURNAL of February 16, pp. 462 and 463.

135.—Ibid., p. 462.

145. **Peritonitis.**—The principle of treatment of peritonitis advocated by Robinson is to give physiologic rest to the intestinal tract. This is done by allowing no food or fluid to pass the mouth, keeping the patient absolutely still in bed, not even getting up for defecation or urination, giving 1/16 gr. of morphin sulphate at intervals of two to hour hours, applying cold to the abdomen by rubber tube coil, or continued heat by means of corn meal poultices. For the thirst he would give rectal injections, and allow the patient to apply wet gauze to the lips. No ice should be allowed. All nourishment should be given *per rectum*. Cathartics should be avoided. By this method he prevents the spread of infectious material by peristalsis; the peritoneal exudate surrounds the germ, and sterilizes and plugs the visceral perforation. If food has been in the stomach it would be wise to wash it out. This method of treatment bridges the patient over dangerous periods to a quiet condition when operation is practically safe.

147. **Mesenteric Anomalies.**—After reporting a case of ileus with postmortem, Pleth accounts for the conditions by an anomalous growth of the mesentery due to the inner arm of the umbilical loop crossing the upper arm behind the same and then proceeding with its growth. The cecum and appendix therefore had to go through the mesentery, which, arising from the secondary lumbar vertebræ spreads downward toward the cecum, colon and small intestines. The root of the mesentery in this case was very short and this explained how a volvulus could be produced, the mesenterium commune thus formed permitting of free mobility and allowing the intestines to be twisted around it.

148. See abstract in The Journal, xxxv, p. 1500.

150. **Mammary Carcinoma.**—Assuming that carcinoma is primarily a local disease, extending by infiltration, by lymphatic extension and by metastasis, the only treatment which offers the patient any hope is removal of the growth, which should be early and complete. Bell's deductions are therefore that a sufficiently early operation will effect a cure in the best sense of the term and that in certain more advanced cases operation removing all the axillary structures, including the blood-vessels and the brachial plexus, from the level of the first rib outward, would effect a cure in many cases in which after any lesser operation, early recurrence, and hopeless miserable and distressing invalidism for a short time is all that remains for the patient. No breast tumor should be looked upon lightly, if there is the least possibility of its being a carcinoma or sarcoma, and the upper extremity should be sacrificed if it offers any hope of saving the life. He has always found, however, that patients dread the danger and manipulation and has not succeeded in carrying out this extreme operation thus far. He thinks that with the better surgical education of the public there will be less trouble in this respect, and some lives may be saved that are now lost.

## FOREIGN.

### The Lancet, April 20.

**Carcinomatous Stricture of the Duodenum.** H. D. Rolleston.—The author first describes a case in which a carcinoma with columnar cells existed in the third section of the duodenum, where the mesentery crosses over it, producing stricture and carried the patient off. The diagnosis was at no time sufficiently positive to justify a laparotomy in a man so gravely ill. Rolleston describes the different forms of carcinoma of the duodenum according to the location: Carcinoma in the first part of the duodenum is rare. In the 40 collected cases it was affected alone in 8 and only with the second part in 5 more. It is exceptional that carcinoma of the pylorus extends in this direction. He says, however, practically the same clinical picture is seen in carcinoma of the pyloric end of the stomach. The commoner disease will generally be the one diagnosed. It is therefore called juxta-pyloric carcinoma of the duodenum, or another name is supra-ampullary carcinoma. It may develop on a former ulcer, as in the stomach, though since ulcer of the duodenum is usually situated in the first part, where carcinoma is rare, this can hardly be considered an important factor. The most frequent form of primary duodenal carcinoma is that in the second part of the duodenum. Of the 40 collected cases the growth was limited to the second part in 24, while in 5 others the first part was also invaded. If it occurs in the upper part of the second portion, above the liver or biliary papilla, it will give rise to much such symptoms as pyloric carcinoma, but if it involves the papilla, the flow of bile will be interfered with and jaundice or other complications arise, and if it is well below the biliary papilla it will give rise to obstruction with biliary vomiting. It has a special tendency to arise in the mucous membrane coverng the papilla, but this must be differentiated from carcinoma arising inside the papilla or in the ampulla of Vater. This preference of site is possibly due to some fetal displacement or intrusion of the epithelial cells during the development of the parts. An innocent papilloma is sometimes seen in this situation, and the author thinks that carcinoma may subsequently develop from such a growth. He thinks the possibility of impacted gall-stones having any causative effect seems improbable, though Dickinson has recorded the association of the two conditions. Carcinoma of the third part of the duodenum is the least frequent of all; in the 40 collected cases, not including the present one, it was only found in 3. The symptoms are those of intermittent obstruction, as in the case here reported. It thus resembles pyloric obstruction except for the presence of bile and pancreatic juice in the vomit, and their occurrence should at once suggest carcinoma, or gastric biliary fistula. The vomit should be tested for trypsin by seeing whether fibrin is digested in alkaline solution. In this way the diagnosis between the two conditions may be made.

**When to Operate in Perforative Peritonitis.** Arthur C. Roper.—The four cardinal signs on which Roper depends for the diagnosis of perforative peritonitis are, for the first few hours after its occurrence: 1. Rigidity. 2. Tenderness. 3. The presence of fluid. 4. Free gas in the peritoneum. To these should be added pain and signs of collapse. If first seen several hours after the occurrence, there may be rigidity giving place to distension and immobility in respiration. Tenderness may be still present, though not so general. Free fluid is probably increased and neither feces nor wind have passed per rectum. This remarkable amelioration of symptoms may deceive even skilful men. The thing to do in the stage first described is to make the diagnosis, give anodynes and prepare for the operation. The diagnosis may be somewhat difficult. There is usually a history, but the appendix is usually the offending organ and we have here, as a rule, a particular tenderness at McBurney's point. In the second stage careful attention to the condition of the abdomen alone can save one from mistakes. Taking the temperature is of great importance because the absorption of pus or its toxins causes a well-marked rise. What we want to know is whether the appendix is perforated in a situation where adhesions will form and cause only local trouble, or whether there will be a general septic peritonitis. We also wish to know if the appendix is in its usual position since in rare cases it runs inward toward the middle line of the abdomen and over the peritoneum. The things to be looked for are: 1. The condition of the patient, the pulse, temperature and aspects. 2. The condition of the abdomen. 3. The presence or absence of swelling. Taking the second point first we should make sure whether distension has occurred and whether the peritonitis causing it is general or local. The first we can see at a glance, and percussion showing actual dulness on both sides would indicate that peritonitis is more than a local one and that fluids are accumulating in the general cavity. Ordinarily, however, dulness is first on one side. We must not infer, however, that peritonitis is necessarily general because distension is general, and if we find that contractile power is left in the bowel we infer that the general abdominal condition is not very bad. The presence of definite tumor without distinctive signs of pus in it is a relief. The pulse and temperature must be closely watched. In sthenic cases where the patient's face is flushed, he is alert and has no delirium, we can afford to wait, especially if we can feel a distinct swelling and the distension is not alarming, but it is just as well to be prepared and know just what we are awaiting. If, watching such a case, the temperature suddenly falls without improvement in the pulse, imme-

diate operation should be decided on, as it means sloughing of the appendix at least and may mean something worse. The asthenic cases are more serious, not those which are moribund where nothing can be done, but where there is profound disturbance, pale or sallow complexion, and rapid, small, compressible pulse and only a small rise in temperature and any evidences of septic poisoning, we should arrange for immediate operation, but Roper specially suggests that he does not operate during shock, as he does not wish to add the shock of operation to that already existing. He would prefer to rally the patient with opiates and stimulants. As regards opiates, he prefers opium to morphin, which he thinks is more of a bowel paralyzer. If possible, he makes the diagnosis before giving opiates. If that can not be done he gives opiates and sees the patient again in four to six hours. In a case of gastric perforation four hours is too long to wait. While making sure of the seat of trouble one would be doing right in insisting that no opiates be given except in the physician's presence until he has arrived at the diagnosis.

**Causation and Treatment of Profuse Epistaxis in People Beyond Middle Age.** George Coates.—Five cases of profuse epistaxis in elderly people are described by Coates, who discusses the causes. In all these cases the sequence of events which led up to epistaxis was generally alike: 1. Long continued high arterial pressure. 2. Some sudden cardiac failure, such as the giving way of the valves or loss of power of the cardiac wall. 3. Over-filling of the whole venous system, the weakened heart not being able to sufficiently empty engorged veins against the high arterial pressure due to contracted arterioles. 4. Leakage of the over-filled veins. He says the proper method of treatment of these cases is to empty the over-filled veins. If we can relax the walls of the arteries and help the enfeebled heart this should be done, but this is impossible by giving heart tonics at first. Nitroglycerin is quite effective; nitrite of amyl might be more so. He says: "Finally, by recognizing profuse epistaxis as a symptom of a sudden though mostly temporary heart-failure, there is no danger of commencing valvular disease being overlooked and the patient being considered as one who only requires a little surgical treatment. In some cases it is possible that the alteration in the circulation causing the epistaxis may also cause cerebral symptoms, but here, again, the cerebral symptoms are mostly not the cause or the result of the epistaxis but only the result of the circulatory conditions leading to the epistaxis."

Journal of Laryngology, Rhinology and Otology, March.

**Atresia Auris Congenita.** Hunter Tod.—Three cases are reported and illustrated; two in which there was bilateral deformity and the third unilateral with very slight auricular deformity. This generally accompanies these cases and is attributable to arrest of development. Congenital aural fistula is rare, only four cases being found; it is much more frequent in normal ears, and auricular appendages are almost as rare. The hearing power is rarely entirely destroyed; complete deafness is exceptional. In some cases the hearing power is found to be increased if the mouth is kept open. He speaks decidedly against the value of operation and sums up his conclusions briefly as follows: "1. The deformity is not hereditary, and the cause is not known. 2. It occurs rather more often in females, and is more often unilateral than bilateral. 3. One may get accompanying deformities, chiefly due to maldevelopment of the parts in connection with the first and second branchial arches. 4. The labyrinth is rarely affected. The hearing varies, but is present to some extent, though slight. Hearing-tests give practically the same results as those in an uncomplicated middle-ear affection, but more marked. 5. Embryological, pathological, and clinical observations prove operation to be useless. 6. Something more, perhaps, can be done by careful non-operative treatment and by early and assiduous instruction in speaking and lip-reading.

Bulletin de l'Academie de Medecine (Paris), April 2.

**Four Cases of Cured Glioma of the Retina.** Lagrange.—The first patient was a boy of 2½, and the tumor on removal proved to be a neuro-epithelioma. The papilla was completely included in the process, but the lamina cribrosa formed a barrier behind, beyond which it did not pass. The cure has persisted seventeen months to date. In the second case there has been no recurrence during the 2½ years that have elapsed since the ten-months' babe was operated on. The optic nerve was not involved. The retina was completely detached from the choroid coat and the gliomatous masses had proliferated on the external surface of the retina. The choroid and iris were intact. The glioma seemed to have developed from the outer granular layer while the inner layer was normal. The third case was in retrogression when first seen, cured by enucleation in January, 1900. The choroid was not involved in the tumor, which proved to be a glioma, the generic term applied to all embryonal neoplasms of the retina, although in this case the tumor was closely allied to an epithelioma or angiosarcoma, retrogressing into a fasciculated fibroma. The child was 6 years old, which confirms the assumption that glioma of the retina is less malignant the older the child. The fourth case was a traumatic endophytic glioma in a girl of 9. The entire retina was involved in the process and the posterior portion of the vitreous contained fibrils infiltrated with altered retinal cells. The tumor developed from the inner granular layer. The child has been cured for more than a year.

**Prophylaxis of Tuberculosis.** Lancereaux.—Reviewing 2192 cases of tuberculosis in his service Lancereaux finds that alcoholism was evident in 1229, and he also notes that 853 out of 1984 chronic drinkers were tuberculous. He mentions that the tubercular localization was in the right apex in the great majority of cases, and that the lobular or caseous form predominated over the granular. In his entire experience he was able to find only 46 cases in which contagion was manifestly the cause of the tuberculosis, and only 93 in which hereditary influences seemed to be a factor. Next to alcoholism, an insufficient supply of air is the most potent factor in the evolution of tuberculosis, and Lancereaux concluded his address urging legislation to prevent overcrowding, by more stringent building regulations.

April 9.

**Mineral Composition of the Human Fetus.** Hugounenq.—During the first six month of pregnancy mineral elements enter very little into the composition of the fetus. In the last three months, however, such an amount of mineral substances is taken up that at birth the fetus takes away from the maternal organism as much as 100 gm. of mineral elements. This includes .268 gm. to .294 gm. of metallic iron, of which probably 50 to 60 per cent. is in the form of hemoglobin. Most of the balance is stored in some organ, as has been determined on other mammals, probably to compensate for the insufficiency of iron in the maternal milk. With the exception of the mineral elements required for the blood and bones, the other mineral constituents are practically in the same proportion at all stages of fetal life. The research on which these assertions are based included incineration of the cadavers of eight fetuses or new-born infants.

Bulletin de la Soc. d'Electrotherapie (Paris), March.

**Tardy X-Ray Burns.** Oudin.—This writer has had occasion to observe three cases in which, five or six months after exposure to the *x*-rays, evidences of injury became manifest. The lesions presented the same appearance and also the slow evolution of the severe burns that have been noted, commencing on an average two weeks after the exposure. In one of the patients there was slight immediate pigmentation, but the burn developed on the opposite side of the abdomen, under the influence of a trifling traumatism—an injection of serum. In the third case, six months had elapsed after exposure, with no evidences of a lesion, when under the influence of a local hot douche—not hot enough to burn—the vast, characteristic ulceration commenced and progressed. These facts have convinced Oudin that the *x*-ray burn is a secondary trophoneurosis, analogous to mal perforans or decubitus acutus and the cutaneous affections described by Charcot as hysteric ulcerations. An ulceration on the mamma, which appeared in a young hysteric in consequence of a violent emotion, and persisted for months rebellious to all treatment, resembled in every respect the tardy *x*-ray burn on the mamma of Oudin's first patient.

In some of the *x*-ray burns he has examined, the patients had noted pains along the nerve supplying the region. The lesions in some cases followed the nerve, instead of being limited to the parts exposed.

Presse Medicale (Paris), April 13.

**Typhoid Pyonephrosis.**—Garnier and Lardennois.—Only three cases of actual pyonephrosis of typhoid origin have been observed in France. Garnier reports a fourth case. Pains in the left hypochondrium were a noticeable feature of a moderate case of typhoid fever, in a man 31 years of age. They persisted after defervescence and were occasionally accompanied by an intense, transient, febrile paroxysm. A month later the pains became more severe and they sometimes radiated from the lumbar region to the testicle, simulating nephritic colic, the attacks terminating with the expulsion of a few thick clots of pus containing the typhoid bacillus. Pus was still evident in the urine after an extensive nephrotomy, and the pains and continuous remittent fever persisted with occasional febrile exacerbations. The kidney was removed and found large, nodular and dotted with abscesses. The patient died in progressive cachexia and the other kidney was found in much the same condition. The pyonephrosis induced by typhoid bacilli may affect the entire kidney or may be limited, but it can scarcely be differentiated until convalescence commences. Pains in the lumbar region, tumefaction of the kidney and intermittent pyuria are the principal symptoms, although the latter may be absent. Nephrotomy should be done early and the organ extensively opened. This operation may prove sufficient if all the pockets can be evacuated. It answers the need of the moment and allows the functions of the other kidney to be tested. If the affection progresses and the other organ is intact, an early secondary nephrectomy is urgent.

Revue de Chirurgie (Paris), April.

**Physiologic and Cytologic Study of Hemothorax.** T. Tuffier and G. Milan.—The increase in the size of the effusion which becomes evident toward the fifteenth day, is not due to the continuation of the hemorrhage but to a serous exudate. It is not, therefore, an indication for operation. Neither is the fever an indication for surgical intervention when it is moderate, as it is not of microbian origin but purely dynamic and due to absorption. Persistence of polynuclear cells in the effusion after the 25th day, however, is suggestive of suppuration. The latter may also be suspected in case the polynuclear cells, instead of diminishing daily, increase in numbers or remain stationary. By that time they ought to be less numerous than the lymphocytes and mononuclear cells. The correct treatment of traumatic hemothorax is capillary puncture about the fifteenth day, at the moment when the blood is sufficiently diluted and the pulmonary wound sufficiently cicatrized to prevent a new hemorrhage when the pressure is removed from the lung. One case of moderate, aseptic hemothorax from which the above deductions were made is described in detail. The corpuscles in the effusion remain alive and are reabsorbed into the circulation, the serous effusion diluting the blood and preventing coagulation.

**Hydatid Cysts in the Argentine Republic.** H. Vegas and D. J. Cranwell.—The Argentine Republic is one of the countries in which hydatid cysts are most prevalent. The general mortality therefrom is about 11.11 per cent Marsupialization and drainage are slow but by far the surest method of treatment. Extraction of the germinal membrane with suture without drainage is exceptionally indicated in cerebral or external cysts when extirpation is impossible on account of adhesions. The writers' experience includes 952 cases. In 27, several organs were affected at once; in 641 the liver, in 54 the lung; in 15 the brain; in one each the mediastinum, mamma and thyroid body, and in 4 the bones. Most of the cases occur in the province of Buenos Ayres.

**Experimental Study of Fractures of the Upper Jaw.** R. Lefort.—The extensive and arduous experimental research reported in this article establishes the fact that severe fractures of the bones of the face are subordinate to certain very simple laws and can be classified in a certain number of well-defined types. Knowledge of these types will singularly facilitate the investigation and exact diagnosis of fractures which too frequently are overlooked, to the detriment of the patient and sometimes also of the surgeon. These types are described in detail and profusely illustrated in Le Fort's article, commenced in the February number of the *Revue*.

**Primary Tuberculosis of the Parotid Gland.** P. Lecene.—The case described is the ninth on record of a primary tuberculosis of the salivary glands. The symptoms usually indicated a mixed tumor; occasionally facial paralysis suggested a malignant neoplasm. In others the affection was diagnosed as tubercular adenitis. Even after the operation, the diagnosis was possible in some cases only under the microscope. Total extirpation is the only treatment whenever possible, but the facial nerve must be spared. All the parts involved must be removed and with the curette this usually can be done without injury to the facial nerve or the vessels.

Centralblatt F. Chirurgie (Leipsic), April 6.

**Treatment of Irreducible Luxations of the Lower Jaw.** Kramer.—Instead of resection in cases of severe and irreducible dislocation of the lower jaw, severing the stretched muscles will sometimes bring the jaw into place without further trouble. In a case described, after dividing the masseter and external pterygoid muscles and the external lateral ligament, the luxation was corrected without trouble.

April 13.

**A Magnesium Murphy Button.** V. Chlumsky.—A small ball of perfectly pure magnesium introduced into the stomach or intestine becomes corroded in two, and disappears entirely in eight to sixteen days. An intestinal button of magnesium, on the pattern of the Murphy button, is completely dissolved in eight to ten days after a gastroenterostomy, if the patient is given a little weak solution of hydrochloric acid to hasten the process. Owing to its absorbability the button can be simplified, much to its advantage. Chlumsky states that his experiences on patients and dogs confirm the superiority of this magnesium button over the original appliance.

Muenchener Med. Wochenschrift, April 9.

**Transfusion of Animal Blood in Therapeutics from a New Point of View.** A. Bier.—The many severe symptoms that follow the transfusion of animal blood have caused the rejection of this measure as inevitably dangerous, but Bier has been studying these symptoms and finds that they are all characteristic of the invasion of the organism by an infectious agent. The blood-corpuscles of the heterogeneous blood evidently act like foreign bodies which the vital energies of the organism rally to repel, and thus an actual "aseptic infectious disease," as he calls it, is produced by the transfusion. It is followed by a chill, fever, sweat, possibly albuminuria and hemoglobinuria; the foreign corpuscles are agglutinated and dissolved, like bacteria, and the spleen becomes enlarged. Afterward, in the same way as during convalescence from an acute infectious disease, metabolism is stimulated and the appetite increased. The idea occurred to him that these phenomena and processes might be utilized for therapeutic purposes. The alteration in the composition of the blood might possibly confer bactericidal power on it, and the sudden, intense, transient hyperemia, the subsequent, protracted, serous saturation of the internal organs and the skin, and the augmented metabolism and appetite, could not fail to benefit certain chronic, sluggish, infectious processes by giving them a general shaking-up, as it were, and thus allowing the recuperative forces of the organism a chance to work. Experiences with certain drugs suggest the possibility that the changes induced might be most pronounced at the point of the morbid processes. Reasoning from these premises Bier applied the transfusion of difibrinated lamb's blood as a therapeutic measure in eleven cases of advanced, incurable tubercular affections. The amount injected at a time ranged from 4 to 20 c.c., never enough to cause more than a trace of albuminuria. All the patients mentioned that their faces felt as if they would burst. They were informed that they would experience transient swelling and flushing of the face, pains, chills, fever, etc., and that

these symptoms were part of the treatment. The appetite returned after a single injection and became ravenous in nearly every case. The fever did not cause lassitude; the patients felt well and enjoyed their meals even while it lasted. The lamb's blood was injected in a vein of the arm, the aperture in the needle eccentric to the point. One case is reported in detail, the patient a young carpenter with extensive open tuberculosis of the sacro-iliac symphysis on both sides. The first four injections—a total of 55 c.c. in five days—failed to cause any symptoms of intolerance for two days, then urticaria developed all over the body, lasting for three days. Ten days after the last injection 10 c.c. were transfused, the ordinary train of transfusion-symptoms developed and with them a ravenous appetite. The transfusion was repeated about 12 times in the course of four months. Patient gained in weight and the extensive, bilateral suppuration in the pelvic abscesses and fistulæ became nearly dried up, while the patient was able to be up and about without discomfort. One day 2.5 c.c. were injected followed as usual by transient dyspnea, backache and burning of the face. The same amount was injected as these symptoms subsided, followed by slight pains. Then 5 c.c. were injected and caused no disturbance, and an additional 10 c.c. induced merely slight dyspnea. A total of 20 c.c. blood was thus transfused in twenty-five minutes, and after the first portion caused no disturbances. This suggests that the dissolving substances in the patient's blood were used up by the first small amount of blood transfused. Four cases of lupus showed such prompt and remarkable retrogression of the lesions after systematic transfusion that Bier remarks he would call them cured if it were not for the disappointments that followed the alleged cures with tuberculin. He has also been testing this measure in cases of inoperable malignant neoplasms and promises some interesting communications when his observations are completed. One case of acute sepsis, and another of pyohemia, both very grave, were not influenced by the injections and succumbed to the progress of the disease. As lamb's blood is the least toxic, Bier suggests that the effect might be enhanced by using the blood of other animals.

**Multiplicity of Primary Malignant Tumors.** NEHRKORN.—Several cases of multiple carcinomata have been observed at the Heidelberg clinic. In one there was a carcinoma on the temple, another over the orbit and a third behind the ear. In a second patient two carcinomatous nodules a few centimeters apart developed on one temple. In a third a carcinoma had developed on the ear subsequent to chronic eczema and otitis, while an adenoma developed on the lip. Another patient was recently operated on and a carcinoma of the mamma removed at the same sitting with an adenoma of the uterus. Schiller published recently a case in which a spindle-celled sarcoma of the epiglottis coincided with an epithelioma of the tongue. The latest case observed by Nehrkorn was that of a woman of 59. A melanosarcoma of the rectum was removed and a carcinoma of the uterus at the same time. The patient died and the autopsy showed numerous sarcomatous metastases of the viscera. He concludes from his experience and that of others that multiple carcinoma-formation has been established in a few special cases. Usually it seems to be a mere coincidence.

**A New Point of View for the Treatment of Whooping-Cough.** G. SPIESS.—The causal agent of whooping-cough induces an irritation in the throat which causes the coughing by reflex action. If the lining of the throat could be rendered insensible, the reflex action would not be induced. The anesthetic effect of cocain is transient, but orthoform is a substance which induces a hypoesthesia sufficient for the purpose and lasting several hours. Spiess therefore treats whooping-cough by insufflating orthoform with a bulb powder pump, the patient inhaling as the powder is blown into his throat. The relief is immediate, and infants and children make no resistance to the measure as they learn that it is painless. It is also beneficial in certain other affections of the upper air-passages.

April 16.

**Acute Serous Meningitis.** J. HEGENER.—The number of cases of acute serous meningitis on record is still very small. The affection is differentiated by the complete recovery after evacuation of the excess of cerebrospinal fluid, although the symptoms may have indicated severe purulent meningitis. Hegener recently operated on two patients with symptoms of pressure on the brain complicating an old and severe disease of the middle ear, retarded pulse, headache, optic neuritis, etc. All the threatening symptoms vanished after opening of the subarachnoid space and the gradual oozing of a large amount of serous fluid. In one case the parts involved in the ear affection had all been removed except the diseased labyrinth in which no pus was found. It healed completely and spontaneously, after the escape of the serous fluid. In one of the cases optic neuritis appeared nine days after the incision in the subarachnoid, and subsided four weeks later. If lumbar puncture had been done instead of the subarachnoid incision and subsequent continuous drainage, it would have been necessary to have repeated it several times in one case, as the symptoms of pressure on the brain did not entirely subside until after eight days.

**Tuberculosis a Toxicosis.** E. KLEBS.—It has been established that market butter may contain tubercle bacilli. Klebs asserts that it may also contain the toxins of the tubercle bacilli and describes various experiments which indicate such to be the case. He considers his personal experience suggestive in this respect. He was spending the summer in a healthy Swiss village when he noticed that an ulcus cruris and eczema of the hands, from which he had suffered ten years previously, had recurred with their pristine intensity, although no external agents could have irritated them. He finally traced their origin to the unusually large quantities of butter he was eating, made up his mind that they were tubercle bacilli toxins, and cured them with his "tuberculocidin" which neutralizes these toxins. Experiments on guinea-pigs showed that the butter contained a virulent toxin which killed the animals with the characteristic lesions and hypothermia characteristic of tubercular toxins. He is convinced that tuberculosis, besides being an infectious disease, is at the same time a toxicosis.

**Treatment of Rhachitis with Suprarenal Substance.** M. HOENIGSBERGER.—Suprarenal extract has no influence on rhachitis except as a measure that benefits the health in general. It accomplishes the latter by raising the blood pressure by its vasoconstricting action on the vessels, and by its retarding and regulating action on the heart and pulse owing to its action on the vagus centers.

**Rinsing Out the Stomach in Children.** I. STEINHARDT.—The general practitioner is urged to make more frequent use of lavage of the stomach in the gastro-intestinal disorders of infancy. The technique is simple; it can do the child no harm and is indicated in all cases of acute digestive disturbances in small children rebellious to the ordinary measures. In nearly every case more or less marked improvement is the prompt result.

**Treatment of Gout with Quinic Acid.** SALFELD.—Quinic acid seems to possess the property of dissolving or transforming the deposits of uric acid in genuine gout so that they subside or are eliminated with no trouble to the organism. A combination of quinic acid and piperazin has been tested by Salfeld on several patients, and he is much impressed with its therapeutic value. It has no effect on articular rheumatism and is thus an excellent differentiating medium.

**Treatment of Fibrinous Pneumonia.** HORNUNG.—The points emphasized in this communication are the danger of alcohol in any form in pneumonia, as it has the same paralyzing effect on the vasomotor centers as ether and chloral and the pneumococcus toxin itself, while it is of the utmost importance to keep these vasomotor centers intact. Another point emphasized is the benefit to be derived from faradization of the thorax with a rolling massage-electrode. The constant interruption of the current exerts a kind of massage on the cells which materially stimulates the circulation and hence relieves the heart. The electrization is grateful to the patient and has never failed in Hornung's experience, even in the severest cases of disturbed compensation.

Wiener Klinische Rundschau, April 7.

**Etiology of Delirium Tremens.**—A. ELZHOLZ.—It is probable that the excessive use of alcohol generates in the body a toxic substance, analogous to the toxins of the pneumococcus or other infectious agents. Elzholz is inclined to believe that alcohol is itself the antidote for this metabolic toxic substance If the alcohol is suspended or an insufficient amount ingested, then the toxic action has full sway and the clinical picture of delirium tremens results. He calls attention to a symptom of delirium tremens which has been hitherto overlooked. It indicates that the toxic substance generated has an influence on the eyes—possibly also on other mucous membranes. He has found a catarrhal affection of the conjunctiva accompanying delirium tremens in more than 50 per cent. of his cases since he began to look for it a few years ago. It may be very slight or may attain the proportions of a muco-purulent conjunctivitis, but in every case it vanishes with the termination of the attack of delirium tremens. No complications on the part of the eye accompanied it in any case. He cites an instance in which an incipient attack of delirium tremens was arrested by a pint of rum which the patient drank just before he was taken to the hospital. There was no delirium for two days after his admission, when it again burst forth with renewed energy. The alcohol proved an antidote for the toxin and annulled its influence, but when the effect of the alcohol passed off the delirium recurred.

**Congenital Stenosis of the Pylorus in Infants.** A. KOEPPEN.—This condition should be called a "cramp of the pylorus," rather than stenosis, and is a nervous phenomenon on an inherited nervous soil. The treatment should be the strictest hygienic-dietetic measures from the first indications of the trouble. Medicines do little good, as narcotics can not be given in amounts sufficient to ensure a permanent effect, and as purgatives merely serve to increase the cramp. Koeppen has never derived any benefit from lavage of the stomach, but recommends the application of dry heat to the abdomen, possibly with a thermophor or hot flannel cloths. The child is then fed, and held in an upright position until eructation occurs, which may require fifteen minutes or even longer. The food should contain very little casein, little sugar and not much fat, in order not to favor the tendency to cramp. All mixtures of cow's milk are injurious on account of the proportion of casein. When careful supervision of the food, etc., and the course of the trouble, show the impossibility of even a minimal absorption of food, then the little patient should be operated on as a last resort, without waiting for or even enquiring as to the degree of the stenosis or the extent of the hypertrophy. Gastro-enterostomy is the only operation that prevents a recurrence of the trouble as it removes the foundation for the injurious consequences of the congenital, local constitutional anomaly to which the cramp of the pylorus is due in these cases. This article was commenced in No. 9.

**Alcoholism in Childhood.** M. KASSOWITZ.—The writer of this communication, which was presented at the International Anti-Alcohol Congress, states that he and others have known instances of epilepsy, delirium tremens, dropsy, etc., in children follow the continued use of alcohol, not only when ingested in excessive amounts but also frequently after the moderate use of wine or beer and even after the small doses of brandy which are considered by many persons as not only harmless but directly beneficial. These experiences testify to an abnormal susceptibility on the part of the childish nervous system and organism to the effects of alcohol. The depressing influence of alcohol on the child's capacity for study has also been directly demonstrated.

April 14.

**Hemorrhage After Operations on the Tonsils.** SEIFERT.—In the two cases of angina phlegmonosa described, the incision was followed by violent hemorrhage, but Seifert arrested it by plugging the wound with cotton or gauze. The tampon was left over night and definitely checked the hemorrhage in one patient. In the other the flow of blood was renewed when the tampon was removed. The wound was irrigated with an antiseptic solution and the tampon replaced, with no further disturbance. Tamponing the wound is a simple and effective measure for arresting post-operative hemorrhage from the tonsils, if skillfully performed, and renders ligature of the external carotid unnecessary.

Wiener Klinische Wochenschrift, April 4.

**Injections of Paraffin for Prolapse.** HALBAN.—In four cases of cystocele Halban injected a half ring of paraffin between the wall of the vagina and the bladder in order to form a kind of a pessary to prevent the prolapse. He injected about 20 to 25 c.c. and inserted a pessary for twenty-four hours to make the paraffin cool in the desired shape. The results have been extremely satisfactory.

St. Petersburger Medicinische Wochenschrift, March 19.

**The Growing Old of the Heart.** K. DEHIO.—As the blood-vessels grow old, the changes in their structure cause corresponding functional and anatomic changes in the heart. It increases in size and weight to enable it to keep pace with its increased task, but at the same time the circulation is retarded, keeping the pulse slow. Dehio describes a simple apparatus with which he tested the power of the heart to respond to extra tasks. The foot is fastened to a weight hanging from a pulley on a post at the foot of the bed. Drawing up the leg raises this weight of 4090 gm. to a height of 40 cm. Young and healthy persons could do this fifty times a minute with no apparent effect on the heart's action, which remained rhythmical and even, although the pulse was 114 to 120 and the limb much fatigued. Less robust persons wearied in six minutes and the pulse rose to 132 or 140, but the heart's action was regular. Elderly persons, on the other hand, found it impossible to keep up the exercise more than a few minutes on account of dyspnea, palpitations or excessive sweating, but at the same time the pulse persisted slow, the beat ranging from 76 to 102, arrhythmic in several cases. The heart is incapable of accelerating its beat as occasion demands, as is possible in the young and healthy. The contractions are less frequent and there is less volume to the beat owing to the diminished automatic energy. The latter is due principally to the myofibrosis to which Dehio has previously called attention. The essence of this process is a disappearance by atrophy of the muscle fibers of an originally primarily hypertrophied heart, and the substitution of the atrophied muscle fibers by interstitial connective tissue.

# Queries and Minor Notes.

## "CHRISTIAN SCIENCE" UNIVERSITY.

CAVE SPRINGS, GA., April 19, 1901.

*To the Editor:*—Is there, or was there, eight or ten years ago, a legal medical college or medical department of a university known as the "Christian Science University of Chicago?" If there is or was such, can its graduates practice in Georgia. I. S.

ANS.—We have never heard of the institution, and we doubt very much whether its graduates could practice in Georgia under present laws. According to a recent decision of Judge Lumpkin, of Atlanta, editorially commented upon in the *Savannah Press*, no one not regularly graduated from a medical college can legally practice there.

## SURGEONS ON OCEAN LINERS.

BART, ME., April 23, 1901.

*To the Editor:*—To whom should one apply for a position as Surgeon on an ocean liner? What is the average salary such positions offer and the general requirements for applicants?

H. B. H.

ANS.—Appointments on ocean steamers are made by the officials of the company, to whom inquiries should be addressed. The requirements are usually five years of practice or its equivalent in hospital experience. In British steamers British qualifications are necessary. Usually the salary is small, but there are often certain perquisites, head-money, etc., which will increase it perhaps to something like $100 a month.

## SECRETARIES OF HEALTH BOARDS.

SAC CITY, IOWA, April 27, 1901.

*To the Editor:*—Please favor me with a list of the secretaries of the state boards of health of Michigan, Nevada, South Dakota, Wisconsin, New Mexico, California and Texas. L. E. M

ANS.—Michigan: Dr. B. D. Harlson, Sault Ste. Marie. Nevada:

Dr. S. L. Lee, Carson City. South Dakota: Dr. A. E. Clough, Madison. Wisconsin: Dr. H. M. Ludwig, Richland Center. New Mexico: Dr. T. P. Martin, Taos. California: Dr. C. C. Wadsworth, 1104 Van Ness Ave., San Francisco. Texas: Appointment not yet published.

OSHKOSH, WIS., April 25, 1901.

*To the Editor:*—Please give the names and addresses of the secretaries of the state medical boards of examining surgeons for Michigan and Indiana. A. B. C.

ANS.—For Michigan, see above. The secretary for Indiana is Dr. W. F. Curryer, Indianapolis.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 18 to 24, 1901, inclusive:

Charles N. Barney, contract surgeon, detailed a member of an examining board at Fort Monroe, Va., to relieve Captain F. B. Keefer, asst.-surgeon, U. S. A.

George E. Bushnell, major and surgeon, U. S. A., leave of absence granted.

Thomas C. Chalmers, major and surgeon, Vols., recently appointed, to report at San Francisco, Cal., for transportation to the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of a board in New York City, N. Y., to investigate the suitability of the transport *Terry*, for service as a hospital ship in the Philippine Islands.

William D. Crosby, major and surgeon, U. S. A., member of a board in New York City, N. Y., to investigate the suitability of the transport *Terry* for service as a hospital ship in the Philippine Islands.

Charles R. Gill, captain and asst.-surgeon, Vols., sick leave granted.

Leonard K. Graves, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted.

George P. Heard, contract surgeon, from Birmingham, Ala., to post duty at Fort McPherson, Ga.

Willis J. Raynor, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted.

Milton Vaughan, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., to the Division of the Philippines.

Franklin F. Wing, contract dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for service in the Division of the Philippines.

PROMOTIONS AND APPOINTMENTS, ETC., OF ARMY MEDICAL OFFICERS, REGULARS AND VOLUNTEERS.

The following promotions, retirements and deaths in the Medical Department, U. S. A., and appointments to positions as surgeons and asst.-surgeons, U. S. Vols., have been recorded in the Adjutant-General's Office, War Department, Washington, D. C., from March 15 to April 15, 1901. The appointments, etc., up to March 15, consequent on the passage of the army reorganization bill of February 2, 1901, were published in THE JOURNAL of April 6, last:

*Regular Army, Promotions.*—Captain W. B. Banister, asst.-surgeon, to be surgeon with the rank of major, April 2, 1901.

*Regular Army, Retirements.*—Colonel A. A. Woodhull, asst.-surgeon-general, April 13, 1901, by operation of law, act of June 30, 1882; Captain Jefferson D. Poindexter, asst.-surgeon, with the rank of major, April 13, 1901, for disability incident to the service.

*Regular Army, Deaths.*—Major William R. Hall, surgeon, April 2, 1901, at Manila, P. I.

*Volunteers, Appointments.*—The following captains and asst.-surgeons, U. S. A., to be surgeons with the rank of major: George D. De Shon, March 14, 1901; William F. Lippitt, jr., March 21, 1901; James M. Kennedy, March 21, 1901; James S. Wilson, March 27, 1901; Ogden Rafferty, April 6, 1901; Charles F. Mason, April 9, 1901; James D. Glennan, April 9, 1901; Thomas U. Raymond, April 9, 1901; also Captain Edward A. Romig, asst.-surgeon 40th Infantry, March 28, 1901, and Frederick A. Washburn, jr., of Massachusetts, March 28, 1901.

To be asst.-surgeons with the rank of captain: James G. McKay, of Pennsylvania, March 13, 1901; Thomas W. Jackson, of Pennsylvania, March 15, 1901; William Alden, of Massachusetts, March 15, 1901; Willis J. Raynor, of Colorado, March 22, 1901; William B. Summerall, of Georgia, March 21, 1901; Thomas K. Mullins, of Alabama, March 21, 1901; Ernest K. Johnstone, of California, March 19, 1901; Julius A. Escobar, of New York, March 19, 1901; Frederick, A. W. Conn, of Pennsylvania, March 23, 1901; Simon J. Fraser, of California, March 23, 1901; Reuben M. Bonar, of Ohio, March 27, 1901; Wharton B. McLaughlin, of Texas, March 28, 1901; Thomas T. Jackson, of Texas, March 28, 1901; James W. Madara, of Kentucky, April 2, 1901; Milton Vaughan, of Arkansas, April 2, 1901; Nelson Miles Black, of Wisconsin, April 3, 1901; William O. Cutliffe, of New York, April 6, 1901; George B. Lawrason, of Louisiana, April 6, 1901; Albert H. Eber, of Michigan, April 4, 1901; James B. Cutter, of California, April 11, 1901; William H. Block, of Maryland, April 11, 1901; Robert E. Williams, of California, April 11, 1901.

*Volunteer Promotions.*—Captain Samuel C. de Krafft, asst.-surgeon, 28th Infantry, to be surgeon with the rank of major, March 26, 1901; Lieutenant Albert H. Eber, asst.-surgeon, 30th Infantry, to be asst.-surgeon, with the rank of captain, March 1, 1901; Lieutenant John C. Greenewalt, asst.-surgeon, 33d Infantry, to be asst.-surgeon with the rank of captain, March 30, 1901; Lieutenant H. Brookman Wilkinson, asst.-surgeon, 34th Infantry, to be asst.-surgeon, with the rank of captain, Feb. 28, 1901; Lieutenant George L. Hicks, jr., asst.-surgeon, 38th Infantry, to be asst.-surgeon, with the rank of captain, Feb. 20, 1901; Lieutenant Harold L. Coffin, asst.-surgeon, 39th Infantry, to be asst.-surgeon, with the rank of captain, March 31, 1901.

*Volunteers, Honorably Discharged on Account of the Muster-out of Their Regiments.*—Major Francis A. Winter, surgeon, 37th Infantry, Feb. 20, 1901; Captain Thomas B. Anderson, asst.-surgeon, 37th Infantry, Feb. 20, 1901; Major Ogden Rafferty, surgeon, 27th Infantry, April 1, 1901.

## Navy Changes.

Changes in the Medical Corps of the navy, week ended April 27:

Asst.-Surgeon J. B. Dennis, detached from the Naval Academy, and ordered to the *Chesapeake*, May 2.

Asst.-Surgeon C. G. Smith, ordered to the *Vermont*, April 25.

Medical Inspector F. Rogers, ordered to the *Brooklyn*, for duty as fleet surgeon of the Asiatic Station.

Surgeon W. F. Arnold, detached from duty at Olengapo, P. I., and ordered to the *New Orleans*.

Surgeon C. F. Stokes, ordered to the Cavite Naval Station to await the *Solace*.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended April 25, 1901:

Surgeon F. W. Mead, department letter of January 11, 1901, granting leave of absence for sixty days, amended so that said leave shall be for one month and twenty-four days.

Surgeon A. H. Glennan, to proceed to Tallahassee, Fla., for special temporary duty.

Surgeon W. P. McIntosh, to proceed to Ducktown, Tenn., for special temporary duty.

Surgeon W. J. Pettus, department letter of January 11, 1901, granting leave of absence for two months, amended so that said leave shall be for one month and twenty-seven days.

P. A. Surgeon C. P. Wertenbaker, to represent the service at meeting of Texas Medical Association, Galveston, Texas.

P. A. Surgeon J. A. Nydegger, to proceed to Cape Charles Venture, Va., for special temporary duty.

P. A. Surgeon H. S. Mathewson, to proceed to Ponce and Guayanilla, Porto Rico, for special temporary duty.

Asst.-Surgeon W. W. King, to proceed to Guayanilla, Porto Rico, for special temporary duty.

A. A. Surgeon L. P. Gibson, granted leave of absence for seven days.

A. A. Surgeon J. C. Rodman, granted leave of absence for seven days from April 24.

Hospital Steward Mark H. Watters, relieved from duty at Chicago, and directed to proceed to St. Louis, Mo., and report to the medical officer in command for duty and assignment to quarters.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 26, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Delaware: Newcastle, April 1-15, 4 cases.
Florida: Jacksonville, April 13-20, 6 cases.
Illinois: Chicago, April 13-20, 17 cases.
Kentucky: Cynthiana, April 17, 6 cases; Lexington, April 13-20, 4 cases.
Louisiana: New Orleans, April 13-20, 10 cases, 1 death.
Minnesota: Winona, April 13-20, 2 cases.
New Hampshire: Manchester, April 13-20, 7 cases.
New Jersey: Jersey City, April 14-21, 4 cases.
Ohio: Cincinnati, April 12-19, 7 cases; Cleveland, April 13-20, 46 cases.
Pennsylvania: April 13-20, Pittsburg, 1 case; Steelton, 3 cases.
Tenuessee: Nashville, April 13-20, 1 case.
West Virginia: Wheeling, April 13-20, 1 case.
Philippines: Manila, March 2-9, 8 cases.
Porto Rico: San Juan, April 6, 13 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 23-April 6, 8 cases.
Belgium: Antwerp, April 6, 3 cases, 1 death.
China: Hongkong, March 2-9, 6 deaths.
France: Paris, March 31-April 6, 10 deaths.
Gibraltar: April 1-7, 2 cases.
Great Britain: England—Southampton, April 6-13, 3 cases. Scotland—Glasgow, April 6-13, 5 deaths; Leith, March, 31-April 6, 1 case.
India: Bombay, March 19-26, 12 deaths; Calcutta, March 16-23, 144 deaths; Karachi, March 9-16, 12 cases, 8 deaths; Madras, March 16-22, 10 deaths.
Mexico: Progreso, March 31-April 6, 4 cases; Yucatan, Merida, April 11, prevalent.
Netherlands: Rotterdam, March 31-April 6, 1 case.
Russia: Odessa, March 31-April 6, 13 cases, 1 death.
Spain: Corunna, March 31-April 6, 1 death; Vigo, March 1-31, 1 death.

YELLOW FEVER.

Colombia: Panama, April 8-15, 8 cases.
Hayti: Cape Haytien, March 23-30, 1 case, 1 death.
Mexico: Contzocoalcos, April 1, prevalent.
Salvador: San Salvador, March 31, 4 cases 3 deaths.

CHOLERA.

China: Hongkong, March 2-9, 1 death.
India: Bombay, March 19-26, 4 deaths; Calcutta, March 16-23, 65 cases; Madras, March 16-22, 1 case.
Straits Settlements: Singapore, Feb. 26-March 2, 5 deaths.

PLAGUE—INSULAR.

Philippines: Manila, March 2-9, 8 deaths.

PLAGUE—FOREIGN.

China: Hongkong, March 2-9, 16 deaths.
India: Bombay, March 19-26, 886 deaths; Calcutta, March 16-23, 1,040 deaths; Karachi, March 19-26, 239 cases, 192 deaths.
Straits Settlements: Singapore, Feb. 26-March 9, 3 deaths.

# The Journal of the American Medical Association

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## Original Articles.

### AMPUTATION THROUGH THE HIP-JOINT WITH A SYNOPSIS OF 267 CASES IN WHICH THE AUTHOR'S METHOD WAS EMPLOYED.*


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NEW YORK CITY.


From the dawn of surgery to within a very recent period, amputation at the hip-joint has been considered one of the gravest surgical operations.

In 1808 Earle[1] described it as "unjustifiable," and said: "I have seen it done and am now very sure that I will never do it unless it be on a dead body." In the third edition of his "Principles of Military Surgery," Hennen,[2] in 1829, said: "Obliged as we are, coolly to form our calculations in human blood, there is still something in the idea of removing the quarter of a man, at which the boldest mind naturally recoils. There is not one patient in a thousand that would not prefer instant death to the attempt." Even as late as 1881, Prof. John Ashhurst, Jr.,[3] one of the highest authorities in modern surgery, wrote: "The removal of the lower limb at the coxo-femoral articulation may be properly regarded as the gravest operation that the surgeon is ever called upon to perform, and it is only within a comparatively recent period that it has been accepted as a justifiable procedure."

#### ORIGIN.

The origin of this amputation is involved in no little obscurity. Dr. Louis Coronat[4] claims that at about the beginning of the eighteenth century a French surgeon, Morand, was the first to have the boldness to conceive the idea of severing the lower extremity from the body at the coxo-femoral articulation, and that the first operation of this nature was done by Lacroix, of Orleans, in 1748. It is now well known that this operation by Lacroix was in no sense an amputation at the hip. The ligamentum teres and the sciatic nerve were the only tissues which had not completely sloughed away at the line of demarcation in a case of gangrene which destroyed the entire lower extremity, and these Lacroix divided with scissors.

In the fourth volume of "Sabatier's Médecine Opérative," published in 1832, there is an account of another operation of this character, done by Perault in the case of Francois Gois, a man 21 years of age, whose thigh had been crushed by the pole of a wagon. Septic infection followed by extensive suppuration and gangrene ensued until all the soft parts were dead and were separated from the bone—*le femur était disséqué de toutes parts.* Through these gangrenous and bloodless soft tissues the amputation was made.

Mr. Frederick Treves, in Volume I of his "Manual of Operative Surgery," claims that Mr. Henry Thomson, surgeon to the London Hospital, was the first to perform this operation, about 1777, but the first clearly authentic record of an amputation at the hip-joint, through living tissues, is of one performed by Mr. Kerr of Northampton, in 1778, on a girl of 11 years, who was suffering from destructive osteo-arthritis at the hip and who survived the operation eighteen days.[5] The early history of this procedure should not be passed over without mentioning the name of the French surgeon, Ravaton, who in 1743 clearly and distinctly proposed a method of amputation with disarticulation at the hip-joint, although he did not live to carry into actual practice the operation he devised.

Professor Ashhurst, writing in 1881, voiced the accepted opinion of surgeons when he said: "The most pressing risk in amputation at the hip-joint is that of hemorrhage," and with this fact in mind it is not surprising that the ingenuity of surgeons has been earnestly employed in devising means for controlling the circulation.

#### CONTROL OF HEMORRHAGE.

Beginning with compression of the aorta by digital or mechanical means, as advised by Pancoast, Lister, Abernethy, Donald Maclean and others, and later the intrarectal lever of Davy for compressing the common iliac artery against the pelvis, the first really valuable suggestion for controlling hemorrhage was that of Richard Volkmann, the distinguished German surgeon.[6] In 1874 he reported three cases of hip-joint amputation in which he had used the Esmarch elastic bandage for driving the blood out of the member to be amputated into the body, and then had placed an elastic loop in the femoro-scrotal commissure, drawing the ends upward and outward, the anterior passing parallel with Poupart's ligament, the posterior near the gluteal fold, in which position it was held by an assistant. To further secure it in position loops of roller bandage were thrown beneath the rubber tourniquet in front and behind, and upon these, during the operation, upward traction was also made by an assistant. In two of these cases there was no hemorrhage. In one, Volkmann says, "a severe hemorrhage occurred which I succeeded in stopping by compression."[7] Of the three cases two died. It may be that the hemorrhage in one case and the fatal result in two of the three operated upon discouraged surgeons at large from repeating this innovation of Volkmann's. But scant mention was made of it in surgical literature, and it is well known the method was not adopted.

In *The Lancet* in 1883, Mr. Jordan Lloyd advised the use of the figure-of-eight elastic bandage which included

* Read before the New York State Medical Association, October, 1900.

the posterior aspect of the thigh in its grasp and then passed over the rim of the pelvis, and around the body, making compression of the external iliac by means of a roller bandage placed over this artery. But this method, as in the case of Volkmann, did not meet with the consideration it deserved and failed to be generally adopted.

The use of the needle or skewer for the control of hemorrhage in amputation at the hip was first employed on July 28, 1880, by Trendelenburg, at the suggestion of Newman:[8] "A steel needle 38 cm. long, 6 mm. broad, biconvex on cross section, and in the thickest portion or center 2 mm. thick, was inserted just below the anterior iliac spine and carried in the direction of the perineum, passing between the neck of the femur and the vessels, and emerging on the inner aspect of the thigh, near the perineo-femoral crease. A figure-of-eight ligature was then thrown over the ends of the needle and in front of the thigh, thus constricting the femoral artery and vein. The limb having been previously emptied of blood by the application of Esmarch's bandage as high as the middle of the thigh, a long knife nerve. A piece of cord was passed under the heel and point of the needle, forming a figure-of-eight ligature."

Myles, of England, advised a slight modification of the Newman-Trendelenburg procedure. A steel skewer was passed through the thigh, the point entering an inch below Poupart's ligament, going external to the femoral artery and internal to the neck of the femur and emerging a little above the gluteal fold. An India-rubber cord in figure-of-eight fashion was then to be thrown over the ends of the skewer and the inner aspect of the thigh. The amputation was by lateral flaps.

*Author's Method.*—In theory and practice it is clear that any method of constriction which does not with absolute safety control all of the blood-vessels at the level of the hip-joint must prove unsatisfactory. In 1888 I removed the outer half of the clavicle, the glenoid, acromion, and coracoid processes, and part of the body of the scapula, together with the upper extremity, of a patient suffering from a large sarcoma of the head of the humerus. Not wishing to perform a preliminary deligation of the subclavian in its third division, I transfixed, with a stout mattress needle, the major pectoral

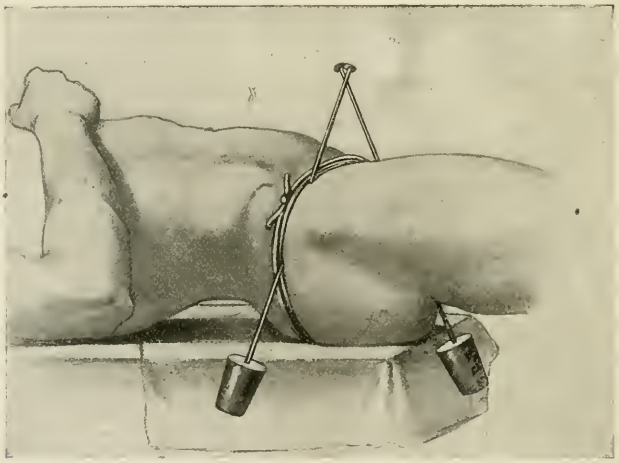

FIG. 277.—Hip-joint amputation. Pins and rubber-tube tourniquet in position. The Esmarch bandage has been removed.

From Text-Book on Surgery. Copyright, 1897, by D. Appleton & Co.

was carried through the front of the thigh 2 cm. beyond the needle and parallel with it (Lisfranc), and a flap formed by cutting by transfixion. The vessels were then tied, and the needle and figure-of-eight loop removed, and the head of the femur disarticulated. The needle was again introduced behind the bone, the figure-of-eight carried posteriorly, and the posterior flap then formed."

In 1886 (August 10), Dr. Museroft,[9] of Cincinnati, employed a somewhat similar method: "A needle one-eighth of an inch wide, slightly bent at the point, about the thickness of a dime and four inches long, was introduced perpendicularly into the front of the thigh about an inch and a half below Poupart's ligament. The exact point of entrance was one-fourth of an inch internal to the combined sheaths of the vein, artery and nerve. The point was pushed beyond the vessels, then turned outward until the needle had passed beyond them; the point was then pushed out through the integument. The needle was then behind the vessels and muscle about three inches from the shoulder, and, at about the same distance from the joint on the dorsum scapulæ, I introduced a second needle in such a way that when I carried a strong rubber tube several times around the shoulder, above these needles, with strong traction, the compression was so great that hemorrhage was controlled during the amputation. It occurred to me at the time that the same plan was equally feasible at the hip. In February, 1890, I successfully applied this method in my first hip-joint amputation, and in the improvements which have been made on the original technique I believe I have demonstrated and established an operation in which hemorrhage in amputation at the hip-joint is as safely and as easily controlled as at any other portion of the thigh.

The patient should be placed with the sacrum resting upon the corner of the operating-table, the sound limb and arms being wrapped with cotton batting, and the body thoroughly protected from unnecessary loss of heat. The member to be removed should be emptied of blood

by elevation of the foot and by the application of the Esmarch bandage, commencing at the toes. When a tumor exists, or when septic infiltration is present, pressure should be exercised only to within about six inches of the diseased area for fear of driving the new elements or septic material into the circulation. After injuries with great destruction—crushing or pulpifaction—one must often trust to elevation alone, as the Esmarch bandage can not always be applied. In this last group of cases where hemorrhage more or less severe has occurred, the injection of a sufficient quantity of normal salt solution should precede any operation. Before the Esmarch bandage is removed the rubber tubing constrictor should be applied. The object of this constriction is the perfect occlusion of every vessel above the level of the hip-joint, permitting the flaps to be made, disarticulation to be completed and the vessels secured without hemorrhage and before the tourniquet is removed. To render the manipulation of the femur, in the process of disarticulation, free from the danger of the tourniquet slipping, I employ two strong steel needles or skewers, three-sixteenths of an inch in diameter and ten inches long. One of these is introduced one-fourth of an inch below the anterior superior spine of the ilium and slightly to the inner side of this prominence, and is made to traverse superficially, for about three inches, the muscles and fascia on the outer side of the hip, emerging on a level with the point of entrance. The point of the second needle is thrust through the skin and tendon of origin of the adductor longus muscle one-half an inch below the femoro-perineal commissure of crotch, the point emerging just below the tuber ischii. The points should be shielded at once with cork to prevent any possible injury to the operator. No vessels are endangered by these pins. A mat or compress of sterile gauze, about two inches thick and four inches square, is laid over the femoral artery and vein as they cross the brim of the pelvis, and over this a piece of strong white rubber tubing one-half inch in diameter when unstretched, and long enough, when in position, to go five or six times around the thigh, is now wound very tightly around and above the fixation needles and tied. The Esmarch bandage is now removed and, excepting the small quantity of blood between the limit of the Esmarch bandage below and the constricting tube above, the extremity is bloodless and will so remain.

In several instances surgeons have operated successfully and with satisfactory control of hemorrhage by using only one of the pins as above described—the outer—and by employing assistants to hold the rubber tubing in place. The operation has even been done successfully without the use of pins, but since these, if properly employed, are not at all in the operator's way, and since they render additional assistance unnecessary and assure safety by holding the tourniquet securely in place during the manipulations which are necessary to disarticulate the femur in the critical period of the operation, I hold they are essential in obtaining the best possible results.

In making the flaps no fixed rule can be laid down. The surgeon should always be guided by the conditions within the field of operation. The accepted principle that the danger from shock diminishes in proportion to the distance of the amputation from the trunk should not be overlooked. When done for osteomyelitis or for accident, where the conditions will permit, the soft structures should be divided at the junction of the middle with the upper third. A perpendicular incision commencing above the trochanter and carried down to the bone along the outer aspect of the hip and thigh should join the transverse incision. With the elevator, the muscles should be lifted from the bone or divided with a scissors or bistoury very close to the periosteum. When the capsule is reached this should be divided on its upper aspect, keeping the point of the bistoury always directed toward the center of the neck. The thigh should now be flexed on the abdomen, and after cutting across the capsule posteriorly, forcibly abducted and rotated until the ligamentum teres is ruptured, and the disarticulation completed. The leverage of the undivided femur is of invaluable aid in freeing the head of the bone from the socket. The vessels should now be tied with strong catgut.

In addition to the femoral arteries and veins, the following vessels must be secured: the saphenous vein, which on account of its proximity to the main trunk,

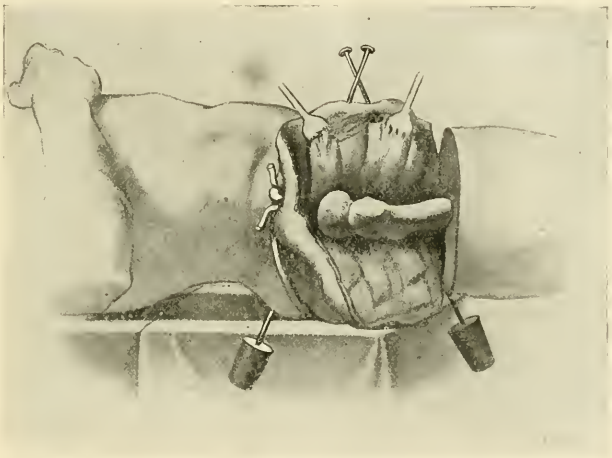

Fig. 278.—The same, showing the soft parts dissected from the bone and the capsule exposed.
From Text-Book on Surgery. Copyright, 1897, by D. Appleton & Co.

should be tied; the sciatic artery, which will be found near the stump of the sciatic nerve; the obturator, which is situated between the stump of the adductor brevis and magnus, usually about half way from the center of the shaft of the femur to the inner side of the thigh, the vessels being on a level with the anterior surface of the femur; the descending branches of the external circumflex two or three in number, usually found about an inch and a half outward and downward from the main femoral vessels beneath the rectus and in the substance of the crureus and vastus externus. The descending branches of the internal circumflex are insignificant and are usually in the substance of the adductor longus and between it and the adductor brevis and pectineus, only a little below the level of the femoral artery.

It is a wise precaution at this stage of the operation to loosen slowly the grasp of the tourniquet until the pulsation of the larger trunks is perceptible in order to be sure that none of the vessels have been overlooked. To prevent the oozing which is more or less extensive in operations through such large masses of muscular tissue, I introduce a wick of sterile gauze into the cavity of the acetabulum, packing this thoroughly in the space between the muscles from which the bone has been dissected, leaving one end of the wick to pass out between the flaps for the purpose of its removal. In addition to this, with a long half-curved Hagedorn needle, armed with good-sized catgut, deep sutures are then passed through the stumps of the divided muscles, taking three or four inches in the grasp of each suture. In this way large masses of muscle are brought snugly together when these sutures are tied.

This method of forming the flaps and of disarticulating the femur was practically the operation devised by Ravaton in 1743, and was the method employed at Bardstown, Ky., in August, 1806, by Dr. Walter Brashear, the first hip-joint amputation made in the United States.[10]

When, from destruction of the parts by accident or disease, or from the proximity of a neoplasm, this ideal method is not practicable, any modification may be employed, preference being given to the incision which keeps farthest from the tumor and gives the healthiest flaps. When there is scant material to cover the stump, it is even safer to err on the side of an unclosed wound and trust to granulation or grafting for ultimate closing. I employ silkworm gut sutures for uniting the flaps, leaving no drainage excepting the ribbon of sterile gauze which is packed into the acetabulum and the space from which the bone was removed. It is usually withdrawn at the first dressing, about a week after the operation, and its place taken by a small-sized drainage-tube.

In order to preclude the oozing which is likely to occur in such an extensive wound as an amputation at the hip necessitates, before tightening the silkworm gut sutures, I thoroughly dry out the flaps with sterile absorbent gauze, and while the constricting tourniquet is still in place, tighten the sutures and apply a light dressing of loose gauze which envelops the stump. Over this a gauze bandage is applied, making sufficient compression to prevent the transudation of serum or the oozing of blood. Additional loose gauze is now laid over the stump and is held there by firm compression with the hands of an assistant while the tourniquet is loosened, and it, with the pins, removed. A figure-of-eight spica is then thrown over the stump and around the waist, the final turns of which give support to the stump and hold it snugly against the pelvis.

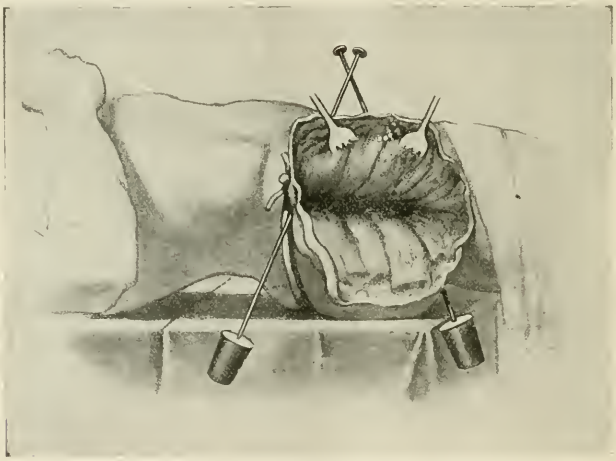

FIG. 279.—The same, with the disarticulation complete. Constrictor still in position.
From Text-Book on Surgery. Copyright, 1897, by D. Appleton & Co.

With these precautions I have not been troubled with the oozing which has been complained of by some experienced operators. It is a wise precaution to lower the upper extremity of the patient before removing the tourniquet, as this partial Trendelenburg posture takes off some of the pressure in the arteries at the seat of operation. In fact, in the case of injury where extensive hemorrhage has already occurred, it is better to operate with the patient in this position, even when the intravenous injection of salt solution has been employed.

*Method of Digital Compression.*—Within recent years two other methods having for their object the control of hemorrhage in amputation at or near the hip-joint have been successfully tried and are recognized by surgeons of reputation and experience. In a paper read at the meeting of the Surgeons of the Pennsylvania

Company, at Pittsburg, in 1888, Dr. J. J. Buchanan suggested the propriety of making an abdominal section under strict antiseptic precautions, and of having an assistant introduce the hand to control, by digital compression, the descending aorta, while the amputation was being made. This suggestion was received with favor by the surgeons then present, and afterward published in "Stemen's Railway Surgery" (1890). As with many other pioneers in surgery, Dr. Buchanan did not have the opportunity of carrying his operation into execution, but Dr. Neal Hardy, of Sandusky, Ohio, who was present at the meeting in Pittsburg, where Dr. Buchanan's paper was read, in November, 1890, applied it with success upon a male patient, 34 years of age. Applying this idea of digital compression within the peritoneal cavity, to the common iliac artery, Dr. Charles McBurney, of New York, has within recent years performed several amputations at the hip-joint, and has commended the procedure.

*Method of Gradual Dissection.*—Another method worthy of consideration by reason of the distinguished surgeon who commends it, Dr. W. L. Estes, of Bethlehem, Pa., is that of gradual dissection in which the femoral vessels are first exposed, tied and divided between two sets of ligatures. The flaps are then formed as may be indicated, and the soft parts divided as for any operation of the body where a tourniquet can not be employed, all known vessels being secured before they are divided and all others caught with the forceps as soon as severed.

*Objections.*—There are several serious objections to these methods which I insist do not hold good as compared to the method which I have advised. Compression of the abdominal aorta, as recommended by Dr. Buchanan, of Pittsburg, and practiced by Dr. Neal Hardy, of Sandusky, Ohio, is objectionable in the first place because it interferes very seriously with the general circulation and throws a dangerous volume of blood upon the heart and lungs. In Dr. Hardy's case, he says: "The patient during the operation became cyanotic, but was soon relieved on pressure being removed from the aorta." Again, it necessitates an unnecessary invasion of the peritoneal cavity. This latter criticism will hold good when applied to the method advised by Dr. McBurney. Notwithstanding the too common assertion that opening the abdominal wall and invading the peritoneal cavity under aseptic precautions is not dangerous, and that the gridiron incision carries no risk of hernia with it, I insist and believe the vast majority of surgeons will endorse this position—that we should never enter the abdominal cavity when it can be avoided. Every minute of time unnecessarily lost and every unnecessary traumatism are factors in increasing the danger of shock, and this is the greatest danger in hip-joint amputation. Moreover, compression applied to the common iliac artery for anatomical reasons can not control the circulation in the field of operation as well as the constricting tourniquet when employed with the pins, for the reason that the free anastomosis with branches of the opposite iliac within the pelvis and upon the abdomen must, under the increased arterial pressure, cause the loss of a considerable quantity of blood, especially from the posterior flap.

*Results of Author's Method.*—The accompanying tables contain 267 cases of amputation at the hip-joint,

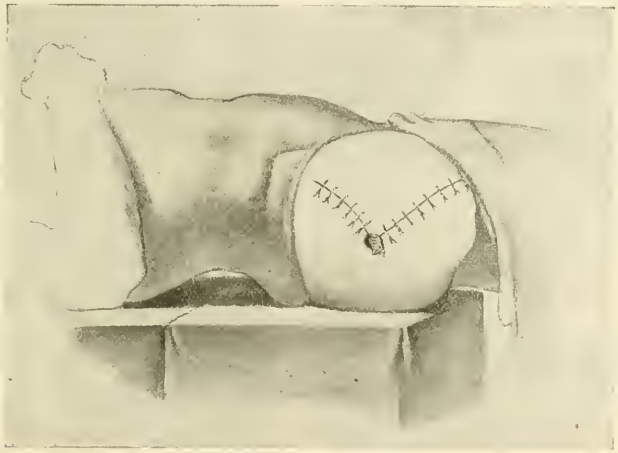

Fig 280.—The operation completed
From Text-Book on Surgery. Copyright, 1897, by D. Appleton & Co.

in which the writer's method of hemostasis was employed. For convenience of study they are classified into three groups: 1, neoplasms, including sarcoma, carcinoma, epithelioma and one case of elephantiasis and probably one osteoma; 2, septic infections, including pyogenic ostitis or osteomyelitis, tuberculous ostitis or osteoarthritis, gangrene, cellulitis and ulcer; 3, injuries, with or without pyogenic infection.

In the group of amputations at the hip for neoplasms, all of which were malignant in character—with the exception of one case of elephantiasis and one of osteoma—there were 131 cases of sarcoma, 5 of epithelioma of the soft parts, and one reported as osteocarcinoma. None died in this group, excepting 14 fatal cases of the subdivision of sarcoma, giving the rate of mortality in disarticulation at the hip for sarcoma as 10.6 per cent., while for the whole group of 137 cases, the death-rate was 10.2 per cent. Of the fatal cases 1 was complicated with gangrene for two weeks before the operation, and had a rectal temperature of 104 at the time of amputation, and died of shock twenty-four hours

## MALIGNANT NEOPLASMS; SARCOMA, CARCINOMA, EPITHELIOMA.

| No. | Operator. | Date, Sex, Age. | Cause of Operation. | Result. | Remarks. |
|---|---|---|---|---|---|
| 1 | J. A. Wyeth | 1890 M. 39 | Osteosarcoma, middle lower third of femur. | Recover'd | Femur first divided at level of lesser trochanter. Sixteen days later head and neck of bone enucleated. |
| 2 | " " " | 1890 " 34 | Neurosarcoma | " | Tumor of internal popliteal nerve was extirpated but recurred. Amputation at lower third of thigh; recurred and amputation at hip. |
| 3 | " " " | 1892 F. 17 | Osteosarcoma. | " | Amputation through lower third of femur had been done by Dr. Allen of Cleveland, Ohio. Recurred in stump. Died six months after operation from recurrence in abdominal viscera. No pulmonary symptoms. |
| 4 | " " " | 1894 M. 19 | Osteosarcoma. | Died | Rallied well from operation; twenty-six hours later pulse suddenly rapid and weak. Injection of two pints warm saline solution. Death forty hours after operation. Ether was the anesthetic. No renal or other lesions. Wound not septic. |
| 5 | " " " | 1895 " 20 | Osteosarcoma. | Recover'd | Died one year after operation from "rapid pneumonia." Probably recurrence of sarcoma in lungs. |
| 6 | " " " | 1898 " 34 | Sarcoma | " | Large sarcoma attached to trochanteric region of femur and infiltrating the soft tissues as high as the obturator foramen. This cavity was curetted in order to remove all suspicious tissues. The anterior incision was close to the tourniquet to get above the neoplasm. No recurrence two and one-half years after operation. |
| 7 | J. A. Wyeth and J. A. Bodine. | 1895 " 18 | Osteosarcoma. | " | No subsequent history. |
| 8 | A. M. Phelps | 1891 " 55 | " | " | No recurrence in 1898. |
| 9 | " " | 1896 " 16 | " | " | No recurrence in 1898 when patient was last heard from. |
| 10 | Emory Lanphear | 1892 F. 28 | Osteoma of femur | " | |
| 11 | " " | 1898 M. 19 | Osteosarcoma. | " | |
| 12 | H. O. Walker | 1892 " 19 | " | " | "We have in this a safe and reliable method for controlling hemorrhage, which, in my judgment, is superior to any yet offered" |
| 13 | C. B. Nancrede | 1892 " 32 | " | " | Recurrence in stump and death six months after operation. |
| 14 | " " | 1894 " 35 | Sarcoma. | " | Recurrence in stump and death within a year after operation. |
| 15 | " " | 1894 F. 16 | " | " | No recurrence two years after operation; no subsequent history. |
| 16 | " " | 1895 M. 50 | " | " | Recurred in lung and brain sixteen months after operation. |
| 17 | " " | 1897 F. 16 | " | " | Recurred in stump and general metastasis in nine months. |
| 18 | William F. Flubrer | 1890 " 18 | Osteosarcoma of femur. | " | Spontaneous fracture at middle of thigh, April 26, 1890. "As little blood was lost as in an ordinary amputation at the middle of the thigh." Recurrence in stump in about six months and death. |
| 19 | Charles McBurney | 1890 M. 34 | " | " | "No other appliance that has been suggested for the purpose conld in any way compare in utility with that of Dr. Wyeth." No recurrence three months later. No subsequent history. |
| 20 | Frank Hartley | 1892 F. 26 | " | " | No recurrence two years later. No subsequent history. |
| 21 | Merrill Ricketts | 1893 " 23 | " | " | "The operation was entirely bloodless." Died eighteen months; recurrence at sacro-iliac synchondrosis. |
| 22 | " " | 1894 M 27 | " lower end of femur. | Died | Death in ten hours in shock. Very little blood lost. |
| 23 | C. A. White | 1891 " 23 | Osteosarcoma. | Recover'd | Patient was up and about after the operation, but on the twenty-seventh day was seized with pneumocia and died five days later. |
| 24 | W. W. Keen | 1892 F. 30 | " | " | Patient was five months pregnant at time of operation. "It was reserved for an American surgeon to devise what is undoubtedly the best method, and, in fact, what I think we can now call the only method of hemostasis in amputation at the hip-joint." Died in three or four years from recurrence in viscera. No mention of involvement of lungs, |
| 25 | M. J. Ahern | 1892 M. 22 | " | " | |
| 26 | J. B. Murdock | 1892 " 17 | " | Died | Death from shock twenty-two hours after operation. "I believe this method to be the best and the one destined to supercede all other methods for temporary arrest of hemorrhage." |
| 27 | J. McFadden Gaston | 1890 " | " | Recover'd | Death on the twenty-sixth day from septicemia. "There was absolutely no trouble from hemorrhage, and I feel satisfied that with this process all bleeding may be prevented in amputation at the hip-joint." |
| 28 | A. J. McCosh | 1892 " 27 | " | " | |
| 29 | F. W. Parham | 1893 " 3 | " | " | Not having the surgical pins in this child large glass-headed lady's hat pins were successfully substituted. Died from recurrence in lungs six months after operation. |
| 30 | " " | 1899 F. 5m | Myxosarcoma of left knee. | " | "The tumor seems to have existed at birth and had grown rapidly during the preceding weeks Fourteen months later child well. |
| 31 | J. M. Holloway | 1892 M. 27 | Osteosarcoma. | " | Patient was discharged from hospital on the tenth and went to his home, a distance of seventy miles, on the twelfth day. |
| 32 | R. T. Morris | 1894 " 19 | "Tumor" of thigh. | Died | Died eleven days after operation from tubercular peritonitis. Cause of death proved by autopsy. "While making the skin incisions, it was noticed that the limb was not completely exsanguinated, and the tourniquet was retightened, after which no bleeding resulted." |
| 33 | H. H. Vinke | 1894 F. 16 | Sarcoma of thigh. | Recover'd | Used crutches in seven weeks. "Absolutely no loss of blood. There is probably no method which commends itself for simplicity and effectiveness so much as Wyeth's." Recurrence in two years in stump and mesenteric glands. Death. |
| 34 | J. S. Horsley | 1894 M 36 | Recurring sarcoma of fascia of thigh | " | "No more blood was lost than in an amputation through the thigh. It remained for Dr. Wyeth to so perfect this method as to make this amputation practically a bloodless operation" Died in fourteen months from recurrence in lungs. |
| 35 | George W. Miel | 1894 " 41 | Osteosarcoma of thigh | " | "A very satisfactory means of controlling hemorrhage." Died in eight months from recurrence in lung. No recurrence in stump. Lancinating pains in chest at time of operation. |
| 36 | F. Tilden Brown | 1894 " 22 | Round-cell osteosarcoma involving triceps femoris. | " | "Hemostatic effect all that could be desired." Died within a year from recurrence in lungs. |
| 37 | Robert Weir | 1895 " | Sarcoma of femur. | " | No recurrence up to February, 1898. |
| 38 | F. W. Murray | 1894 " 18 | " " | " | Pins were by mistake made too small; they bent; caused hemorrhage. Died from recurrence in lungs about four years after operation. |
| 39 | W. T. Bull | 1895 F. 5 | Osteosarcoma of femur | " | Primary union; time of operation, 40 minutes. Died in seven months from recurrence in abdominal viscera. |
| 40 | Thomas R. Wright | 1895 M | Sarcoma of knee | " | Died in eighteen months from recurrence in right lung. |
| 41 | " " | 1896 " 50 | " " | " | Lost comparatively no blood Temp. 103 F. and pulse 120 before operation. Died in six months from apoplexy. Negro |
| 42 | H. H. Grant | F. 33 | Chondroma with sarcomatous degeneration. | " | Enormous chondroma with sarcomatous degeneration; tumor weighed 65 pounds; operation lasted thirty-five minutes; bloodless except for oozing "Method leaves nothing to be desired." No subsequent history. |
| 43 | " " | 1899 M. 43 | Sarcoma of knee | " | Died fourteen months after operation from recurrence in lymphatics of parts above Poupart's ligament. |
| 44 | W. R. Stewart | 1895 " 35 | Sarcoma. | " | Was well November 19, 1896. |
| 45 | Eugene Boise | 1895 F. 21 | " | " | No loss of blood. Vessels nearly all tied before tubing was removed. "Method of amputation is all that could be desired." Disease recurred very early in lungs. |
| 46 | L. L. Shropshire | 1895 M 20 | Sarcoma, lower middle of left thigh. | " | Operation done in 30 minutes Not over one ounce blood lost. Patient left hospital in two weeks; living and well February, 1901. |
| 47 | Howard Lilienthal | 1896 " 16 | Chondrosiroma, from trochanter down. | " | "Method was employed to my great satisfaction." |
| 48 | J. D. Rushmore | 1896 F. 14 | Sarcoma of femur | " | |
| 49 | R. Matas | 1896 M 49 | Sarcoma | " | No recognizable recurrence when last heard from, eighteen months after operation, but he was reported as developing "consumption," and very probably this was a metastatic process in the lung. |
| 50 | W. D. Hamilton | 1895 F. 48 | " | Died | Neoplasm involved knee and lower end of femur. Died from shock in 5 hr. |
| 51 | " " | 1899 M. 56 | " | Recover'd | Tumor of thigh. No recurrence February, 1901. |
| 52 | " " | 1900 F. 16 | " | " | " " " " " " |

## MALIGNANT NEOPLASMS; SARCOMA, CARCINOMA, EPITHELIOMA.—(*Continued.*)

| No. | Operator. | Date, Sex, Age. | Cause of Operation. | Result. | Remarks. |
|---|---|---|---|---|---|
| 53 | Charles S. Hamilton | 1899 F. 32 | Sarcoma | Recover'd | No recurrence in March, 1901—two years. Patient has borne a healthy child since operation. |
| 54 | Wm. H. Noble | 1896 M. 21 | Osteosarcoma of head of tibia. | Died. | "Operation completed—patient in bed in forty-eight minutes. Died in collapse four hours later. Operation was absolutely bloodless, but the oozing afterward from the capillary vessels was very great, certainly half a pint, if not more, being lost." |
| 55 | W. B. Van Leunep | 1894 F. | Sarcoma | Recover'd | |
| 56 | " " | 1895 " 24 | " | " | Died two years later with what was reported to Dr. L. as "acute lung trouble," or metastasis in lung. "Thorough occlusion of every vessel below the hip." |
| 57 | " " | 1896 M. 56 | Epithelioma | " | |
| 58 | M. Banby, Toulouse, France. | 1897 " 37 | Sarcoma | " | "No hemorrhage, no shock, no fever." (Association Francaise de Chirurgie, 1897.) Recurred in stump one month after leaving hospital. |
| 59 | L. L. Hill | 1893 " 35 | Osteosarcoma. | " | Tumor measured forty-four inches in circumference. |
| 60 | Thos. F. Chavasse | 1896 F. 39 | Endosteal sarcoma | Died. | Neoplasm involved lower third of femur, where fracture had occurred six months previously. Death from shock in ten hours. |
| 61 | " " | 1896 " 29 | " " | Recover'd | Intravenous injection of fifteen ounces of saline fluid. Patient was six months pregnant. Dead fetus aborted one month after operation. Died thirteen months later from recurrence in left lung. Stump not affected. |
| 62 | " " | 1899 M. 56 | Periosteal Sarcoma | " | Neoplasm of lower third of femur, where fracture occurred three days before amputation. Soft parts infiltered high up, necessitating division of muscles at level of acetabulum. One pint saline fluid. Died in eleven months from recurrence in both lungs. The stump was unaffected. |
| 63 | " " | 1899 F. 23 | Endosteal sarcoma | " | Neoplasm infiltrated head of tibia, right knee-joint and belly of semimembranous muscle. Eight months pregnant. Premature labor ten days before operation. Died in twelve months from recurrence in both lungs. Stump was not affected. |
| 64 | L. M. Tiffany | 1900 " 16 | Osteosarcoma | " | |
| 65 | W. H. Gilbert | 1899 M. 42 | Carcinoma of shaft of femur | " | |
| 66 | John B. Deaver | 1899 F. 24 | Sarcoma of femur | " | |
| 67 | Robert G. Le Conte | 1900 M. 18 | Osteosarcoma, left femur | " | Time of operation thirty minutes. Recurrence in stump and death about six months after operation. |
| 68 | Jas. G. Garrard | 1897 " 37 | Epithelioma of lower half of left thigh. | " | Extensive burn of this extremity. About twenty years later epithelioma developed in cicatrix. Negro. |
| 69 | George Heaton, Birmingham, England.* | 1896 F. 29 | Periosteal sarcoma | " | Living two years later. Very little shock in either of Mr. Heaton's cases. |
| 70 | George Heaton | 1898 M. 17 | Round-celled sarcoma of muscles. | " | Left semi-membranosus muscle. Died in fourteen months from recurrence of growth in stump. |
| 71 | J. F. Binnie | 1898 " 32 | Sarcoma of femur | " | Died several months after operation from recurrence. |
| 72 | W. E. Parker | 1895 " 23 | Osteosarcoma of femur | " | Living at last report, six months after operation. |
| 73 | E. D. Martin, New Orleans. | 1895 F. 35 | Sarcoma of knee | " | Six months later died with recurrence in stump. |
| 74 | E. D. Martin | 1896 " 40 | Sarcoma of femur | " | Both operations practically bloodless. No shock. No further history. |
| 75 | J. M. Maury | M. 54 | Sarcoma | " | Neoplasm followed ten years after gunshot wound of femur and was situated near the knee. Suspicious signs in stump when patient left hospital. No subsequent history. |
| 76 | Wm. B. Coley | 1897 F. 11 | Periosteal sarcoma of femur | " | Hemorrhage completely controlled. Rubber tubing left on until vessels had been tied, then slowly released, thus reducing the loss of blood to a mere trifle. No further history. |
| 77 | " " | 1898 M. 6 | " " " | " | Died in six months from recurrence in lungs and abdomen. |
| 78 | " " | 1898 F. 13 | Chondrosarcoma of femur | " | Died from recurrence in two years. Location of metastasis not given. |
| 79 | " " | 1898 M. 49 | Sarcoma of thigh (soft parts) | " | Died from recurrence in stump and iliac fossa eighteen months later. |
| 80 | " " | 1899 F. 24 | Sarcoma of thigh, fascia and muscles. | " | No recurrence January, 1901, about eighteen months. |
| 81 | " " | 1900 M. 45 | Osteosarcoma of femur following fracture. | " | Disarticulation completed in six minutes. No recurrence January, 1901, six months after operation. |
| 82 | R. W. Stewart | 1895 . 35 | Sarcoma, lower end of femur | " | No recurrence after two years. |
| 83 | " " | 1900 47 | " " " | " | Less than an ounce of blood lost in either of these cases. |
| 84 | G. K. Dickinson | 1894 F. 50 | Sarcoma of thigh. | Died. | Gangrene commenced two weeks before operation. Rectal temperature was 104. Died in twenty-four hours. |
| 85 | W. C. Dugan | 1894 M. 40 | Osteosarcoma of condyle of femur. | Recover'd | Operation lasted thirty-five minutes. No recurrence in seven years. |
| 86 | " " | 1898 " 17 | Osteosarcoma of shaft. | " | To facilitate disarticulation "the thigh was flexed on abdomen and adducted while the capsular ligament was cut on the posterior inferior portion." Died from recurrence in abdominal viscera (glands and liver) in eighteen months. |
| 87 | B. F. Curtis | 1898 " 50 | Recurrent sarcoma | " | Neoplasm recurred after local extirpation. Disease not in stump. Death in few months. |
| 88 | Leonard Freeman | 1896 " 19 | Central osteosarcoma of lower third of left femur. | " | Spontaneous fracture while turning over in bed a few days before operation, Sept. 20, 1896. Rectal injection hot salt solution before operation. No recurrence in July, 1900. |
| 89 | D. C. Hawley | 1896 " 21 | Osteosarcoma, femur | " | No recurrence in 1900. Spontaneous fracture before operation. |
| 90 | J. H. Oliver | 1900 " 45 | Epithelioma of anterior and outer surface of thigh, involving shaft of bone. | " | Died two months later from recurrence. |
| 91 | J. J. Clausen | 1894 " 22 | Periosteal sarcoma, l. femur | " | No subsequent history obtainable. Negro. |
| 92 | Carl Beck | 1896 " 54 | Osteosarcoma, right femur | " | Died two years later. Recurrence in pleura or lung. |
| 93 | H. A. Sifton | 1895 F. 39 | Sarcoma | " | Died one year later with recurrence; location of recurrence not stated. |
| 94 | M. B. Herman | M. 24 | " " | " | No recurrence in eight months; no later history obtainable. |
| 95 | C. B. Schoolfield | 1895 F. 65 | Sarcoma, lower end of femur | " | Tumor measured twenty-six inches in circumference. |
| 96 | Hunter P. Cooper | 1897 M. 30 | Osteosarcoma of femur | " | Living and well two years later. |
| 97 | " " | 1899 " 40 | Large epithelioma of skin of thigh. | " | Inguinal glands removed. |
| 98 | W. S. Elkin | 1894 " 14 | Osteosarcoma of femur | " | "The simplest and safest method at our command." Recurred in liver eighteen months after operation. |
| 99 | George R. Fowler | 1893 " 15 | Sarcoma of lower end of femur. | " | Sail-maker's needles were used in absence of the steel pins. A Jordan Lloyd figure-of-8 was added for security. During the operation one of the needles gave way under pressure of the constricting rubber-tube, necessitating the tightening of the figure-of-8 bandage. Died in eighteen months from recurrence in lungs. |
| 100 | " " | 1899 F. 20 | Sarcoma of femur | " | Died eighteen months later from recurrence in viscera. |
| 101 | R. H. Whitehead | 1895 M. 16 months | Sarcoma of femur | Died. | No bleeding. Died on night following operation. Cause not known. |
| 102 | Wm. D. Hilliard | 1898 F. 44 | Osteosarcoma of left thigh. | " | Unfortunately patient had severe hemorrhage just before she was brought into the operating room and was considered almost hopeless from any standpoint. Amputation perfectly bloodless. Died in short time; shock. |
| 103 | Ernest Laplace | 1900 M. 26 | Sarcoma of knee | Recover'd | Patient extremely weak at time of operation. About 2 oz. of blood lost. |
| 104 | J. J. Buchanan | 1899 " 13 | Sarcoma of femur | " | No blood lost. Died from recurrence in lungs six months later. |
| 105 | " " | 1899 " 35 | Epithelioma | " | Epithelioma developed in discharging sinuses of old osteomyelitis. Thigh amputated at middle. Malignant disease returned and disarticulation of hip performed. |
| 106 | Floyd W. McRae | 1899 " 13 | Osteosarcoma of right femur | " | Method bloodless, tube drainage, catgut sutures in stump of divided muscles, silkworm-gut sutures for flaps. Recovery uneventful. Recurred fatally in eleven months in the liver. |
| 107 | " " | 1899 " 17 | " left " | " | Recurred in left pleura near the pericardium within a year of operation. |
| 108 | W. B. Rogers | 1899 F. 37 | " femur | Died. | There was no loss of blood, no shock or sepsis. Died from asphyxia on twelfth day. No postmortem. The symptoms pointed to rapid infiltration of the air-cells with metastatic products. |

* See a third by Mr. Heaton at end of tables.

## MALIGNANT NEOPLASMS; SARCOMA, CARCINOMA, EPITHELIOMA.—*(Concluded.)*

| No. | Operator. | Date, Age, Sex. | Cause of Operation. | Result. | Remarks. |
|---|---|---|---|---|---|
| 109 | W. B. Rogers | 1899 F. 31 | Sarcoma of thigh. | Recover'd | Primary amputation for sarcoma of leg. Disarticulation at hip on account of recurrence. No subsequent history. |
| 110 | Harry M. Sherman | 1891 " 14 | Myelosarcoma, neck of femur | " | Patient living and without recurrence Sept. 24, 1900. |
| 111 | " " " | 1896 M. 41 | Spindle-cell sarcoma, thigh | " | Death from recurrence in lungs fifteen months later. |
| 112 | " " " | 1897 " 29 | Giant-cell sarcoma, neck and head of femur. | Died. | Sarcoma also involved the acetabulum. This was curetted. Death in four hours. |
| 113 | " " " | 1897 F. 17 | Small round-cell sarcoma of thigh. | Recover'd | The skin holding the pins began to tear as the disarticulation was finished. Operator made direct compression of femoral artery and completed the operation successfully. Died from recurrence in lung three months later. |
| 114 | " " " | 1900 M. 8 | Sarcoma of tibia and femur involving knee-joint. | " | Recurred within one year in scalp, orbit and elsewhere. |
| 115 | Charles K. Briddon | 1894 " 18 | Sarcoma of femur | " | So little blood was lost that the patient suffered scarcely at all from shock. Recurred fatally one year later in the abdominal glands and viscera of abdomen and lungs. |
| 116 | " " " | 1897 " 15 | Sarcoma of femur, high up. | " | No subsequent history. |
| 117 | " " " | 1898 F. 35 | Sarcoma of thigh. | " | No recurrence in March, 1901, about two and one-half years after operation. |
| 118 | " " " | 1899 M. 30 | " " | " | No recurrence two years after operation (March, 1901). |
| 119 | " " " | 1900 " 23 | " " | " | |
| 120 | E. W. Holmes | 1895 F. 10 | Osteosarcoma of femur. | " | Died from recurrence eleven months later. |
| 121 | " " " | 1899 M. 23 | " " | " | Still living and well. |
| 122 | " " " | 1899 F. 22 | " " | " | Died four months later from recurrence in lungs. |
| 123 | Jacob Geiger | 1897 M. 13 | " " | " | Tumor weighed 29lb. Died nine months later from recurrence in lungs. |
| 124 | John B. Walker | F. 19 | Myeloid sarcoma of thigh | " | |
| 125 | Wm. Joces | 1891 M. 35 | " femur | " | |
| 126 | F. A. Dunsmoor | 1897 M. 25 | Sarcoma, lower third r femur | " | No recurrence at this date, three years after operation. |
| 127 | " " " | 1897 F. 50 | Sarcoma of upper third of femur. | " | Patient recovered from operation. Died from general exhaustion thirty days later. |
| 128 | A. C. Bernays | 1896 " 3 | Sarcoma of femur. Soft, rapid growth. | Died. | Shock. |
| 129 | " " " | 1898 M. 18 | Sarcoma of thigh. | Recover'd | Died twenty months later from recurrence in lungs. |
| 130 | " " " | 1900 F. 16 | Elephantiasis | " | |
| 131 | " " " | 1895 " 17 | Periosteal sarcoma of femur. | " | Patient in good health in 1900. |
| 132 | J. D. Griffith | 1897 M. 21 | Sarcoma of femur | " | Tumor of enormous proportions (shown in accompanying cut). Patient living and well in March, 1901, nearly four years after operation. |
| 133 | " " " | 1898 5 | " " | " | No recurrence in two and one-half years after operation. |
| 134 | " " " | 1898 9 | " " | " | " " " " " " |
| 135 | J. H. Oliver | 1900 F. 49 | Spindle-cell sarcoma, lower fourth of femur. | " | Hemorrhage under absolute control. |
| 136 | George Heaton | 1900 M. 17 | Mixed round and spindle-cell sarcoma of left femur. | " | |
| 137 | " " " | 1901 " 35 | Vascular osteosarcoma of middle of femur. | " | |

## SEPTIC INFECTION; OSTITIS, ARTHRITIS, OSTEO-ARTHRITIS, TUBERCULOSIS, GANGRENE, CELLULITIS, ULCER.

| No. | Operator. | Date Sex, Age. | Cause of Operation. | Result. | Remarks. |
|---|---|---|---|---|---|
| 1 | J. A Wyeth | 1892 M. 28 | Tuberculous osteo-arthritis of femur and acetabulum. | Recover'd | Extensive infiltration and burrowing of pus sinus. Anchylosis of end of femur to the diseased acetabulum, necessitating the chisel to detach it. |
| 2 | Samuel H. Pinkerton | 1892 M. 17 | Tuberculous osteo-arthritis of femur | " | |
| 3 | " " " | 1892 M. 10 | Tuberculous osteo-arthritis of femur. | " | |
| 4 | " " " | 1892 M. 42 | Extensive necrosis of femur; ostitis. | " | |
| 5 | " " " | 1892 M. 43 | Extensive necrosis of femur; ostitis. | Died. | Death twelve hours after operation from shock; no hemorrhage. |
| 6 | " " " | 1892 M. 17 | Ostitis of femur. | Recover'd | |
| 7 | A. M. Phelps | 1891 M. . | Long-standing, destructive osteo-arthritis. | " | |
| 8 | " " | 1892 M. . | Osteomyelitis of entire femur. | Died. | Death from exhaustion 12 hours after operation; condition of patient so bad that operation contra-advised, but performed at earnest request of parents. |
| 9 | " " | M. 11 | Osteomyelitis | Recover'd | |
| 10 | " " | 1899 F. 18 | Tuberculous osteo-arthritis | " | Patient almost moribund from prolonged sepsis at time of operation. |
| 11 | Emory Lanphear | 1890 M. 9 | Osteomyelitis of femur. | " | "Wyeth's bloodless method, by which failure to control hemorrhage seems to me to be impossible." |
| 12 | " " | 1892 M. 15 | Osteomyelitis of femur. | " | |
| 13 | " " | 1893 M. 28 | Osteomyelitis of femur. | " | |
| 14 | " " | 1897 F. 27 | Osteomyelitis | " | |
| 15 | H. O. Walker | 1893 M. 21 | Osteo-arthritis | " | |
| 16 | " " | 1893 M. | Osteo-arthritis. | Died. | Death from exhaustion in four hours; no hemorrhage. |
| 17 | John B. Deaver | 1893 M. 20 | Osteomyelitis of femur. | Recover'd | |
| 18 | J. Ewing Mears | 1892 M. 10 | Osteo-arthritis of hip | " | |
| 19 | A. E. Mallock | 1892 M. 30 | Osteo-arthritis of hip | " | Operation lasted thirty-five minutes. |
| 20 | R. L. Swan | 1893 F. 19 | Osteo-arthritis of hip | " | |
| 21 | C. B. Nancrede | 1898 M. 50 | Osteomyelitis of femur; suppurating arthritis. | Died. | Patient had had a compound fracture which became infected and had suppurated with varying profusion for thirty years. He did well after the operation, but on tenth day quite suddenly developed symptoms of cerebral apoplexy and died in coma |
| 22 | " " | 1893 M. 31 | Osteomyelitis of femur. | Recover'd | |
| 23 | John B. Deaver | 1890 F. 20 | Chronic osteo-arthritis. | " | |
| 24 | S. B. Fowler | 1890 M. 54 | Traumatic osteitis of femur; bed-ridden for fifteen years. | " | Recovery without suppuration; no hemorrhage; patient now living (1896). |
| 25 | W. W. Van Arsdale | 1896 M. 13 | Osteomyelitis | " | Destruction of soft parts of thigh with suppuration; patient was extremely septic. |
| 26 | F. W. Parkham | 1895 M. 29 | Osteomyelitis of entire femur | " | Amputation through upper third; two weeks later amputation at hip. |
| 27 | Charles K. Briddon | 1897 M. 33 | Tuberculous osteo-arthritis | " | |
| 28 | Charles S. Hamilton | 1899 M. 11 | Tuberculous ostitis | " | Casts and albumen in urine. Greatly exhausted from prolonged sepsis. |
| 29 | Wm. H. Noble | 1897 M. 26 | Osteomyelitis | " | Traumatic osteo-arthritis of knee and myelitis of femur necessitated amputation at middle of thigh, later above this, and finally at hip. |
| 30 | " " " | 1897 M. 29 | " " | " | Operation lasted thirty-two minutes. |
| 31 | W. B. Van Lennep | 1896 M. 14 | General septic infection of left leg and thigh. | " | |
| 32 | L. L. Hill | 1893 M. 60 | Osteomyelitis | " | Gunshot wound of right knee in the Civil War. Immediate amp. at knee. |
| 33 | Chas. G. Levison | 1899 M. 40 | Tuberculous osteo-arthritis | " | |
| 34 | " " " | 1899 M. 23 | " " " | " | Myelitis extended through the entire length of the femur. |
| 35 | T. P. Webster | 1899 M. 40 | " " " | " | Acute pyogenic infection following tubercular osteo-arthritis. Patient much exhausted by prolonged sepsis. Transfused about three quarts normal salt solution during operation. |

SEPTIC INFECTIONS, OSTEITIS, ARTHRITIS, OSTEO-ARTHRITIS, TUBERCULOSIS, GANGRENE, CELLULITIS, ULCER.—*Continued.*

| No. | Operator. | Date. Sex. Age. | Cause of Operation | Result. | Remarks. |
|---|---|---|---|---|---|
| 36 | Thos. F. Chavasse* ... (England.) | 1897 F. 11 | Osteo-arthritis. | Died. | Death from exhaustion on fourth day. Intravenous injection of half a pint of saline fluid. |
| 37 | " " " | 1897 F. 24 | " " | Recover'd | Syme's amputation for osteitis in 1895; one year later amputation at knee; six months later at hip. |
| 38 | " " " | 1899 F. 26 | Tuberculous osteo-arthritis of left knee-joint; septic infiltration of thigh. | " | Same patient. Pint of saline fluid injected. |
| 39 | " " " | 1899 F. 8 | Tuberculous osteo-arthritis. | " | Excision of head of femur two years before. Half a pint of saline fluid injected. Amyloid degeneration of liver and kidneys. |
| 40 | " " " | 1900 M. 23 | " " " | " | Head of left femur excised Feb. 13, 1899. |
| 41 | G. F. Shears. | 1896 M. 26 | Osteo-arthritis with general septic infiltration. | " | "The very great mortality could be materially reduced by the general adoption of this method." |
| 42 | Horace Packard. | 1897 M. 30 | Osteomyelitis. | " | |
| 43 | G. K. Dickinson | 1899 M. 33 | Gangrene of right thigh | " | Four months later gangrene occurred in left leg. Gangrene caused by thrombosis and phlebitis. Condition desperate. |
| 44 | " " | 1900 F. 65 | Gangrene | Died. | Preliminary amputation above knee, but as the muscles here were necrotic, disarticulation at hip was done. Died from exhaustion and shock in five hours. |
| 45 | H. H. Grant. | 1900 F. 28 | Osteitis, right femur. | Recover'd | Amputation in lower third two years before. Hip was anchylosed. |
| 46 | R. H. M. Dawbarn. | 1895 F. 30 | Osteomyelitis. | " | |
| 47 | " " | 1898 F. 10 | Tuberculous osteo-arthritis. | " | Died one year later with pulmonary tuberculosis. |
| 48 | L. S. Pilcher. | 1900 M. 30 | " " " | " | Perfect control of circulation. |
| 49 | George P. Jessup | 1898 M. 30 | Osteo-myelitis of femur | " | |
| 50 | J. William White | 1896 M. 14 | Total necrosis of femur. | " | |
| 51 | " | 1896 M. 14 | Total necrosis of femur, with pathological fract. of thigh | Died. | There was extensive necrosis of right humerus and shoulder joint. Patient greatly exhausted by prolonged suppuration and sepsis. Died 7th day. |
| 52 | " " | F. 6 | Destructive osteitis of femur | Recover'd | Upper third of bone almost entirely destroyed; neck fractured during disarticulation. No difficulty in removing head of bone. |
| 53 | Lewis C. Bosher | 1897 M. 7 | Osteomyelitis, right femur. | " | Spontaneous fracture before operation. |
| 54 | " " | 1899 F. 9 | " left femur. | " | |
| 55 | Manning Simons. | M. 30 | Gangrene. | Died. | Patient at time of operation was exhausted by prolonged general septicemia. The gangrene was caused by occlusion of the femoral vessels. |
| 56 | " " | M. 18 | " | " | Aneurysm five inches in diameter involving external iliac and femoral arteries. Extensive hemorrhage occurred from the diseased vessels after the tourniquet was removed. Died from hemorrhage and shock. |
| 57 | " " | 1899 F. 35 | Osteomyelitis. | " | Died three days after operation from exhaustion and chronic septicemia. |
| 58 | George E. Brewer | 1898 M. 56 | General septic cellulitis, with destruction of soft parts. | " | Patient extremely septic at operation, which was followed by temporary improvement. Secondary infection of flaps ensued, necessitating revision, which ended fatally. |
| 59 | " " | 1898 M. 50 | Diabetic gangrene. | " | Wound healed quickly. Patient died suddenly at end of second week. Supposed apoplexy. |
| 60 | " " | 1899 M. 45 | " " | Recover'd | |
| 61 | " " | 1899 M. 40 | Osteomyelitis | " | |
| 62 | E. F. Robinson, U.S.A., Philippine Islands. | 1900 M. 29 | Gangrene. | " | Gangrene caused by deligation of external iliac artery on account of aneurysm. Collateral circulation was so complete that tourniquet had to be employed. |
| 63 | Wm. Perrin Nicolson. | 1896 M. 35 | Large ulcer in cicatrix of burn. | " | Extensive ulcer of right thigh, caused by burn in youth, undergoing seeming malignant change. |
| 64 | M. B. Herman. | M. 20 | Gangrene. | " | |
| 65 | " " | M. 30 | " | Died. | Recovered from operation. Died from pneumonia one week later. |
| 66 | " " | M. 35 | Tuberculous osteitis | Recover'd | |
| 67 | " " | M. 40 | Extensive septic infection of thigh (cellulitis). | " | |
| 68 | Hunter P. Cooper. | 1894 M. 16 | Osteomyelitis of femur. | " | Whole shaft of femur destroyed. Highest temp. after operation 99.5° F. |
| 69 | " " | 1897 F. 13 | " " | " | "Operation at college clinic. Patient removed in ambulance immediately to her home. This method marks an epoch in modern surgery." |
| 70 | Wm. D. Hilliard | 1898 M. 60 | " " | " | Osteo-myelitis of thirty-five years' duration from gunshot wound at Gettysburg, 1863. Perfectly bloodless. |
| 71 | W. B. Rogers | 1895 F. 16 | Osteo-arthritis of hip-joint | " | |
| 72 | " " | 1895 M. 38 | Rapidly developing gangrene | Died. | Died 40 hr. after operation from general septic infect'n prior to amputat'n. |
| 73 | Harry M. Sherman† | 1895 M. 7 | Tuberculous osteo-arthritis | Recover'd | |
| 74 | " " | 1897 M. 14 | " " " | " | |
| 75 | " " | 1897 F. 8 | " " " | " | |
| 76 | " " | 1898 M. 10 | " " " | " | |
| 77 | " " | 1898 F. 13 | " " " | Died. | |
| 78 | " " | 1898 F. 19 | " " " | " | |
| 79 | S. T. Hunkin | 1898 M. 6 | " " " | Recover'd | |
| 80 | Charles K Briddon. | 1897 M. 33 | " " " | " | No bleeding from upper tissues. |
| 81 | Tilman Ramsey | 1900 M. 34 | Osteomyelitis of femur. | " | |
| 82 | George F. Wilson | 1898 M. 11 | " " " | " | Epiphysis and joints also involved (not tubereular). |
| 83 | " " | 1898 M. 15 | " " " | " | |
| 84 | " " | 1899 F. 21 | Gangrene of extremity | " | |
| 85 | Wm. Jones. | 1894 M. 65 | Tuberculous osteo-arthritis of hip. | " | |
| 86 | Charles H. Frazier | 1900 M. 21 | Tuberculous osteomyelitis (with arthritis?). | " | |
| 87 | Andrew C. Smith | 1895 M. 68 | Osteitis of femur. | " | |
| 88 | J. D. S. Davis | 1897 F. 13 | Tuberculous osteomyelitis of femur. | " | The entire upper half of femur and the acetabulum were involved. The diseased surfaces of the cotyloid cavity were removed. Cured. |
| 89 | " " | 1898 M. 11 | Tuberculous osteitis of head of femur. | " | |
| 90 | A. C. Bernays | 1894 M. 39 | Tuberculosis of femur, hip and knee joints. | " | |
| 91 | Edwin Walker. | 1900 M 15 | Chronic osteomyelitis of femur. | " | Patient much exhausted by sepsis of two years' duration. Not exceeding two ounces of blood were lost. |
| 92 | Thomas F. Chavasse. | 1898 F. 23 | Exteusive ulcer of thigh with infantile paralysis. | " | Amputation at knee three years. One pint salt solution in vein at time of operation. |
| 93 | " " " | 1901 M. 29 | Gangrene from traum. aneurysm of right femoral artery. | " | One pint salt solution before operation. |
| 94 | Harry M. Sherman | 1900 M. | Tuberculous osteo-arthritis of hip. | " | |

* See two additional cases by Mr. Chavasse at end of tables. † See additional case by Dr. Sherman at end of tables.

later. The second had a severe hemorrhage immediately before the operation, from breaking down of the neoplasm, and was practically hopeless when it was undertaken. A third recovered from the operation and died from tubercular peritonitis, on the eleventh day, while in a fourth case, after a good recovery from the operation, the stump became infected and the patient died from septicemia, on the twenty-sixth day. In a fifth the neoplasm involved the acetabulum and the pelvis, which necessitated curettage of an extensive region, death following from shock, within four hours. In a sixth case there was no shock nor hemorrhage; the patient died suddenly, from asphyxia, twelve days after the operation; no post-mortem was made, and the cause of death was unknown. The other 8 died in shock from four to twenty-six hours after the operation.

INJURIES WITH OR WITHOUT PYOGENIC INFECTION.

| No. | Operator. | Date. | Sex, Age. | Cause of Operation. | Result. | Remarks. |
|---|---|---|---|---|---|---|
| 1 | Samuel H. Pinkerton. | 1892 | M. 6 | Compound, comminuted, gunshot fracture of femur. | Died. | Two hours after operation, death from shock. |
| 2 | G. A. Baxter | 1891 | " 17 | Railroad pulpefaction of r. foot, leg; l. lower extremity as high as middle of thigh. | " | Patient rallied well; four hours later raised himself to reach a glass of water, and instantly expired; no bleeding after operation. |
| 3 | " " | 1896 | F. 4½ | Crush of leg and thigh by car wheel. | Recovered. | Operation immediate. Car wheels passed twice over this extremity, crushing bone, with extensive laceration of soft tissues. |
| 4 | W. Johnston | 1892 | M. 39 | Railroad pulpefaction of lower extremity as high as middle of thigh. | Died. | Death ninety hours after operation from shock and exhaustion. "There was not one drop of arterial blood and only a slight venous oozing from the muscular tissue." |
| 5 | J. D. Thomas | 1891 | " 18 | Femoral vessels divided in Scarpa's triagle by red hot iron bar, impend. gangrene. | " | Great hemorrhage from the accident. On seventh day after injury, amputation; death thirty-six hours later; no bleeding after operation. |
| 6 | A. Schachner | | " 55 | Fracture of femur; gangrene. | Recovered. | First dressing six days after operation. |
| 7 | Daniel Strock. | 1894 | " 35 | Limb pulpefied. | Died. | Railway crush; including upper third of thigh. Hemorrhage entirely controlled. Patient died of shock. Patient bled profusely before admission to hospital. |
| 8 | R. Matas | 1894 | " 27 | Traumatic gangrene. | " | Entire lower extremity gangrenous with great edema. General septicemia. "Saline infusion alone prevented death on the table." |
| 9 | " " | 1898 | " 58 | Crush by machinery | " | Extensive comminution of bone and pulpefaction of soft parts. Kidney lacerated. Died from shock |
| 10 | George W. Crile | 1898 | " 26 | Injury of hip and thigh. | Recovered. | Crushed under railway train. Considerable hemorrhage at time of accid't. |
| 11 | Wm. B. Van Lennep | 1897 | " 46 | Compound comminuted fracture of right thigh. | Died. | Died from shock withiu a few hours. |
| 12 | L. L. Hill. | 1894 | F. 14 | Gunshot wound. | " | Died in eighteen hours from shock. |
| 13 | Chas. G. Levison. | 1899 | M. 50 | Crush by elevator. | " | Operation twenty-four hours after accident. Gangrene in one lower extremity extending almost to the hip; the opposite leg was gangrenous to the knee. Pulse before operation 160. Hemostasis complete. Duration from beginning to end, twelve minutes. Died six hours later. |
| 14 | W. S. Bickham | 1895 | " 48 | Comminuted gunshot fracture of femur; upper third. | Recovered. | Saline infusion. |
| 15 | " " | 1897 | " 50 | Crush and pulpefaction of thigh; gangreue. | Died. | Gangrene of entire extremity as high as seat of wound. |
| 16 | W. E. Parker. | 1895 | F. 8 | Railroad crush | " | Hemorrhage well controlled. Died in 12 hr. from shock. "Good quantity of salt solution injected, but the good effect was only temporary." |
| 17 | George L. McCoy | | M. 35 | Severe crush by machinery. | Recovered. | Severe hemorrhage at time of accident. Two pints saline fluid injected in vein at elbow before operation. He rallied from profound shock |
| 18 | G. K. Dickinson. | 1892 | " 25 | Compound comminuted fracture. | Died. | Died in shock. Hemostasis complete. Subcutaneous injection of saline fluid by rectum. No intravenous injection. |
| 19 | W. C. Dugan. | 1896 | " 30 | Railroad injury | " | Thigh was amputated for injury at upper and middle third. Secondary hemorrhage occurred and stump was cut through higher up, and the fragment of bone disarticulated. Died eight hours after last operation. |
| 20 | B. Hatchett. | 1891 | " 31 | Legs crushed under car wheels. | " | Died 18 hours after operation. Internal injuries. One extremity amputated at hip, the other just below knee. Absolutely no loss of blood. |
| 21 | H. A. Sifton | 1897 | " 45 | Railroad crush of thigh | " | Intravenous saline injection, 2000 c.c. before amputation. "I have often used saline injections before operating in severe railroad injuries with most gratifying immediate results. I have, however, observed symptoms in some of the fatal cases after its use which I have thought might be due to the direct effect of the fluid upon the blood." |
| 22 | " " | 1898 | " 22 | Railroad crush of thigh with compound dislocat'n of hip. | Recovered. | |
| 23 | E. F. Robinson, U. S. A., Philippine Islands. | 1900 | " 62 | Gunshot wound of femur; explosive effect. | Died. | Died in twelve hours from shock. While under ether and before operation one pint normal salt solution was given by hypodermoclysis. During operation the pulse became very weak and one quart of salt solution injected into veins, followed by marked improvement in heart action. Symptoms of shock supervened about seven hours later, and a pint more was thrown beneath the skin. |
| 24 | E. A. Neely. | 1900 | " 41 | Gunshot wound of femur. | Recovered. | Operation four months after injury. Although patient was in bed from prolonged septic absorption, he stood the amputation so well saline injection was not required. |
| 25 | Wm. Perrin Nicolson. | 1896 | " 22 | Railroad crush | Died. | Operation performed when condition of patient was bad on account of other injuries. Hypodermatic injection of salt solution. Died in shock five hours later. |
| 26 | P. B. M. Miller | 1898 | " 21 | Gunshot wound of thigh. | Recovered. | Charge of large bird-shot entered the thigh over trochanter major, carrying away all the bone here except a fragment the size of an English walnut which was lodged beneath Poupart's ligament. Patient greatly exhausted from hemorrhage and three days' journey to reach assistance. No intravenous injection of saline solution. |
| 27 | George R. Fowler. | 1900 | " 29 | Compound fracture of femur with destructive ostitis. | " | |
| 28 | Wm. D. Hilliard | 1896 | " 35 | Railroad crush. | Died. | Compound comminuted fracture of thigh with great laceration of soft parts and much hemorrhage. Amputation eight hours after injury. Perfectly bloodless. Died of shock in a few hours. |
| 29 | Frank D. Smythe. | 1898 | " 32 | Railroad crush. | " | Left thigh crushed and soft parts pulpefied. Salt solution injected before operation. Died from shock day of operation. |
| 30 | P. J. Kirschener | 1899 | " 33 | " " | " | Died twelve hours after operation. |
| 31 | H. C. Deaver | 1900 | " 22 | " " | Recovered. | |
| 32 | George R. Dean. | 1894 | " 35 | " " | Died. | Car wheel crush and pulpefaction of thigh, involving the ilium and outer rim of the pelvis. Severe hemorrhage, with profound shock. No infusion. Died in three hours from shock. |
| 33 | " " | 1896 | " 21 | " " | Recovered. | Comminution of femur from knee to middle third of thigh, with pulpefaction of soft structures to near hip. |
| 34 | R. Harvey Reed | 1895 | " 28 | Crush of leg and thigh. | " | |
| 35 | " " | 1896 | " 30 | " " | Died. | |
| 36 | " " | 1898 | F. 10 | " " | Recovered | |

Under the heading of septic infection, 94 hip-joint amputations were made. As recorded, they are classified as follows: Pyogenic ostitis or osteomyelitis—not tuberculous—36, with 5 deaths, a mortality ratio of 14 per cent.; tuberculous ostitis or osteoarthritis 41, with 4 deaths, or 9.7 per cent.; gangrene—moist and diabetic—12, with 6 deaths, or 50 per cent.; general cellulitis 3, with 1 death, or 33 1/3 per cent.; ulcer from breaking down of an extensive cutaneous surface 2, with recovery; total for septic infections, 94 cases, of which 16 died, or 17 per cent. Practically all the fatal cases were in a condition of great exhaustion due to prolonged sepsis, or they died from causes not directly referable to the operation. Of the five fatal cases in the first group, 1 was in such a seemingly hopeless condition that the operation was not advised. It was only done at the urgent insistance of the child's parents. The second case was almost equally emaciated and anemic from prolonged septic absorption. A third fatal case was complicated with a fracture which had existed for several months before the operation, while a fourth died of cerebral apoplexy on the tenth day, the cause of death not being referable to the operation.

For tuberculous ostitis and osteoarthritis—or hip-joint disease—1 out of 41 died, or 9.7 per cent. There were no serious complications in these 4 fatal cases,

although they were weakened by the prolonged sepsis and waxy degenerations which are characteristic of tuberculosis in the bones. The operation was undoubtedly the immediate cause of death in each of these.

In the case of gangrene, as one would naturally suppose, the death-rate was exceedingly high, 6 of the 12 ending fatally. In 1 of these a preliminary amputation was made above the knee and, as the muscles were gangrenous at this level, a second operation of disarticulation at the hip-joint was done, followed by shock and immediate death. In the second case, in which an aneurysm five inches in diameter involved the external iliac and femoral arteries, while the hemostasis was complete during the operation, exhaustive hemorrhage followed the removal of the

Osteosarcoma of femur.

tourniquet, the bleeding coming from broken-down vessels at the seat of the aneurysm. The patient was septic and greatly exhausted by reason of the gangrenous condition of the entire lower extremity. In the third, the patient died from pneumonia, a week after the operation. Two other fatal cases had prolonged septicemia, to which, with the added shock of the operation, they quickly succumbed. A sixth case of diabetic gangrene had practically recovered from the operation, but died from cerebral embolism at the end of the second week. One case of cellulitis died out of 3, the fatal one being extremely septic and anemic at the time of operation. Improvement followed, but secondary infection of the flaps took place, necessitating a revision which was followed by death. One case of extensive ulcer resulting from the breaking down of scar tissue following a burn in youth was of doubtful diagnosis, but was classed as an ulcer because no demonstration of epithelioma was made.

In the third group, injuries with or without septic infection, there are 36 cases with 23 deaths, a mortality ratio of 63.9 per cent. Twenty-four disarticulations at the hip were performed on account of extensive injuries to one or both lower extremities by railway trucks or heavy machinery. Of these, 16 died, a mortality ratio of 66.6 per cent. When we consider the character of these injuries and the unfavorable conditions to which the patients were subjected, this high rate of mortality is not surprising. Hemorrhage more or less severe occurred in all cases, and it was difficult, and at times impossible, to overcome the shock which supervened. It is more than probable that had the intravenous injection of a saline solution been made before all of these were subjected to operation, the ratio of mortality would have been decreased, since the majority of the fatal cases died in shock and before septic infection was observed.

CASE 2.—Here the right leg and foot and left lower extremity were crushed as high as the middle of the thigh. Amputation was performed at the hip on one side, and at the knee on the other. The patient died in shock four hours afterward.

CASE 3.—This patient presented a crush of the leg and thigh by a car wheel, with extensive laceration of the soft tissues. Operation was immediate, and he recovered.

CASE 4.—Pulpifaction of the lower extremity, as high as the middle of the thigh was present here and the patient died in ninety hours, from shock.

CASE 7.—Here there was crush and pulpifaction as high as the upper third of the thigh. Profuse hemorrhage occurred before admission. The patient died of shock within a few hours.

CASE 10.—A crush of the hip and thigh with considerable bleeding at the time of admission was followed by recovery.

CASE 16.—Death in twelve hours, from shock. Salt solution was injected into the veins.

CASE 19.—This patient recovered from the first operation, but secondary hemorrhage ensued. Amputation at the hip-joint was followed by death in eight hours, from shock.

CASE 20.—Death in forty-eight hours, here followed one extremity amputated at the hip, the other just below the knee. There were also internal injuries.

CASE 21.—This patient died within a few hours, from shock. Salt solution was injected into the veins.

CASE 22.—This case was a crush of the thigh, and compound dislocation of the hip. The patient recovered.

CASE 25.—This patient died of shock, in five hours. Salt solution was tried hypodermically. The patient's condition was practically hopeless on account of other injuries.

CASE 28.—Here a railroad crush presented great laceration and much hemorrhage. Amputation eight hours after injury resulted in death in shock within a few hours.

CASE 29.—This was also a railroad crush, of the left thigh, the soft parts pulpified. Salt solution was injected into the veins. Death followed in twenty hours, from shock.

CASE 30.—This patient died in twelve hours, from shock.

CASE 31.—Recovery resulted.

CASE 32.—Crush and pulpifaction here involved the thigh and the ilium and outer rim of the pelvis, with severe hemorrhage. The patient died in three hours, from shock.

CASE 33.—Here the femur was crushed from the knee to the middle third of the thigh, with pulpifaction of the soft structures to near hip. Recovery followed.

CASE 34.—A crush of the leg and thigh was here followed by recovery.

CASE 35.—Death followed a crush of the leg and thigh in this case.

CASE 36.—Recovery was the result after a crush of the leg and thigh in this instance.

MACHINERY CRUSHES.

Case 9.—This patient presented extensive comminution of bones, pulpifaction of the soft parts, and the kidney lacerated. Death in shock followed.

Case 13.—A crush in an elevator was followed by operation twenty-four hours after the accident. Gangrene had supervened in one extremity, almost to the hip, and in the opposite leg to the knee. The patient died in six hours, from shock.

Case 15.—Crush and pulpifaction of the thigh, with gangrene of the entire extremity as high as the seat of the wound, resulted fatally.

Case 17.—A severe crush by machinery, with extensive hemorrhage at the time of the accident, resulted in recovery. Two pints of saline fluid were injected into the veins.

COMPOUND COMMINUTED FRACTURES.

Case 6.—Comminuted fracture with gangrene was followed by recovery.

Case 8.—Traumatic gangrene of the entire lower extremity existed, with great edema and general septicemia. The patient died. Saline infusion alone prevented death on the table.

Case 11.—This patient died in shock after a few hours, in a case of compound comminuted fracture of the right thigh.

Case 18.—This patient presented a compound comminuted fracture, received subcutaneous salt solution, and by rectum, but died in shock.

Case 27.—This compound fracture with destructive ostitis was followed by recovery.

GUNSHOT WOUNDS.

Case 1.—A gunshot wound, compound comminuted fracture, with immediate operation, resulted fatally in two hours, from shock.

Case 12.—This gunshot wound, with extensive lacerations and hemorrhage, caused death in eighteen hours, from shock.

Case 14.—The same, with compound fracture of the upper third, with saline infusion, resulted in recovery.

Case 23.—This patient received a gunshot wound with an explosive missile. While under ether and before operation, a pint of normal salt solution was given under the skin. During the operation a quart was injected into the veins, followed by marked improvement of the heart's action. Symptoms of shock supervened about seven hours later, and a pint more was thrown beneath the skin, but he died within twelve hours, from shock.

Case 24.—In a gunshot wound of the femur, operation was not done until four months after injury. The patient was in bad condition, from prolonged sepsis. No saline injection was used. Recovery followed.

Case 26.—A gunshot wound caused by a charge of bird-shot entering over the trochanter shattered the bone. The patient was greatly exhausted from hemorrhage and a three days' journey to reach assistance. No intravenous injection was made. He recovered.

Case 5.—This patient had gangrene resulting from division of the femoral vessels by a red-hot bar of iron. Gangrene ensued on the seventh day, before amputation was done. Death resulted in thirty-six hours, from shock.

In addition to the foregoing I have two cases of railway crush of the thigh and hip in which the same method of hemostasis was employed, in which the femur was divided in one instance at the lesser trochanter, and in the other one and one-half inches below this point. There were extensive lacerations of the gluteal region beyond the level of the hip in one of these cases, while in the other the right leg and thigh bones were crushed to pulpifaction to within eight inches of the hip-joint. This patient was not discovered until several hours after he was run over by a train of cars, remaining on the cold ground throughout a greater portion of the night. He was then brought fourteen miles to the hospital, when the amputation was made. These two cases of recovery would reduce the death-rate to 60.5 per cent., but since they are not disarticulations, I have not included them in the statistics. The operators were Dr. P. B. Barringer, Charlottesville, Va., and Dr. A. W. Knox, Raleigh, N. C.

I have an additional and very instructive case occurring in the practice of Dr. George E. Brewer, in which the method of hemostasis was employed for gunshot wound of the middle and upper third of the thigh, but as the bone was divided near the lesser trochanter and disarticulation not performed, I have not included it in the statistics. This injury was inflicted with a soft-nose missile of high velocity, striking the femur about the middle, comminuting this bone from near the knee to the trochanter, with extensive destruction of the muscles by reason of the explosive effect of this form of bullet. The pins were extemporized from fence wire and the hemostasis was reported as complete.‡

Of the 267 cases of disarticulation at the hip-joint for all causes herewith reported, 53, or 19.8 per cent., died. Every fatal case is recorded, and this list includes a number that died from intercurrent disease, such as pneumonia and apoplexy, although the cause of death was not justly referable to the operation. Several died from sepsis, one on the twenty-sixth day, which, as Mr. Chavasse of the Birmingham General Hospital remarks, "was an avoidable cause of death."

In many of the accident cases, while it was none the less the duty of the operator to give the patient this last chance for life, the extensive mutilations, such as the crushing of one or both lower extremities under car wheels or in machinery, and the exhausting hemorrhage which occurs in most of these, together with grave injuries of the viscera, made a fatal termination almost inevitable. Moreover, in the fatal cases in which the amputation was done for the relief of moist and diabetic gangrene, the prognosis was almost as unfavorable as after the most extensive injuries. In Ashhurst's "International Encyclopedia of Surgery," issued in 1881, Dr. F. C. Shepperd gives to that date a total of 633 cases of amputation through the hip for all causes, with a mortality ratio of 64 per cent. In *The Lancet* for March 5, 1892, Mr. Frederick Page gives 16 cases in which the amputation was done by other methods for disease in the Royal Infirmary, Newcastle-on-Tyne, with a ratio of mortality of 37.5 per cent. The death-rate for disease in the statistics herewith given is 17 per cent. Dr. John Erdmann, of New York, collecting the figures of eight hospitals of this city, gives 18 cases done by all methods with 8 deaths, mortality ratio of 44.4 per cent. Of these 18 cases, in 7 the method of hemostasis here advised was employed, and all of these recovered, leaving in this list 8 fatal cases in 11 amputations done by other methods. Asepsis must share with the improved hemostasis the credit of this diminished rate of mortality. These 267 amputations were performed by 123 different operators, and under all the varying conditions of civil and military practice.

The simplicity and efficiency of the method is evident in the fact that from the country practitioner with inefficient assistance and limited experience in major

‡ In the "Medical and Surgical History of the War of the Rebellion," there is given a list of all amputations at the hip-joint done in military practice to the date of the issue of that volume. They are divided into: 1, primary; 2, intermediary, and 3, secondary periods, and re-amputations.

There were 53 amputations in the primary period—within the first twenty-four hours after receipt of the injury—with two recoveries, a death ratio of 96.2 per cent. Of those done in the intermediary period, i. e., during the inflammatory stage and reckoned from the third to the thirtieth day, both inclusive, there were 32 cases, with 3 recoveries, a mortality ratio of 90.6 per cent. In the secondary period, i. e., after the entire abatement of the acute inflammatory stage and after the thirtieth day, there were 31 operations with 4 recoveries, a mortality ratio of 87 per cent.

surgery, to the metropolitan surgeon with all the accessories of the modern technique, it has almost without exception met with full approval and adoption. The few objections which have been advanced, as for instance the difficulty of disarticulation, and the free oozing from the large muscular surface divided, can no longer hold in the present improved technique of the operation. We all agree with Mr. Chavasse, who says, in his excellent article already quoted, that "it is quite possible and probable that cases operated upon by a variety of surgeons will show a larger mortality-rate than if one particular surgeon had had the entire experience, and we are justified in concluding that an improved modern technique of operating which includes the antiseptic and aseptic methods, has reduced the mortality of a formidable procedure to such really small dimensions that in suitable cases there is no longer any actual excuse for procrastination, and that we are justified in urging operation in cases which up to now we have been content merely to recommend."

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## THE OCULAR EXPRESSION OF INTRANASAL LESIONS.

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Ocular symptoms are not uncommon attendants of focal suppuration of the nasal cavities.

Although admittedly more frequent, it is by no means established that such local suppuration starts invariably in one or several of the pneumatic accessories of the nose. Focal suppuration may also begin, in a smaller number of cases, in the mucosa without implication of the sinus cavities, especially in the inferior, anterior portion of the middle meatus and even of the septum nasi.

It is also certain that various ocular symptoms which attend so many intranasal lesions—because they are so frequently and commonly met with—are looked upon as transitory and uncertain reflex phenomena, and are regarded of little diagnostic importance. For this reason they do not receive the attention they deserve, and are often peremptorily disposed of as not worthy of much consideration. Nevertheless, telling evidence that a better knowledge of the interdependence of the symptoms of intranasal and ocular lesions is at hand, is being constantly furnished by numerous contributions from rhinologists as well as oculists—each from his point of view adding practical suggestions which must serve the common purpose of more accurate information of diagnosis and a more successful therapy.

Within the range of this brief communication, no reference will be made to the ocular symptoms in general. These are on the whole fairly well known. Mention will be confined to certain phases of more uncommon intranasal lesions which, so far as their ocular expressions are concerned, have not been fully described. It must furthermore be stated that the observations and conclusions about to be mentioned, bearing on this point and of common interest to both specialties, are here considered wholly from the standpoint of the ophthalmologist; also, that the successful management of ocular symptoms in cases of this class is unsatisfactory or impossible until their dependence upon a nasal lesion is recognized.

Two classes only, of intranasal lesions, will be considered. They both furnish the oculist with perplexing experiences and with unlooked for disappointments.

The first group includes certain chronic lesions which invade the anterior region of the middle meatus of the nose—the most anterior cells of the ethmoidal labyrinth—bulla ethmoidalis, the region of the uncinate process, hiatus semilunaris and infundibulum.

The point of interest is that the morbid changes which are enacted and account for persistent ocular phenomena are attended by a lesser or even an entirely negative expression on the part of the nose. Often a most careful search must be made before a focal suppuration of the mucosa of the nose or of the air-cells of the locality is discovered. In some cases cystic distention of the cells, with choking of their contents and plugging of their ostia, caries of their bony walls and even the remote sequences of former morbid processes—solidification or rarefaction of the framework of the bone—are found; in others, all tangible evidences are absent until revealed by an exploratory operation undertaken mainly for purposes of diagnosis.

It must also be remembered that the region in question is often the seat of an anomalous individual development to which a congenital legacy of syphilis or scrofulous and rhachitic manifestations during early life, afford the necessary predisposition. The growth and subsequent development of the ethmoidal labyrinth are so altered that excessive and abnormal crowding or impaction of the anterior and lateral air-cells results. It can furthermore be assumed that in such cases more or less interference with the physiologic purposes must follow, and that the declaration of any morbid process may be attended by rather uncommon symptoms.

*Clinical Expressions of Lesions.*—Two principal clinical expressions of lesions of this region of the nose on the part of the eyes are met with:

1. Persistent injection of the vessels of the ocular conjunctivæ with prominence and distention also of the muscular branches, often accompanied by passive edema of the retrotarsal folds. The palpebral conjunctiva does not ordinarily participate in this vascular engorgement. There is no abnormal secretion in quantity or quality, but there is present much functional distress of the eyes. Not infrequently there is observed a retraction of the upper lid and that peculiar stare which is so generally associated with a retarded lid action due to disordered innervation of the sympathetic fibers.

2. The other or second clinical expression dependent on the same or a similar intranasal disturbance, consists of a group of far more unmanageable and persistent symptoms. In cases of this class, the most persistent neuralgic phenomena, not conspicuous because of their severity, but mainly for their persistent nagging features, are present, associated with the most distressing functional disturbances of the eyes.

Any continued effort in reading, or other close work, produces prolonged and severe suffering. This is most pronounced during the early part of the day and wears

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

away toward its close and at night. The pain is neuralgic in character. It is referred to certain points along the inner wall of the orbit, the eyeball and the brow. The most uniformly present points of pain are those along the inner and upper orbital wall. They can be easily discovered by passing and pressing the finger against the inner wall of the orbit at a short distance from the free margin. Exposure to bright light, sudden changes of temperature, over-heated air laden with dust or irritating vapors—in fact, anything which may irritate the mucous surfaces of the nose through external agencies, as well as internal ones resulting from excessive mental fatigue, an overwrought nervous system from worry or other reasons, are the exciting causes for this persistent suffering referred to the eyes and frontal regions.

As already stated, most subjects of this class are neurasthenics in the fullest sense of the word. For this reason there is present an almost interminable train of nervous phenomena—functional and transitory—but nevertheless excessively annoying to the sufferer.

This is an incomplete account only, of the ocular symptoms. The description of these cases is not complete until a brief mention is made of the pathologic changes which are responsible for them, so far at least as they are at present known or understood. It must also be admitted that not until the nose is regarded as furnishing a possible starting-point and cause for the ocular lesions, can such cases be satisfactorily managed. The most searching examination of the eyes, followed by the correction of any optical error or muscular anomaly, no matter how trivial, will fail to bring about even partial relief from the annoying symptoms. The experience of every oculist furnishes one or many instances of this class. Doubtless, in all or most of these cases—for this should be the rule in every case of persistent irritation of the conjunctiva or neuralgic disturbance without tangible cause on the part of the eyes—a careful examination of the nose has been made. Such examinations are often attended with negative results. Even in those cases referred for more accurate examination to the rhinologist which are sent back with a negative opinion—that the nose offers no positive evidence of a morbid process sufficient to account for the annoying symptoms—efforts should not be abandoned to seek and find the cause for the annoying eye symptoms in the concealed localities of the nose referred to.

My experience has long made me familiar with these cases. In one of the earlier observations, the general conclusion so frequently confirmed, that lesions of the frontal sinus and anterior ethmoidal cells are commonly associated, was not upheld by the disclosures of surgical intervention. The frontal sinus was found normal in size and the mucous lining healthy. The obstinate neuralgic symptoms persisted. By accident, later, I discovered a focal suppuration in the anterior portion of the middle meatus of the nose. Careful probing led to the discovery of denuded bone and empyema of the cells. These were broken down, thoroughly curetted and free drainage established. The symptoms speedily subsided. Recent observations have added to this accidental discovery. In my experience with these cases I can only confirm what has been already established by others that the lesion on the part of the nose is frequently a local suppuration which begins in the mucosa. It may, in certain cases, be independent of it, but it is generally associated with a latent empyema, caries of the walls, hyperostosis or rarefaction of the air-cells of this locality.

It will also be found that in a larger proportion of cases of this class, with the symptoms described, there is not an implication of the frontal sinus, but the pathologic changes are enacted in the region of the infundibulum, hiatus semilunaris and outlets of the air-cavities of the anterior locality of the ethmoid. These are often latent clinically and, for this reason, difficult of discovery even if the most careful methods of examination are followed.

Another point which deserves to be emphasized—as far as my personal observations are concerned—is that in most of these cases congenital causes, or those which exert their baneful influences early in life—syphilis, rhachitis, scrofula, etc.—often furnish the individual predisposition for these obscure intranasal lesions and their ocular attendants.

The second group refers to cases better understood and unmistakable so far as the diagnosis and general character of the nasal and ocular lesions are concerned.

There is invariably present in these cases a focal suppuration in the nose—of the inferior meatus, inferior turbinate—or of the adjacent cells of the ethmoid and frequently of the maxillary sinus. The nasal lesion, however, because of the dominant ocular symptoms, does not receive adequate attention.

The cases referred to are those which are considered the most unmanageable of tear-sac and nasal duct lesions. Chronic suppuration with fistulæ of the tear-sac and granular degeneration of its mucous linings are present, together with thickening of its walls, vicious bone-ulceration and sequestration on the part of the osseous portion of the nasal duct, focal suppuration of the inferior meatus of the nose, ethmoidal labyrinth, maxillary sinus, etc.

These are the cases in which the radical extirpation of the tear-sac by cauterization or excision, with or without removal of the lachrymal gland, is necessary. The removal of the lachrymal gland may not be necessary in all cases. If the removal of the tear-sac is thoroughly accomplished, and if the nasal lesion at the same time receives the attention it deserves, good and permanent results can be obtained without it. For this reason, the removal of the lachrymal gland should not be resorted to in surgical ventures of this kind, until it has been demonstrated that this is a necessary measure.

The method which has furnished me with the best results includes, in addition to the most radical extirpation of the tear-sac—excision, curettage—equally thorough attention for the nasal lesion.

Briefly described, the operation which has been practiced successfully in numerous instances, consists: 1, in the destruction and obliteration of the canaliculi or entrance to the dilated and suppurating tear-sac, by the aid of the galvanocautery. This is followed by excision of the tear-sac through a large incision until every vestige of the soft parts, the circum-saccular thickenings and fistulous tracts, etc., are removed. The osseous canal—the most important feature of the operation—is now widened with chisel, mallet and curette until a free, funnel-shaped communication with the nose has been secured and every trace of carious or sequestered bone has been thoroughly removed. The adjacent smaller cell or cells of the turbinates, as well as the cells of the ethmoidal labyrinth, are next opened, explored and, if necessary, curetted until the floor of the inferior meatus is reached. The inferior and middle turbinate are as thoroughly removed as the judgment of the surgeon may direct, to bring about a large and free cavity. The external wound is closed with sutures.

The advantage of this method is that the external wound closes and heals up rapidly, and drainage or whatever subsequent treatment may be necessary, is accomplished with ease through the nose. The after-treatment is much shortened and less painful, and the resulting scar much less conspicuous.

## A BRIEF NOTE ON THE PATHOLOGY, DIAGNOSIS AND TREATMENT OF NASAL ACCESSORY-SINUS AFFECTIONS.*

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It is now generally recognized that affections of the nasal accessory sinuses are more common than they were formerly supposed to be. Many physicians still hold the opinion, however, that neither their frequency nor import are as yet fully appreciated. By careful examination many a case of supposed rhinitis will be found to be associated with, and dependent upon, a chronic, or acute, sinusitis. This is particularly the case in the condition known as purulent rhinitis in children, where the sinusitis is the rule rather than the exception. Moreover, the proper treatment of the sinus disease will result in great amelioration, if not complete cure, of the so-called purulent rhinitis. If it be true that a chronic purulent rhinitis is due to, and maintained by, a chronic sinusitis, and if we accept the view that atrophic rhinitis is a sequel of chronic purulent rhinitis, then it is evident that we must consider chronic sinusitis a very important factor in the etiology of chronic atrophic rhinitis. Certain it is that careful examination will reveal the presence of chronic sinusitis in a very large percentage of the cases of atrophic rhinitis, and equally certain is it that, in order to get relief from the atrophic rhinitis in such cases, we must first cure the sinusitis. Indeed, even in those cases of atrophic rhinitis that do not seem to be associated with chronic sinusitis, it is very probable that a sinusitis was present earlier in the progress of the case, but had gradually subsided and disappeared. Nasal polyps will often be found associated with chronic sinusitis, and we find it frequently necessary to treat the sinuses after removal of the polyps, for we can almost certainly predict that, without such after-treatment, a return of the polyps will occur. The pathologic changes that take place in the unobstructed nostril, in cases of deviation of the septum—which I have described in another paper[1]—frequently lead to sinusitis. A deviated septum will also frequently cause a chronic sinusitis on the obstructed side. All cases of deviated septum, therefore, should be carefully examined for existing sinusitis, and if this condition is present it should be relieved either before or after operation for the deviation. It is a good rule of practice, in all cases of obstructive or septic conditions of the nasal chambers, to suspect and carefully examine for existing sinus-disease.

There is one class of chronic sinus affections which I desire to mention more particularly, for as yet but little attention has been called to them. These are cases where the nasal outlets of the sinuses have become obstructed, not by gross pathologic lesions, such as polyps, deviated septum, etc., but rather by swelling and thickening of the mucous membrane at the nasal openings of the sinuses, or again by small masses of granulations, or even by inspissated mucus obstructing the openings. This class of cases closely corresponds to cases of closure of the Eustachian tube from similar causes; indeed, in a certain sense the tympanum, or middle ear, may be considered an accessory sinus, with the Eustachian tube its rather long drainage-tube. The obstruction to the openings of the sinuses in this class of cases may be a complete and fairly permanent one, or the openings may be open at times but becoming obstructed by slight causes, such as coryza. Within the past few years many such cases appearing subsequent to attacks of influenza have been observed.

When the nasal openings of the sinuses are closed, either temporarily or more or less permanently, in the manner just described, certain pathologic changes will take place in the mucous membrane lining the obstructed sinus. In some instances, these pathologic changes lead to inflammation, with its usual course, resulting in suppurative sinusitis with the common symptoms of this condition. In other instances, a chronic congestion of the membrane seems to be the result. I am also of the opinion that retention of gases in the obstructed sinuses is present in some cases, and, in others, that the air in the closed sinuses becomes rarefied, thus causing a chronic congestion of the lining of mucous membrane.

The diagnosis of this class of cases is greatly aided by the subjective symptoms, pain in the head being the most prominent one. This pain may be described as one that is more or less continuous, frequently worse upon arising from bed in the morning, wearing off somewhat during the day; a headache that is usually increased by leaning forward, or stooping—usually described by the patient as dull or boring in character; one that is usually increased by colds in the head, that frequently is made worse by exposure to cold winds, etc., that is frequently present even during sleep—a pain that is accompanied by a sense of heat in the face or forehead. This feeling of heat is particularly felt when the patient is agitated. During the summer season, or in clear weather, or when living an open-air life, this pain is often ameliorated. In winter, cold and chilly weather, or when the patient is run down in health, it is usually more severe. The situation of the pain varies with the particular sinus affected. If the frontal sinus alone is involved, the pain is felt in the forehead or over the eyes. If the anterior ethmoidal sinuses, the pain is usually located at the root of the nose, near the inner angle of the eye, or is felt deeper, apparently back of the inner portion of the eyeballs. If the posterior ethmoidal cells are at fault, the pain is usually referred to the temporal region, at times also to the vertex, or back of the eyeballs. It has seemed to me that pain from affection of the sphenoidal sinuses is frequently felt in the back of the head. As it is not infrequent for several of the sinuses to be affected at the same time, the pain may be referred to several of the regions mentioned. It may be said, however, that the pain in these sinus affections is nearly always a localized one, although several localities may be implicated at the same time. The patient occasionally complains of the head paining as a whole. In some cases the pain is unilateral, resembling migraine, one entire side of the head being involved, and, quite usually, when this is the case, it is always the same side that pains. In some cases, when

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the obstruction to the sinuses is not permanent, the patient may be entirely free from pain in the head at times, and may remain so for a longer or shorter interval, but should the patient "catch a cold" in the head, the pain returns, located in the same places as those in which it was previously felt. It may then continue permanently, or be repeated at longer or shorter intervals. The diagnosis is aided by the fact that pressure over the affected sinus—particularly when the frontal or anterior ethmoidal sinuses are involved—will usually elicit tenderness and pain.

Inspection of the nares will frequently reveal an obstructive lesion, such as deviated septum, polyp, enlarged turbinals, etc. At times a thickening or slight curvature of the superior anterior portion of the bony septum is the only obstructive condition to be observed. This produces, however, sufficient narrowing of the upper portion of the nasal chambers to cause blocking of the sinuses, whenever the soft tissues are swollen. Not infrequently a tenacious, whitish muco-pus, or seropurulent discharge, may be extracted in long, thin threads. Discharge, however, may be entirely absent in many cases, and some of these may suffer from the most severe and persistent pain in the head. Transillumination is at times a valuable aid to the diagnosis, but is not always a reliable one.

In the treatment of acute or chronic inflammation of the nasal accessory sinuses, attention must be given: 1, to providing proper drainage to the affected sinus; 2, to the proper treatment to the disordered lining membrane. In order to carry out such treatment, various surgical procedures are in many cases found to be necessary. It is not my purpose, however, to discuss the operative and medical treatment at this time, but I desire merely to draw attention to the great importance and desirability of opening the natural outlets to the sinuses whenever possible, and this I would advocate even when we have found it necessary to do the so-called radical operations. When we succeed in getting a natural outlet open, it is naturally inclined to stay open, whereas, all artificial openings tend to close very quickly. Many of the milder chronic cases of sinusitis—and nearly all of the acute cases—are capable of being quickly cured, if the natural nasal openings of the affected sinus are opened and kept open, and appropriate local and general treatment instituted. In order to obtain this opening and drainage through the natural outlets of the sinuses, all intranasal obstructions of the openings of the sinuses should be removed. Obstructive deviations, or spurs of the septum, should be corrected, enlarged middle turbinals should be reduced in size; frequently the amputation of the anterior portion of the middle turbinal is necessary. Polyps should be thoroughly removed by evulsion. At times, small polyps, situated high up in the nares, are found to cause the obstruction. Masses of granulations choking the sinus openings are to be treated in a similar manner.

Finally, I desire to draw attention to the excellent results obtained from forcibly syringing the openings and sinuses with hot dry air used under pressure. In a large number of cases I have been able by such use of hot dry air to open obstructed sinuses very quickly, giving the patient great and, in many instances, quick and permanent relief from pain, immediately increasing the drainage and removing the retained secretions.

I first drew attention to the hot-air syringe, which I employ, and the method to be employed in its use, in a paper[2] presented to this Section at Philadelphia in 1897. Subsequently I have published other results with further description of the process.[3] The air is used as hot as the patient can bear it. The nasal chambers are thoroughly cocainized, and at times the cocain applications are to be followed by the use of the aqueous solutions of the suprarenal capsule. On account of the small size of the tube, an air pressure of from 30 to 40 pounds is usually needed, and the hot air is applied to the openings and forced directly into the sinuses. At times a small catheter aids in accomplishing this purpose. Acute sinusitis treated in this way, aided by hot water applications externally, low diet, purgation, attention to the digestion, etc., will usually yield in a few days. The milder cases of chronic sinusitis likewise yield readily, and in the particular class of cases of partial or complete closure of the outlets, which I have described, and when uncomplicated with sepsis of the sinus, the relief is obtained very speedily, although the symptoms may have been present for months or years.

2. JOURNAL A. M. A., Oct. 2, 1897.

3. Phila. Med. Jour., May 7, 1898; also Sept. 9, 1899.

## THE REDUCTION OF TEMPERATURE IN FEVERS BY EVAPORATION BATHS; WARM WATER BEING USED FOR BATHS.

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The method of using cold in fevers described below is the same which I presented at a meeting of the American Association of Physicians in 1895.[1] Since that time I have given some hundreds of baths by this method, chiefly in typhoid fever, and the results have been so good that I desire to take up the subject again.

I shall not attempt any detailed presentation of the cases in which this method of reducing the temperature was employed, but merely indicate the principles upon which its successful use depends; for if these are clearly understood, and the directions carefully followed, satisfactory results will ensue. It is necessary that the physician should demonstrate to the nurse exactly what is required to be done; if after this demonstration the reduction in the temperature is not on an average of 2 degrees for each bath, there has probably been some failure to fulfil the conditions essential for success.

*Cold as an Antipyretic.*—It is universally agreed that cold is our best and safest antipyretic; but the method of applying it by a cold bath taxes the strength of the patient; the lack of conveniences in ordinary practice for such a bath, and of persons who know how they should be given, as well as the objections made by the patient and friends, are obstacles to its use.

*Temperature Reduced by Evaporation.*—My purpose is to show how the temperature can be reduced by the use of cold by a more comfortable method than the cold bath. The essential points are that the body be covered by a layer of thin gauze on which warm water is sprinkled; the temperature of the body is reduced by the evaporation of the water, and this evaporation and cooling are promoted by a current of air.

The rapidity of the cooling depends to a considerable extent upon the dryness of the air and the volume of it at our disposal. In Boston, for example, during the season when the houses are heated, the percentage of moisture indoors is low; and during the summer months, though the percentage of moisture may be two or three times as much as during the winter months, by means

1. A More Comfortable Way of Using Cold in Fevers: Trans. Am. Assn. of Physicians, 1895.

of open windows the volume of air at our disposal is large. Either a smaller volume of dry air or a larger quantity of more moist air will serve the purpose, as the quantity of water the air has to take up in the use of this method is not large, and its absorptive power is required only at intervals. The doors of the room should be open, and in warm weather also the windows. Exceedingly favorable conditions would be found in dry, warm climates.

*Principles of the Method Tested by Experiment.*—To gain some idea of the efficiency of this method of cooling and the best way to employ it, I took a large bottle, holding rather more than a gallon of water, the temperature of which was 104 F.[2] The bottle was wrapped with surgical gauze—having about sixteen threads to the inch—which was sprinkled with water at the temperature of the room at short intervals, and fanned continuously by an electric fan. In this way the reduction in the temperature of the water in the bottle during half an hour could be ascertained under varying conditions. From such experiments—they do not represent all of the conditions present in the body—it was found that the water in the bottle could be cooled about 28 F. below its initial temperature of 104 F. in one-half hour, the temperature of the air in the room being 70 F. This method is similar to the one which has been used for many centuries in hot, dry climates to cool drinking-water.

*Number of Layers of Gauze.*—I also varied the number of thicknesses of gauze covering the bottle, and found that one or two thicknesses of gauze gave better results than several; four or six, for instance. It is of importance to have the covering for the surface to be cooled a suitable one; something which will hold a thin layer of water on the surface without keeping it warm. The gauze serves this purpose and likewise increases the amount of surface from which evaporation takes place.

*Amount of Evaporation Produced with and without Fanning; Electric Fan and Hand Fan Compared.*—I found that the reduction in temperature was much greater if the wet gauze were fanned than when evaporation took place unaided by this process. I likewise compared the amount of the cooling of the water in the gauze-covered bottle which took place when an electric fan was used to create a draft, with that obtained by hand-fanning; in the latter case two palm-leaf fans tied together to stiffen each other were used. I found that, under the same conditions, the temperature of the water in the bottle was lowered much less in half an hour by the hand-fanning than by the electric fan. In private practice it is quite feasible to use a hand fan; but in a hospital ward an electric one is better, as to fan several patients a number of times a day would tire the arm of an attendant.

*Ice Water Compared with Warm Water.*—The use of ice water to moisten the gauze suggested itself to me. I therefore placed two of the gauze-covered bottles in the same current of air, one of them being kept wet with water at 100 F., the other with ice water (32 F.) and at the end of half an hour the difference in temperature of the water in the bottles was only 1 degree, a difference of about 5 per cent. This experiment was repeated, using the cold water on the bottle which had previously had warm water, with the same result. This slight increase in cooling by sprinkling the patient with cold instead of warm water does not offset the discomfort of shock which not cold water only, but even cool water gives, and of which patients complain. By using warm water to moisten the gauze, and continuing the current of air one or two minutes longer, we can readily obtain fully as much cooling as when cold water is used for the slightly shorter period. If for any reason this shock to the nervous system is desired, cool water may be used.

*Use of Alcohol.*—I also tried moistening the gauze with alcohol—95 per cent.—instead of water, and found that the temperature of the water in the bottle was not much more reduced in half an hour than it had been when water was used on the gauze; the difference between the two was about 10 per cent. This did not seem to me sufficient to offset the inconvenience of alcohol, as much more alcohol would have to be evaporated to obtain the same amount of cooling, the latent heat of water being much greater than that of alcohol, which is inflammable and expensive, leaves a stuffy odor in the room and may irritate the skin.

The principle underlying this method is made more evident when we consider that the cooling which takes place when 5 c.c.—one teaspoonful—of water are evaporated at 104 F. represents roughly the reduction in temperature of a quart of water cooled from 104 F. to 99 F., or the cooling of more than a gallon of water 1 F. The heat taken to evaporate a pint of water is sufficient to cool 289 pounds of water about 4 F.

*Test to Determine whether the Heat was Withdrawn from the Water in the Bottle or Air of the Room.*—To ascertain whether the heat which evaporated the water was withdrawn from the air of the room, which was usually about 70 F., or from the body of warm water in the bottle, the amount of water which was evaporated in half an hour from the surface of a large bottle covered with gauze, when fanned, was measured, and it was found by calculation that the amount of heat lost by the water in the bottle was due chiefly to the evaporation of the water sprinkled on the bottle. For example, it was demonstrated, in one experiment, that 4000 c.c. of water—the amount contained in the bottle—at 104 F. were cooled 22.5 degrees in half an hour, and that 108 c.c. of water were evaporated. Standing in the room, a similar bottle of water lost 4.5 degrees. To lower the temperature of 4000 c.c. of water 18 degrees requires the evaporation of 70 c.c. of water; as not more than 108 c.c. of water were evaporated in all, it is evident that most of the heat needed to evaporate the 108 c.c. came from the warm water in the bottle and not from the air.

*Effect of Warm Water on the Body.*—By first cooling the outer layer of the body for a few minutes, by the evaporation of water warmer than the patient—about 115 F.—and then momentarily warming the surface thus cooled by sprinkling again with warm water, we may draw the blood to the surface and send it back cooler to the interior of the body, and thus by the alternate dilatation and contraction of the superficial blood-vessels, we may accomplish more reduction in temperature than by continuous cooling of the skin. That is, physiologically, there are advantages in moistening the gauze on a patient from time to time with water warmer than the patient, rather than with cool water, which would not be apparent in a simple physical experiment. To cool a fever patient by applying warm water rather than cold, seems paradoxical, but it is the better way, and is more acceptable to the patient.

Brandy or whisky administered before giving the bath would promote the dilatation of the superficial blood-vessels.

2. The experiments were also repeated on a larger scale, using copper cylinders instead of bottles, with good results.

*Method of Giving Bath.*—A rubber cloth or woolen blanket is put under the patient; strips of coarse gauze such as is used for surgical dressings are then placed on him, of sizes suitable to go fully three-fourths around each leg and arm, and the trunk; when moistened they should cling closely to the skin. There should be only one thickness of gauze. This is sprinkled with water[3] at a temperature of 110 to 115 F., sufficiently often to keep the gauze wet, and the patient is fanned.

*Duration of Bath.*—It is well to begin with a bath of sufficient duration to evaporate a pint of water, and in subsequent baths to be guided, as to the amount of water to be used, by the effect of the previous one. In the later stages of typhoid fever one should remember that the same patient is more susceptible to the action of cold than he was in the earlier stage.

*Amount of Water Evaporated a Guide rather than the Time taken.*—The time required for evaporation varies with the amount of moisture in the air. If one pint of water is evaporated in one-quarter of an hour, the patient's temperature will fall about so many degrees, but if there happens to be a high percentage of moisture in the air of the room, a longer time is required to evaporate the same amount of water, say one-half hour, and there would not be quite so much lowering of the patient's temperature as when the evaporation occurs in the shorter time. Therefore it is better to be guided by the quantity of water evaporated rather than by the time.

*Number of Degrees the Temperature may be Reduced.*—The amount of heat withdrawn from the patient may be varied by increasing the duration or frequency of the baths.

*Average Reduction of Temperature in Twenty-two Hand-fanned Evaporation Baths.*—The average reduction in temperature of twenty-two baths by hand-fanning, given to patients with typhoid fever during July, 1893, was 2.6 degrees; the time required for each bath varied from fifteen minutes to one-half hour; and the amount of water evaporated was about one quart—at times much less, sometimes more. The temperature was taken in the mouth, and the lowest was sometimes not reached for one or even two hours after the bath; once the temperature fell 4 degrees, and once 5. The amount of moisture in the air while these baths were given was probably not far from 70 per cent. These baths are not so mild in their effects as to permit one to disregard the possibility of partial collapse in very weak patients, if pushed too far.

I have used this method in typhoid fever and pneumonia; the patients had less delirium and slept better; and it seems to me to combine safety, comfort, convenience and efficiency to a greater extent than other means of reducing temperature in cases of fever.

The following case illustrates the use of the evaporation bath: A. B., a strong man who had typhoid fever, with a temperature frequently above 103 during three weeks, was given the baths, with hand-fanning, two or three times a day, or whenever the temperature reached 103 F. Each bath was continued about one-half hour, and about one quart of water was evaporated at each bath. The average reduction in temperature of ten baths was 2.2 degrees. Twice during the period when these ten baths were given, a cold tub-bath—65 F.—was given for fifteen minutes to the same patient, in place of the other bath; in one of the cold baths the temperature was reduced 3.1 degrees, in the second 2.6, an average of 2.8 degrees. The temperature may be reduced by the evaporation bath as much as by the cold tub-bath by increasing the number of evaporation baths given per day.

*Evaporation Bath Compared with Sponge Bath.*—In order to have some suggestion of the respective efficiency of the evaporation and sponge bath, I made the test described below. The sponge baths were given in the following way: The patient having been suitably arranged on a rubber sheet, a large sponge was dipped into a pail of water at 70 F., the excess of water squeezed out, and the patient sponged; the sponge was then squeezed out into an empty pail, dipped in a basin containing ice-water, to cool it, and squeezed out, then again dipped into water at 70 F., and applied to the patient. This makes a very good sponge-bath. Both kinds of baths were kept up for fifteen minutes.

For this comparative test I chose one ward, during a service at the Boston City Hospital, and had one-half the typhoid patients who were admitted to it during five weeks in the summer of 1893, sponged, as detailed above, and the other half treated by covering three-quarters of the body with a layer of gauze moistened at intervals by sprinkling with warm water, and fanned as already described. The patients were taken alternately. There were eight patients in all, four treated in each manner, each receiving a number of baths. I did not pursue the comparison on a large number of patients, as they had to be fanned by hand—if electric fans are used it would be less irksome for the attendants in a ward to give these baths than to give sponge-baths. The directions were to give a bath whenever the axillary temperature of the patient was 103 or over, but 102 would have been a better temperature to select. The rectal temperature was taken one-half hour after the bath, and on the average the temperature was found to be reduced by the sponge-bath rather less than .5 degree, and by the evaporation bath rather more than 1, and the reduction in temperature continued for a longer period after the latter bath had been given; but this comparison is based on too few patients to be exact. Now and then the temperature was reduced 2, 3, and in some instances 3.5 degrees by the evaporation bath.

To give some still further suggestion of what may be expected when the evaporation baths are used, I give the results in fifteen consecutive cases of typhoid fever, in which 235 hand-fanned baths were given: The temperature in each case cited was taken twenty minutes after the bath; the time of bath varied between fifteen and twenty minutes:

BATHS PER PATIENT, WITH AVERAGE FALL FOR EACH PATIENT.

| Baths. | Temperature. Degrees. |
|---|---|
| 17 | 2.56 |
| 25 | 2.70 |
| 1 | 1.40 |
| 3 | |
| 5 | 2.20 |
| 6 | 1.53 |
| 15 | 2.36 |
| 35 | 1.70 |
| 24 | 1.80 |
| 13 | 2.74 |
| 8 | 2.10 |
| 2 | 2.20 |
| 2 | 2.90 |
| 57 | 1.65 |
| 22 | 1.70 |

One patient, not included in the above table, was

3. I use a No. 1 not No. 4 Davidson syringe, onto which is screwed a small, hard-rubber nose about one inch long and one-half inch in diameter, perforated at the end with a dozen holes each about one-sixty-fourth of an inch in diameter. These tips are made by the Davidson Rubber Company, Boston. The gauze should be kept wet, and if the sprinkling is properly done, very little water reaches the blanket on which the patient lies.

given two baths, one of which lowered the temperature 3 degrees; the other caused a fall of 2.8, an average of 2.9 degrees per bath.

*Summary.*—The patients numbered 15, and were given 235 baths; there was an average fall of temperature, per bath, of 1.94 degree, 1.53 degree being the lowest average fall per patient, and 2.74 the highest average fall per patient; the least fall after a bath was .5 degree, the greatest, 4.8 degrees; the smallest number of baths to one patient was 1, the largest, 57; 5 times the temperature was higher than before the bath—the rise varying from .4 to .8 degree. Twice the temperature remained unchanged after the bath; in 1 case the bath had to be stopped on account of a chilly sensation during the process—the same patient had two other baths, after both of which she felt very uncomfortable.

*Directions.*—Briefly, the directions for giving evaporation baths are these: Give a bath whenever the temperature is 102 or 102.5 F. Have the patient lie on a blanket during the bath, cover him with one thickness of surgeons' gauze, which, when moistened, shall fit the skin perfectly, and sprinkle the gauze with water at about 115 F. Note the amount of water evaporated, and be guided by this in giving the bath, not by the time required to evaporate the water; the rapidity of evaporation depends largely on the amount of moisture in the air. Have as little clothing on the patient as possible, night and day, so long as the temperature is 102 F. or more; nothing more than a sheet; in private practice the patient may be without covering.

## THE STREPTOCOCCUS PYOGENES IN GYNECOLOGICAL DISEASES.

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In 1899 I reported 7 cases[1] of pelvic inflammation operated on in the gynecological clinic of the Johns Hopkins Hospital, in which the streptococcus pyogenes was found to be the infecting agent. Since the publication of that article, and during my service in the hospital, 4 additional cases have been operated on in which this micro-organism was found to be the cause of the inflammatory process. Nine of the 11 cases presented certain features which were indicative of the etiology of the infection. The two exceptions were: 1, an infected myoma, and the other an abscess localized to the cul-de-sac of Douglas which had probably been secondarily infected from the intestinal canal. In 6 of these cases the peritoneal cavity was invaded at the operation and 2 patients, where this occurred, died, probably both from the resulting general streptococcic peritonitis. Attention will be called to this in reporting the individual cases. In the other 5 the peritoneum was not disturbed and all recovered. The high mortality in these cases where the peritoneal cavity was invaded, in contradistinction to the almost uniformly favorable results in celiotomies where the gonococcus is the infecting agent, should make the operator careful to distinguish between these two classes of pelvic infections. It is not always possible to positively know before operation, whether one will encounter the streptococcus or not, but there are certain definite characteristics of streptococcic pelvic inflammation and it is to emphasize these that I again call attention to these infections.

In studying our cases, 9 of the 11 gave definite histories of infection either at labor or miscarriage. The 2 exceptions were the case of infected myoma and the one of localized pelvic abscess in Douglas's cul-de-sac, to which attention has been previously called. The history is therefore of the utmost importance in making a diagnosis. As in the large majority of cases of streptococcic pelvic inflammation the lesion is a parametritis, I will here state the views of some of the more reliable investigators as to the etiology of this disease. Rosthorn says that while the gonococcus may invade the tissue beneath the mucosa, from a clinical standpoint one thing can be asserted, that in parametritis the gonococcus is not found. Bumm, in purulent parametritis, regularly found streptococci, more seldom staphylococci. Doleris and Bourges found, in fetid parametral pus two months after the acute symptoms had subsided, the streptococcus and the proteus vulgaris. Hartmann and Morax found the streptococcus in 21 cases of purulent parametritis. Pfannenstiel, in all such cases operated on by Fritsch, found the streptococcus. Kleinknecht, in 5 cases of widespread parametral exudate, found a mixture of bacteria, staphylococcus albus with bacterium coli, streptococcus pyogenes and the staphylococcus aureus. Jayle found a mixture of the streptococcus with the staphylococcus and the bacterium coli. Bäcker had a case of influenza bacillus infection and Bumm one in which was the Klebs-Loeffler bacillus. Rosthorn found the streptococcus pyogenes and the staphylococcus pyogenes albus and aureus. The last-named author says at least two-thirds of such cases are of puerperal origin. Bernutz, in 104 cases, says 48 were of puerperal, 28 of gonorrheal, 20 of menstrual and 8 of traumatic origin. West gives 77 per cent. as puerperal; Buschbeck-Ettinger, 74.3 per cent.; Grisole, 63 per cent.; Biegel, 55 per cent., and Cullingworth 21 out of 22 cases as puerperal.

The other causes besides the puerperium, according to Rosthorn, of parametritis are gynecological examinations, tents, pessaries, sounds, tampons, operations, excesses in venery, masturbation, use of anticonception sponges and pessaries, cold, hematomata which suppurate, suppurating myomata, dermoid cysts, echinococcus cysts, inflammation of neighboring organs—paracystititis, paranephritis, paraproctitis, paratyphlitis, caseous bone and suppuration of joints. The history should then, in the large majority of cases of streptococcic pelvic inflammation, point to a labor or miscarriage as the beginning of the complaint.

Of almost equal value with the history is the pelvic examination. The pelvic structures present certain characteristics which are almost unmistakeable. These are, the situation of the mass, its consistency, and the intimate connection of the uterus to the walls of the pelvis. To get a correct idea of the site of the pelvic inflammatory mass of streptococcic origin it is necessary to bear in mind the routes of invasion in these cases. In nearly all, the streptococcus invades the surrounding tissues through the lymphatics. As shown by the work of Widal König and others, when the extension may also take place through thrombosed vessels, through the circulating blood, or by direct extension as in abscess formation. The bacteria occasionally seem to extend along the mucous tract and thus enter the peritoneal cavity. This is probably of extremely rare occurrence. Only one of our cases indicated this as the route of extension and in this case (Case 4) there was also a lymphatic infection. The point of entrance of the streptococcus is usually some abrasion of the mucous membrane of the uterus or vagina or at the site of the adherent placenta. The tendency is for the infection

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to follow the layers of connective tissue and fascia of the pelvis, and not to invade the adjacent layers. This is admirably set forth by von Rosthorn, in Veit's "Handbuch der Gynäkologie." Bearing these facts in mind the situation of the inflammatory mass is what one would expect. The bacteria going through the cervix or vagina cause a parametric exudate, abscess, or both.

I will not dwell upon the various situations of this parametric exudate further than to state that it lies in the connective tissue surrounding the uterus and vagina and beneath the pelvic peritoneum. It is deep-seated, may be situated in either broad ligament, and is usually unilateral. It may lie posterior to the uterus in the septum between the peritoneal cavity and the vagina, or extending higher may surround the rectum, or occupy the posterior portion of the pelvis on either side beneath the peritoneum. It may be ante-uterine, lying between the uterus and bladder, occupy the space of Retzius, or extending, may be situated higher along the anterior abdominal wall. Laterally, it may lie in the false pelvis on either side. Where the inflammatory process approaches the peritoneal cavity, the omentum, tubes, ovaries, and intestines become adherent and thus tend to protect the general peritoneal cavity from infection. We find this the case also where the point of infection is the placental site, and a similar protective inflammatory process is usually found when the invasion occurs through the tubes. When this protection does not take place a fatal general peritonitis is the result. The mass is nearly always asymmetrical. One finds a mass on one side of the pelvis and the other side normal to palpation, or a mass anteriorly or posteriorly and the remainder of the pelvic structures uninvolved. This asymmetry is in marked contrast to the condition found in gonorrheal infections where the process practically always involves both tubes. The superficial situation of the gonorrheal salpingitis in contradistinction to the deep-seated nature of the streptococcic pelvic infection is of the greatest value in distinguishing between the two.

The consistency of the mass is of the utmost value in making the diagnosis. This consistency is of bone-like hardness. While in the early stages of inflammation the exudate is softish, and after abscess formation this denseness may in a degree disappear, yet in the majority of our cases the extreme denseness of the exudate, even where there was abscess formation, called our attention to the probable nature of the infection. When pus is present it usually consists of a number of small abscesses situated in dense indurated tissue, and the palpation shows the bony consistency before mentioned.

When the lesion is a parametritis there is an intimate connection between the uterus and the pelvic wall. The immobility of the uterus is marked and the exudate can be felt extending directly from this organ to the pelvic wall. The diagnosis then can be made upon the following points: 1. the history; 2, the situation of the pelvic mass; 3, the denseness of the mass; 4, the immobility of the uterus and its connection by the exudate to the wall of the pelvis.

The streptococcus has, according to the history in some of my reported cases, the faculty of remaining alive and capable of culture a remarkably long time in the infected tissue. In one of the cases reported in my first article, the infection apparently occurred twelve years previous to the operation, and in one case reported now there was a definite history of infection two years before admission to the hospital. In the first case the micro-organism was capable of being cultivated, and in the second the patient had, following the operation, a general streptococcic peritonitis which resulted fatally. In the other cases the micro-organism had remained alive for periods varying from ten days to twelve weeks. The two cases mentioned above emphasize the necessity of observing the same precautions against contamination of the general peritoneal cavity in infections of long standing as in those of recent origin.

In conclusion I will say a few words as to the operative procedure. As soon as the mass can be definitely located the operation should take place. The early operation here is as much indicated as in a streptococcic lymphangitis of the arm or other part of the body and for the same reason, i. e., to prevent the extension of the infection. It is unwise to wait for suppuration. When this occurs it is generally in the form of small abscesses scattered throughout indurated tissue, and one is consequently quite uncertain in many cases whether or not pus will be found at the operation. A free incision should be made extraperitoneally, the mass thoroughly broken up by means of blunt dissection so as to evacuate the abscess cavities, and drainage should be established. The location of the incision depends on the situation of the mass. If the mass is posterior to the uterus the incision is made in the upper posterior part of the vagina. If it occurs between the uterus and bladder, a similar incision anterior to the cervix is made. If in the space of Retzius, the incision is made suprapubically. In cases where the mass is in the broad ligaments or in the false pelvis the incision depends on whether it is deep-seated or not. In the former case a vaginal puncture is made lateral to the cervix, and this is dilated with a blunt instrument and the fingers until the mass is broken up. In these cases much care is necessary to avoid injuring the ureter and the uterine vessels. When the mass is in the broad ligament and can be reached from above, the incision is made parallel to Poupart's ligament, slightly above it and toward its outer end, and the dissection is carefully made so as not to enter the peritoneal cavity. Several of our cases were operated on by the latter incision. In one it was thought that the peritoneal cavity had been invaded, but an exploratory incision showed this not to be the case and revealed also the interesting fact that the tubes and ovaries were entirely normal. If the mass is situated still more superficially and in intimate relation to the abdominal wall, the incision is made immediately over it. When the operator is in doubt as to the origin of the infection, that he has thoroughly explored the mass, or there are signs of intestinal involvement, it is better to do an exploratory celiotomy, taking every precaution to avoid contaminating the abdominal cavity or the celiotomy wound. As an interesting example of this was a case operated on by me three years ago. The diagnosis was an abscess in connection with the anterior abdominal wall immediately above the pubes and of unknown origin. The abscess was incised and drained. The patient in a few weeks developed symptoms of intestinal obstruction, and died on the table at the second operation. It was then seen that the patient had carcinoma of the intestine. The carcinomatous mass had become adherent to the abdominal wall and the infection had gone out through the intestine at this point and caused the abscess. An exploratory incision would have revealed this condition and a resection of the intestine would have offered the patient a hope of recovery.

The cases which follow are well worthy of study as

illustrating the points which I have attempted to bring out in this and the preceding article.

Case 1.—R. F., white, aged 32 years, was admitted June 14, 1899, complaining of abdominal pain and a mass in the left lower abdomen. Her past history was negative; menses regular, painless and profuse—the last period May 17. Married 14 years, she had had five children, the oldest 12 years, the youngest 3 months, and two miscarriages, the last one occurring one year before her last labor.

*Present Illness*: Her symptoms began soon after her last confinement. She thinks she had no fever nor chills, but was confined to her bed eight weeks with pain and burning at the site of the mass. She was nauseated, had no uterine hemorrhage, but anorexia; no urinary symptoms. She was constipated. Her temperature on admission was 99 F., and pulse 100. She noticed the mass in the left side immediately after confinement.

*Examination*: Chest normal; general condition good; abdominal walls flaccid, with a visible mass in the left hypogastrium. This mass extended from the pelvis to 2 cm. above the umbilicus. The mass, on the inner side was soft and cystic; harder toward the pelvic wall. There was visible peristalsis in the overlying coil of intestine, and tympanites over the upper and inner portions of the mass. The vaginal outlet was relaxed, the cervix in the axis of the pelvis, the os gaping. The uterus was low in the pelvis, anteflexed, small and drawn over to the left side of the pelvis. The right side of the pelvis was normal to palpation. On the left side was a mass the size of an orange, occupying the position of the ovary, which was exquisitely sensitive. This mass was slightly movable but intimately connected to a hard indurated mass which apparently formed part of the pelvic wall. The latter was as hard as bone and was also extremely sensitive. The diagnosis of neoplasm of the ovary was made on this examination. (The diagnosis of streptococcic parametritis had been made by me in the dispensary.)

*Operation*: (Operator, Dr. Stokes.) A median abdominal incision was made. The peritoneum was normal in appearance, the uterus and right appendages normal, the uterus drawn over to the left side by the left tube which was adherent. The end of the tube, the ovary, several coils of intestines, the left broad ligament, and the abdominal wall formed a mass which was as hard as "bone." A coil of small intestine was adherent along the left lateral face of the uterus. The tube from its uterine end to where it disappeared into the mass was normal in appearance. The gut where adherent was covered with what appeared to be a pyogenic membrane, and its wall was much indurated. The intestine was, by dissection, separated from the uterus. It was now found that the mass was formed by the gut, tube, and ovary being densely adherent to the pelvic wall. On separating the adherent gut from the pelvic wall a few drops of pus containing streptococci oozed up. The gut was not entirely separated and the ovary was not exposed. The pus did not seem to come from the tube. Gauze drains were placed over the adherent area and the ends were brought out through the lower angle of the wound and through an opening made into the vagina, posterior to the cervix. The upper end of the abdominal incision was closed.

Following operation the patient's pulse went up to 140 within twenty-four hours, and on the fourth day reached 160. The temperature rose steadily and reached 103 F.; leucocytes, 28,000. Vomiting and extreme restlessness were marked. She died on the fourth day. The diagnosis was general streptococcic peritonitis. At bacteriologic examination (Dr. Hunner) cultures showed streptococcus pyogenes.

The history of the case, the site of the mass and its hardness should have made the diagnosis sufficiently clear to have caused the extraperitoneal incision by which the mass could have been reached and drained.

Case 2.—S. H., white, aged 31 years, was admitted March 16, 1900, complaining of abdominal pain. The past history was negative, the menses normal until her present illness, since the beginning of which they have been quite irregular, ocurring every two or three weeks, with the flow increased in amount. Married four years, she has one child aged 2 years. Labor was instrumental, with laceration of the perineum. She has had no miscarriages.

*Present Illness*: This began two weeks after labor, two years previous to her admission to the hospital, the onset gradual, with dull aching pain in the left groin, with nausea, chills and fever. The abdomen was swollen at times, and at others she noticed a tumor. She became nervous, less in weight and strength, and suffered from constipation; no urinary disturbance. Leucorrhea, variable in amount and non-irritating, existed for three months prior to admission. Examination of the chest and abdomen was negative; no note of vaginal examination.

*Operation*: March 17, 1900 (Operator, Dr. Kelly), an abdominal (median) incision exposed a mass at the left pelvic brim adherent to the sigmoid and left round ligament. On freeing these, the mass was found densely adherent to the pelvic wall, broad ligament and side of the uterus. The latter lay on the pelvic floor posterior to the mass. The right tube and ovary were normal. The uterus was separated from the mass with the escape of a small quantity of pus. The entire top of the broad ligament was thickened and infiltrated. The tube was not involved. The tube and ovary were removed and the round ligament sutured over the raw area. In enucleation, a hole 1 cm. in diameter was torn in the rectum. This was sutured with two rows of catgut sutures. Closures of the abdominal wound was without drainage. Drawings showed an ovarian abscess. The relaxed vaginal outlet was repaired.

At 2 p. m., March 18, her temperature was 104 F., pulse 120, and leucocytes 22,000. She was slightly nauseated. The abdomen was reopened at this time and the peritoneum found slightly injected; the cavity contained a small amount of free fluid. The peritoneal cavity was irrigated. From this time until March 24, when she died, the patient showed the typical signs of general peritonitis, nausea, distension, constipation, rapid pulse, elevated temperature. Autopsy showed general suppurative peritonitis, much necrotic tissue about the seat of the old abscess. The sutures of the rectum had given way partially, there being a communication between the gut and abdominal cavity. There is no report of the bacteriologic examination at autopsy. In the bacteriologic examination at operation (Dr. Hunner), cultures and cover slips from pus showed streptococcus pyogenes.

Although no note was made of vaginal examination at least two had been made. The history, the unilateral situation of the mass, and its induration should have caused a correct diagnosis prior to operation, and after the incision had been made it was still possible to have avoided the infection of the general peritoneal cavity. While in this case it is impossible to say whether the cause of death was due to the streptococcus or to an infection from the intestine, yet the immediate rise of temperature and the presence of the streptococci capable of culture indicate that this micro-organism caused the original general peritonitis, and that the infection of the catgut sutures with which the gut had been closed had caused the sutures to give way.

Immediately following operation an enema of 300 c.c. of salt solution was given by mistake. This may have caused the giving way of the sutures. The exploratory operation by Dr. Kelly, on the day after the operation, made with this in mind, failed to reveal any defect in the suturing. The probability is that the death was caused by a general streptococcic peritonitis complicated by an invasion of bacteria and fecal material from the rectum. It is worthy of note that the primary infection, according to the history, was two years prior to admission.

Case 3.—F. L., white, aged 20 years, was admitted June 10, 1900, complaining of pain in the abdomen. Her past history was negative, also menstrual history. She was unmarried, had one miscarriage at the sixth month, on May 18, 1900, and leucorrhea for one year, non-irritating and non-offensive.

*Present Illness*: This began with the miscarriage, which was produced by means of a bougie, the fetus expelled on the fourth day, preceded by chills and fever. She got up on the fifth day, after labor and had been working until May 31, when, after a misstep, she began to have pains in the left ovarian region. Since miscarriage she has had a bloody vaginal discharge. On May 31 her physician, who was then first called, noticed a swelling the size of an egg in the left side. She had night sweats with slight fever, but no chills. She felt weak and had lost in strength and weight. General condition: good color; coated tongue; constipated; no fever. The urine contained some pus and albumin.

*Examination*: Chest negative; abdomen slightly distended and in the left lower quadrant was a tender mass the size of the fist and immovable.

*Vaginal Examination*: Uterus in anteflexion, normal in size and fairly movable, the right tube and ovary normal. A hard irregular mass was felt in the left broad ligament, giving the characteristic indnration of a parametritic exudate. The left tube and ovary were thought to be involved. A diagnosis of streptococcic parametritis was made in the ward.

*Operation*: June 11, 1900 (operator, Dr. Cullen), an incision parallel to Poupart's ligament toward its outer end and 2 cm. above it was made, with blunt dissection, avoiding entering the peritoneal cavity. On reaching the base of the broad ligament an abscess containing two ounces of brownish pus was evacuated, and the indurated tissue explored. In doing so it was thought that the peritoneal cavity had been entered, so an exploratory incision was made. It was now found that the peritoneal cavity had not been invaded. Both tubes and ovaries were normal. The abdominal incision was closed and protected, the other incision drained. The patient made an uninterrupted recovery, and was discharged perfectly well. At the bacteriological examination (Dr. Hunner), cultures and coverslips from pus showed the streptococcus pyogenes.

The history, the situation, the consistency of the mass, and its relation to the uterus and pelvic wall all indicated the nature of the infection, and the correct diagnosis probably saved the patient from a general peritonitis of streptococcic origin.

Case 4.—M. K., white, aged 38 years, was admitted Aug. 18, 1900, complaining of fever. Her family and past histories were negative, her menstrual history also. She had been married twenty years, with eight children, two miscarriages, the oldest child 19 years old, the youngest 12 days, but no trouble with any labor or miscarriage until the last labor. Leucorrhea was slight, non-irritating, and non-offensive.

*Present Illness*: This began one day after labor, twelve days prior to her admission, with fever—temperature 105 F.—and chills. The labor was normal, except that the attending physician delivered the secundines. With the fever was abdominal distension and griping abdominal pains. The distension soon subsided. Her general condition on admission showed no abdominal tenderness; the tongue was red and coated, appetite poor, slight nausea, cough, the patient of spare build, and pale, the mucons membrane of a good color.

*Examination*: Chest negative, except a few râles at the base of the right lung; abdomen full and soft, and, occupying its middle lower portion, was a rounded mass rising half-way to the umbilicus. The vaginal outlet was considerably relaxed with slight cystocele and rectocele. The fundus of the uterus was represented by a rounded irregular mass lying to the right of the median line and rising half-way to the umbilicus. The spleen was slightly enlarged. She was given hot boric acid douches, was kept in bed and ran an irregular temperature of 99 F. to 102 F. There was slight distension at times, and she had pains in the left groin. Her pulse was 90 to 100. Examination, August 31, showed marked tenderness in the left inguinal region, and palpation showed a small mass here: September 3, irregular masses were felt on both sides of the uterus. She at this date had a temperature of 103 F., and a leucocytosis of 48,000.

*Operation*: Sept. 6, 1900 (operator, Dr. Hunner), a median long incision was made, and the peritoneum found much congested and thickened. The omentum was plastered over the sigmoid, which was in turn firmly adherent to the left tube and ovary. The omentum was easily detached. The sigmoid was freed with considerable care and difficulty. Pus escaped from the left tube as the sigmoid was detached. The right tube was a pyosalpinx. The uterus, tubes and ovaries were enucleated. Three abscesses were found in the left broad ligament, one in its outer portion, another under the round ligament near the inguinal ring, and the third at the uterine base of the broad ligament. Each measured 2 to 3 cm. in diameter. The cervix was split and the pelvis well drained by gauze, some of which emerged from the lower angle of the abdominal wound and the remainder through the cervix. The patient made rather a tedious convalescense. She developed a pleurisy which finally cleared up and she was discharged Oct. 22, 1900, well. At the bacteriologie examination, the streptococcus pyogenes was found by microscopic examination, in the abscess, and grown on the various media. The same micro-organisms were found at various times during the convalescence, in the granulating wound.

This patient had in addition to the purulent parametritis a double pyosalpinx, and it is the only one of our patients who showed this condition. This rendered a hystero-salpingo-oöphorectomy necessary. The diagnosis of a streptococcus infection had been made from the history and was partially confirmed by finding the abscesses in the broad ligament. Consequently extreme care was used throughout the operation to protect the general peritoneal cavity, and to this and the free drainage the patient owed her recovery.

In considering in this article cases of streptococcus infections I have dealt only with those of pelvic inflammation. As the large majority of these infections, having their origin in the genitalia of women, occur at labor or miscarriage, the general question of puerperal infections due to this micro-organism belongs more strictly to the obstetrician. There are, however, a class of cases which belong strictly to gynecology, and to these I have confined my attention. Since the introduction of aseptic midwifery cases of parametritis have become comparatively rare, yet every obstetrician and gynecologist will occasionally meet with this affection. Certainly the large majority of them are due to the streptococcus pyogenes, which micro-organism has, however, the faculty of causing lesions in the pelvis which can not be classed under this head. Again, not all cases of parametritis are due to the streptococcus. I have endeavored then to call attention to the characteristic signs by which the diagnosis of streptococcic pelvic infections which have extended beyond the uterus and which have not caused a general peritonitis or systemic infection can be made, and to the principles of operation.

## MENIERE'S DISEASE WITH REPORT OF A CASE.

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In 1861 Ménière published, in the *Gazette Médicale de Paris*, a description of a group of symptoms which thereafter, when noted, received the name of Ménière's disease. The symptoms in general were progressive deafness, varyingly constant vertigo, tinnitus aurium and gastric disturbances. Since then cases have been reported at times on both sides of the Atlantic, but principally in Europe, and pathologic investigations have been made. The result, however, has been more or less discordant, principally in admission of a distinct disease with symptoms as described, and additionally in the exact nature and location of the lesion or lesions.

Thus Burnett[1] denounces the name of Ménière's disease as unjust and unscientific, defending his assertions by the fact that Flourens, in 1822, and Deleau,[2] in 1836, described aural vertigo more accurately than Ménière in 1861, Deleau being especially entitled to credit, as he located the disease in the middle ear. Furthermore, he says that the lesion in cases of aural vertigo with tinnitus and deafness has been found in his experience to be in the middle ear and relieved by removal of the incus and stapes. Again Eckert,[3] in summing up his conclusions based on cases published up to the time of his writing, leans to the idea that the lesion is located mainly in the semicircular canals and depends principally upon a diseased state of the terminal apparatus of the acoustic nerve. Hughlings Jackson[4] has found that hemorrhage frequently causes the symptoms. Ferrier[5] believes that the lesion is irritative and located in one or more of the semicircular canals, the direction of the falls during an attack depending on the canal affected. Buzzard,[6] on the other hand, thinks that the paroxysmal nature of the vertigo precludes

the probability of any structural lesion in the canals. Knapp[7] regards the deafness for musical sounds in some cases as proof that the disease extends to the cochlea.

Regarding Burnett, it is apparent that he has confused —and the confusion is shared by many—the deafness, tinnitus and vertigo so often seen in cases of chronic middle ear affections, with the clear, orderly, typical train of symptoms in Ménières disease. And the men to whom he would award the palm of priority have simply described these symptoms and not those properly classified under the name of Ménière's disease. The investigations of the other men mentioned, together with the more modern researches, point unmistakably to the labyrinth as the seat of the lesion irrespective of what part of the labyrinth may be involved.

That the semicircular canals are involved seems from their physiology to be reasonably certain. They are essential in the function of equilibration. The pressure of the endolymph upon the terminals of the auditory nerve produces an irritation of its filaments; the impression being transmitted from there by the nerves to their centers. If pressure be made on the round window, dizziness and an inclination to fall backward are produced by the transmitted pressure upon the ampulla of the posterior canal. Pressure upon the footplate of the stapes produces a rocking of the head from side to side through pressure transmitted to the superior canal and ampulla. The horizontal canal, owing to its location, can not have pressure exerted upon it. When strong pressure is made upon the fluid within the vestibule, simple vertigo results.

These physiologic facts easily account for the dizziness and tinnitus in middle ear affections, immobilizing the stapes in the round window either by direct impaction of the foot-plate or by pressure upon it from the incus. However, that this impression made upon the end filaments of the nerve by pressure, can not also be caused by a changed state of the filaments themselves is altogether untenable and not supported by pathologic investigation nor clinical facts.

Burnett[8] has recently again reported the results of twenty-seven operations for removal of the stapes, which in every case gave relief. The cases being, as surmised of his previous ones, not true Ménières disease, but probably otitis media, purulent and non-purulent forms.

*Etiology.*—Regarding the etiology of true Ménière's disease, age above 30 and the male sex seem to be factors. Syphilis and the rheumatic diathesis are probably the most frequent direct causes. Exposure, senile changes, blood changes as leukemia[9] and simple anemia, hemorrhages, traumatic[10] or idiopathic, serous effusions,[11] cerebral disturbances,[12] parotitis and influenza frequently factor directly in the causation. This list necessarily forecasts the pathology which is chiefly inflammatory with or without hemorrhages but, as far as can be learned, without the formation of pus. There is much obscurity as to the pathology and more work must be done to clear it up.

*Symptomatology.*—The symptoms are grouped about four cardinals, viz., vertigo, tinnitus aurium, progressive deafness and gastric disturbances. Vertigo appears first in the majority of cases, concurring in others with the tinnitus and deafness. These always follow a parallel course. Beginning usually in one ear they increase in severity for a time, remit, increase again and finally subside partially while the other side becomes affected. The tinnitus gradually grows worse till it finally ceases in one ear and then in the other, complete deafness marking its cessation.

The deafness and tinnitus may be bilateral and appear suddenly, as illustrated in the classic case of Ménière, where a young girl having exposed herself during menstruation was seized suddenly with vomiting, vertigo, bilateral deafness and tinnitus, and died on the fifth day, the autopsy revealing a serous hemorrhagic fluid in the semicircular canals.

The vertigo begins usually with slight and transient attacks having a tendency to progress in severity, but following no definite interval in their recurrence, excepting that in the later stages the intervals are shortened. They may vary from one attack a month to four or five a day. Seemingly they are aggravated by overwork, sudden movements of the head, turning in bed, blowing of the nose, indiscretion in diet, constipation, excitement and changes in the weather. In character they show a great diversity in the same individual as well as in different cases. They may begin with a sensation of rotation or slanting of the head. There is a tendency to walk toward the side affected or fall toward that side in the paroxysm. Often the vertigo is a simple swimming of the head which may be subjective or objective: Subjective if the patient feels himself turning, objective if his surroundings revolve about him. During a paroxysm the vertigo increases, the tinnitus becomes loud and roaring or shrieking. The patient begins to fall and seeks support until the sensations abate. Consciousness is usually present in the attack and voices can be distinguished and understood. In the severer attacks consciousness may be wholly or nearly abolished. Total loss of consciousness is rare.

The onset, duration and course of the symptoms are in a great measure dependent on the etiology. Systemic influences produce a long course with gradual onset. Hemorrhages and traumatism, acute infectious processes and some forms of rapid syphilis produce a more or less sudden with a subsequent shorter course.

Gastric disturbances manifest themselves during the attack of vertigo. There is a feeling of wretchedness and nausea which ends in vomiting very much like an ordinary bilious attack. During the interval the stomach appears well in most cases, but a tendency to constipation is marked and presents an important consideration in the successful treatment of the disease.

Besides these symptoms, nystagmus, volitional tremor, loss of memory and weakness of the extremities are also noted. Nystagmus has been observed by Hughlings Jackson, Gruber and Jacobson. It is present with the nervous symptoms. Loss of memory and weakness are most marked in senile and rheumatic cases.

*Recognition of the Affection.*—The disease, owing to its anatomical location, is not well understood at the present time. Enough of evidence, however, is in to justify the opinion that Ménière's is a disease by itself, although rarer than supposed. Aural vertigo is a general term of which Ménière's disease is a particular form. It is a disease involving the terminal filaments of the acoustic nerve in the labyrinth, and follows a definite course tending to end in deafness. Pathologic changes in the middle ear may cause, in part, similar symptoms having, however, dissimilar sequence, course, termination and pathology. Besides this, Ménière's disease yields to non-surgical treatment in most of those cases in which the cause is ascertainable.

To differentiate it from middle ear disease with vertigo it should be remembered that this affection in its purulent form is accompanied by a discharge, has visible

lesions and a differentiating history. Besides this the tests of Gelle and Bing may aid in diagnosis. From epilepsy the incomplete loss of consciousness, the continuing of vertigo after the paroxysm and the loss of hearing make Ménière's disease easily distinguishable.

Case.—In August, 1900, I was called to see Fernando M., aged 67, who was suffering from a so-called bilious attack. In attending him his relatives related the occurrence of similar attacks and gave me a partial history of apoplexy. Being dissatisfied with the correctness of the diagnosis I was requested to call and make an examination, which I did the following day. By that time the patient had entirely recovered from his attack, appeared well nourished, had good color and, as he stated, an excellent appetite. I solicited the following history: Twelve years ago he was taken sick with a rheumatic attack which recurred frequently until six years ago when, during one of these attacks, he had an apoplectic stroke, or an attack diagnosed as such at the time. The attack consisted of a sudden and almost complete loss of consciousness, which came on while he was sitting at the table eating supper. Dizziness ushered in the attack and noises in the ear were loud. No paralysis followed, and in two days he practically recovered, save for an inability to use his tongue as heretofore; it seeming thick and difficult to move, though mobility was possible. Sense of taste was not impaired. The tongue symptom gradually disappeared, but a year later he noticed a sensation of cold from his hips down, on both sides. His rheumatic attacks were located chiefly in the great toes of both feet and now there was a dull heavy sensation near the insertion of the gluteal muscles, which became more pronounced after walking or other exertion. Preceding this attack he had what he termed a nervous spell consisting of a general prostration during which he cried very much without cause; after this his feelings were greatly relieved. Similar emotional disturbances occur at the present time. Jokes and stories calculated to arouse his risibilities have just the opposite effect, and the very best humorous efforts of his friends have been followed with a profusion of tears.

Another rheumatic attack followed soon after, again located in the great toe. The patient continued with a sensation of cold and pain in the right hip, until two years ago, when he had the first attack of vomiting very similar to the one which I saw. Up to the present time he has had only two other attacks of vomiting. But at least once a month attacks of nightmare with partial unconsciousness occur, during which he sees various scenes of past life and from which it is difficult to arouse him.

The ear symptoms proper began three years ago, when he noticed a swelling and hyperesthesia about the tragus of the left ear. When he would touch this area a tingling sensation coursed over the skin and through the deeper structures, setting up a dizziness which causes him to fall unless supported. This sensation gradually diminished until it is now nearly absent. It never appeared on the right side. Eight months ago deafness and tinnitus first began in the left ear. There was never any discharge. No lesions are visible. Four months later the right ear became affected, the left getting better at the same time. The tinnitus was then confined to both sides, simulating the shrieking of a steam whistle, at other times the rushing of a swift stream about some obstacle; again, in listening for the ticking of a watch an imaginary ticking would be heard all day. Constipation was marked. He complained of his legs being cold and kept them wrapped with blankets which at times seemed insufficient in quadruple thickness. Weakness and vertigo prevented him from walking more than thirty yards at a time, when he would rest, after which a similar distance could be traversed. An inability to write began five years ago. It consisted of a volitional tremor, becoming coarser and more violent with increased effort. When at rest the hand is perfectly quiet. The left hand is unaffected and serves the offices of the right. His reflexes are normal. This was the condition of the patient August 24. On the 26th he was placed on potassium bromid and hyoscin hydrobromate, 7 and 1/200 grains respectively three time daily. He continued this treatment until the end of September without any beneficial results, and was then placed on salicylic acid and potassium acetate, 10 and 5 grains respectively three times daily. From that time on he gradually improved. The improvement showed itself in the cessation of the tinnitus in the left ear, with marked improvement in the hearing of the same ear. The right ear, which at the beginning of treatment was totally deaf to the ticking of a watch, has heard this sound twice within the last week and the tinnitus in that ear has abated and changed location, being situated higher up near the anterior portion of the parietal bone.

No vomiting has occurred, and last week the patient was able to walk to my office and return to his home without discomfort and without a showing of vertigo. This distance one way is about one hundred and fifty yards.

Pilocarpin injections were used a week after the beginning of the salicylate treatment, but were abandoned on account of the great discomfort and little benefit they caused.

The patient, though improved, is not wholly cured, but the indications for a favorable progression are very good. The result will be subject to another report.

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## THE FINANCIAL RELATIONS OF THE MEDICAL PROFESSION TO THE PEOPLE AND PUBLIC.*

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Medical men show more financial failures, when judged from a commercial point of view, than any other class, but this is not because the members of the medical profession are incompetent men, or do not earn a living, but because they have inherited a faulty system of doing business. Years ago, when the good old family doctor was in vogue, of which Ian Maclaren's "Willum M'Clure" is the type, the physician did not expect to lay up a store for his old age or the comfort of his family, but when his life's work was done, to be laid to rest by his neighbors.

* Read before the Semi-annual Meeting of the District Medical Society of Central Illinois, held in Pana, Oct. 30, 1900.

The time has come for a radical change in our methods. In the days before the rapid shifting of the population the shiftless methods of our fathers may have worked well enough, but now, when such frequent changes are taking place in the abode of our patrons, and ideal, honest manhood is so scarce, we are necessarily obliged to look more carefully after the collection of our accounts. But how many have any regularity about presenting these? How many refuse to treat the well-known deadbeats? It is easy to find those who say they do not treat this kind of people, but their goodness of heart, or some other cause, induces them to render them the desired service, for many are afraid to say "no" to these people for fear of hurting the feelings of some of their friends or relatives who may have given patronage in the past or who might otherwise do so in the future. This does not apply to the worthy poor, and I would not close my eyes to appeals for help in times of distress, for physicians must treat this class, found in every neighborhood. Christ said: "The poor ye have with you always," and I am not trying to fortify your hearts against such. Boerhaave said the poor were his best paying patrons, for God paid him for treating them. It has also been said that no medical man ever rose to eminence in the profession who refused attendance on the worthy and honest poor.

My desire is that a free and full discussion may be had on the following points: 1. There should be a better fraternal spirit in our dealings and associations with one another, so that we will consider ourselves friends and not rivals in medical practice. 2. A uniform fee-bill should be established, and this should be rigidly lived up to. 3. Companies and corporations should guarantee payment of bills rendered for services to their employees when injured while at work for them. 4. We should demand of the public authorities a just recognition in public affairs and a just compensation for our services.

The members of the medical profession have been imposed on, both by the people at large and by the public authorities, and are not receiving the just remuneration for services or the due respect from the public that they deserve. But the members themselves are almost wholly to blame for this state of affairs. If we had more of the spirit of Dumas' famous three guardsmen we would be far better off, i. e., "One for all and all for one." We should make ourselves felt as a united body, demanding our rights as one man in the voice of the whole profession, when we ask for anything of our lawmakers or of others. If we would make ourselves heard by united effort we could have almost anything we might ask for that is reasonable. Our inharmonious condition is due to lack of organization, and in consequence the profession does not receive that respect which it would if its members were well organized into an association controlled for the benefit of the whole; and in working for the profession at large each individual member would be helped financially and elevated to a higher plane of usefulness. As to our present condition, it is very little better now than it was many years ago, but who is to blame for it but ourselves? Every walk of life but that of medicine is represented in the names recently chosen for the Hall of Fame. Then let us consider this omission of the names of the great benefactors of the whole human race, like Morton, the discoverer of anesthesia, and McDowell, the great pioneer of abdominal surgery, and of Sims, the immortal gynecologist, ask ourselves the reason for it. The answer is: Because we are not united in a harmonious body, and so accomplish little or nothing, while we continue to wonder why we are not recognized according to worth as other men progress.

The physicians of every community should organize an association for mutual protection, and each individual physician in that place who is recognized by the state board of health should be a member. Then the first thing should be the establishing of a fee-bill to govern the charges in that community, and next a list of the dead-beats should be made for the information of members. The fee-bill should be the standard for all charges, and when a charge is made it should be the one agreed on. If attendance is rendered the worthy poor, it may be for charity, but let the charges be made in good faith and lived up to. A fee-bill would be of inestimable help in settling with the chronic hagglers, and would soon educate the community as to what a fair charge is.

Another cause of complaint on the part of physicians is the habit of companies and corporations employing laborers who are often injured while at work, and expecting to have them treated by physicians who are given no assurance of pay by the firms employing the men. The employee is severely injured and laid up at home with increased household expenses consequent on his misfortune, and after he has returned to work he is so in debt that the physician is unable to get anything for months or years, and often never. If physicians were properly organized they could compel employers to see that they received their pay, but individually they have not the power to enforce this. I have had abundance of sad experience on this line, and have in vain sought redress. I also tried to get the local physicians to enter into an agreement to notify the employers, in this place, that we would hold them responsible for our fees in such cases, but some refused to sign. In these cases the physician in attendance well knows that it is utterly impossible for the head of the family to pay anything; in fact, he is more conscious of the necessity of giving the distressed family something out of his own scant pocket-book than rendering his bill, but the grocer and other creditors who have not seen the hardships of the family push their bills and collect them, while the doctor does not push his, and finally loses the entire amount.

Still another cause of complaint is the way that physicians are discriminated against by the public authorities. The county boards of supervisors have for years cut the bills sent them by physicians, after being ordered by their respective supervisors and duly sworn to, for treating paupers. While the patient treated may be a pauper, surely the state is not.

Again, when it comes to the settlement of estates, physicians' claims are not allowed by county judges until about the last thing. After the bills of the tailor, the undertaker, etc., are allowed, the physician comes in for his share "for treatment in a last illness." It often happens that a physician treats a patient for weeks and perhaps many months in a last illness, and when the family is convinced that there is no hope of recovery there is a change of doctors in order to get rid of paying the one who has stood by them in their long struggle.

About in the same category as the county pauper practice should be placed the new innovation, at least new for the small cities and villages, the so-called "club practice." A sick benefit society is formed, as I understand it, in a place, and contract with a physician for a small fee, a mere pittance, for stated services, to attend at the beck and call of the members who may need medical service. It generally happens that the most of the members of these societies or clubs are the prospective

fathers of soon-to-be-larger families, and desire attendance on their wives for a mere pittance as compared to what would be charged, and ought to be, for taking care of a case of confinement in the regular order of practice.

It is now time for the medical profession to form protective associations, so as to work together on all the lines which I have mentioned, and the one that I am in favor of forming first is one for the weeding out of dead-beats, and the devising of ways and means for the better collection of our just debts. Every kind of employment or profession has an organization for the better protection of its members except that of medicine, but there is a faint ray of hope, for the physicians in one or two cities and a county have begun the work and it is bearing good fruit. Physicians in Detroit, Mich., have formed the "Detroit Physicians' Business Association," and those of Murphysboro, Jackson County, Illinois, have formed "The Physicians' Protective Association." I have a letter from Dr. O. M. Ormsby, the secretary of the latter, saying that the physicians down there are well pleased with its workings and are collecting their debts thereby, and, what is of more importance, if possible, they are running their own business and have made themselves known and felt as a power in the affairs of their county in the matter of pauper practice, establishing fees and abating the nuisance of dead-beats and their class.

## A STUDY OF THE ETIOLOGY AND PATHOLOGY OF RHEUMATISM WITH SPECIAL REFERENCE TO "RHEUMATIC DIATHESIS."*

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The term "diathesis" has so little to commend its use in the scientific terminology of medicine that it is fast falling into disrepute. Indeed, it would seem that it is destined, sooner or later, to lose its place in medical nomenclature along with the "humors" of Galen. In view of the ambiguity of the term then, I will define diathesis as that hereditary condition of the body organism which appears to be present as a necessary initial factor in the production of the disease.

The disease which we ordinarily call rheumatism is only one manifested form of this malady. Indeed, there appear to be many varied conditions of rheumatism. Thus we may speak of rheumatism in a plural sense, in that it does not appear to exist as a single entity. It should be understood, however, that this construction is but a temporary one, and that, when we shall have solved the etiologic problem of their production, the diseases now placed outside this category, but which seem from their symptomatology to have a direct connection with acute articular rheumatism, will take their proper place in the nosology of diseases.

### PART PLAYED BY DIATHESIS.

To what extent does so-called diathesis affect the etiology and pathology, and what may be implied by the term in connection with rheumatism? If we were able to explain the intricate problems of normal metabolism, if we could trace by any known chemico-physiologic law, the synthetic and analytic structure of the cell, and define the phenomena of life and death of protoplasmic mass, we might be in a position better to explain the enigma of constitutional vices. That they exist as a predisposing factor in the causation of diseases, as well as an inhibitory factor in the repair of the disease conditions, can scarcely be denied. They have been variously described under the names diathesis, dyscrasia, predisposition, disposition, etc. Under the name of diathesis it has been taught that the inclination is an inherited one, and this has been recognized since the early history of medical science. The literal meaning of diathesis, when applied to the chemistry of the body, is that there is a tendency on the part of the animal economy to the development of certain diseases; by this it is not meant that the disease itself, but rather the family tendency to it, is transmitted. It need not strain a point to say that the condition may be an acquired one.

### OTHER FACTORS IN THE CAUSATION OF RHEUMATISM.

This brings us to the consideration of some of the other factors said to enter into the causation of rheumatism. It was long thought, and is even held at the present day by some authorities, notably by Haig, that uric acid, retained in abnormal quantities within the system, was the cause of rheumatism and gout. That uric acid or its salts exist as a pathologic condition is undoubtedly true, but it would seem almost preposterous to conclude, from this fact alone, that it is per se the cause of these phenomena. It is by no means well attested that uric acid or its salts are constantly present in the blood stream even in well-defined cases. By a liberal perusal of recent literature I find the consensus of opinion of the best authorities to be that rheumatism is directly due to bacterial infection. Indeed, there is a strong tendency among bacteriologists to associate the infectious germ with all pathologic problems, and this association has in a measure been verified. Yet we are unable by this theory alone to explain many of the special and characteristic features of diseases, and especially have we found it so in the diseases under consideration. It would be to my mind more plausible to conclude that a relation exists between the biology of the infectious agent of rheumatism and uric acid formation, and that the presence of uric acid depends on the development of these germs. Diathesis, then, would appear to bear much the same relationship to rheumatism and gout, as so-called predisposition or dyscrasia does to other diseases which are not particularly hereditary in nature; as, for instance, tuberculosis, typhoid fever, malaria, etc. In other words, diathesis defines the conditions under which infection takes place.

In a paper published in the *American Medico-Surgical Bulletin* (1895), and recently republished,[1] Dr. Wm. H. Porter called attention to defective oxidation on the part of the system as the chief predisposing factor in bringing about the disease. He assumes that in the "so-called lactic or rheumatic condition as in the so-called uric acid or gouty state of the system, all the toxic products within the system, and all the abnormal products found in the excreta, are due to the imperfect oxidation reduction, or faulty isomeric transformation of the proteid constituents contained in the animal economy; that the carbohydrates if taken in ordinate quantities being easily oxidized is done so at the expense of the proteid constituents; thus producing suboxidation of the latter." He undertakes to disprove the existence of uric acid or its salts in the blood stream, and erect the hypothesis "that as a result of faulty nutrition there is developed an imperfect and abnormal transmutation of the proteid compounds, that as a result the substances are oxidized at an abnormal position instead of in the renal cells as normally occur." However, he goes further than to merely assume that

* Read before the Des Moines Pathological Society, Oct. 23, 1900.

suboxidation of the proteid constituents act alone as the only element in producing the disorders, and concludes that micro-organisms may in a measure be responsible, or rather that they so affect the food products in the alimentary canal, that they become abnormally oxidized in the cell protoplasm. By this ingenious theory he is able to explain, at least to his own satisfaction, all the different forms and types of the so-called rheumatic affections seen clinically. Each variety of infection he assumes to be due to its peculiar means of suboxidation, whether this be produced by a special bacteria or a combination of micro-organisms, or even, perchance, to a lack of micro-organisms in the alimentary canal. He assumes here that certain forms of micro-organisms are essential to proper digestion. He goes so far as to say that it seems quite probable that many of the toxic products are simply isomeric forms of the normal proteid molecule; he freely admits, however, the difficulty of isolation and proofs of this latter hypothesis. Thus the difference between this theory and the one usually accepted, relating to micro-organisms as the etiologic factor, is that the latter theory assumes that the infectious germ is carried by the blood current to remote sites, as cartilages and joints, for instance, where it deposits its germinal vesicle, which enters the system and completes another biologic cycle, ending again in a fully-developed bacillus.

The suboxidation theory, however, seems to have few supporters; indeed, it is absolutely at variance with modern accepted views as to the formation of uric acid. It would intrude upon the purposes of this paper to enter into a full discussion of the chemistry of uric acid, yet it would be incomplete without mentioning the researches of Harbaczewski,[2] Kossel, and others who have shown that uric acid is not derived from metabolism of the general proteid mass, but from nuclein; that is, it is the specific end-product of the nucleins contained in the nuclein of cells, and eliminated only when nuclein is broken up in the process of destructive metabolism. From this, then, we are led to believe that the rheumatic process is accompanied by increased metabolic activity, instead of suboxidation, which would signify a decrease, or a submetabolism.

It may not prove amiss here to touch upon the atavistic possibilities in connection with the production of uric acid diathesis. Much work is being done in this country and abroad just now in biologic research; and the literature along these lines is taking its place alongside of recognized scientific investigations. It is too much for us to say at the present time that it is probable that the ontology of the human animal will ever be satisfactorily worked out; but it is possible to draw the logical conclusion that many pathologic conditions are traceable to ancestral defect, far removed from any forms of life now known to exist. If uric acid is found in man only as a pathologic condition, may it not go to prove that this in an inclination or a partial reversion to the reptilian type in the metabolism of the cells? It is well known that the urine of the fetus and newly-born child contains an abundance of uric acid, and no one has to my knowledge attempted to explain the phenomenon. However, to those who have studied pathologic phenomena from this point of view, this fact alone offers strong confirmatory evidence of its having been a purely physiologic excretory product of our progenitors. Uric acid is a lower oxidation product than urea, but it must not be understood by this that uric acid is a precursor of urea; indeed, it is as much of an end-product of proteid digestion as urea. It appears as a trace in urine under normal conditions, but it is so inconstant in its relations to urea that it may be said to resemble a vicarious product, having more the appearance of a progenic relic than the result of a well-defined physiologic function. Just why uric acid is the final excretory product in reptiles and birds, and urea as much the final product in man, is one of the unsolved problems of nature; but that the elements of normal metabolism in the avian or reptilian type are present in man only as a well-defined pathologic condition, is a well-established fact. With the same degree of reason we may propound the question: Why does destructive proteid metabolism stop short of ammonia, carbon dioxid and water, in either case? This leads to the question: To what extent, then, is the rheumatic condition inherited? It must not be forgotten that when the rheumatic condition is mentioned, it refers to all the allied group, gout included; for even though there is a great dissimilarity in the two conditions, I am constrained to believe that when we come to know more of the two diseases, it will be seen that they bear to each other a closer relationship than they are credited with at the present day. A careful examination of the literature on rheumatism in infancy would lead us to believe it exceedingly rare. Cheadle[3] makes mention of two patients, one 4 weeks, and the other 23 days old, who were affected with acute rheumatism. In the second edition of his text-book on medicine, Strümpell reports one case which he met in Leipsic. R. Abrahams[4] mentions two other cases, and reports three of his own, all in infants at birth. The first case resulted lethally on the eighth day. In the second recovery was apparently complete after six months' treatment with salicylates. Endocarditis was present in all three of the cases, and joint symptoms were difficult to make out. There was a decided rheumatic history in the mothers, and two of them had acute rheumatic fever at, or just prior to, the birth of the child. Joint symptoms in infancy, if present at all, are not apt to be detected; but on the other hand the heart appears to bear the brunt of the disease. Endocarditis is seldom present in the adult, except as a result of acute rheumatism or other rheumatic affections, and in infancy and in childhood it appears to hold true even to a greater extent. This brings us face to face with another question—that which relates to fetal life. Endocarditis has been discovered in many instances in the still-born child, and to my knowledge scarcely has an effort been made by clinicians to ascribe a cause; but since we have learned more of the true nature of the infection and its pathogenic predilection for the heart membrane, I would ask: Would it be a fantastic conclusion to say that rheumatic infection in the mother may be transferred to the fetus *in utero*, thereby causing its death? It has been proved that the heart is the target in infantile rheumatism, and this leads us to believe that there is a close relationship between chorea and rheumatism. Out of seventy-three autopsies collected by Osler,[5] in deaths occurring from chorea[6] sixty-two had well-defined endocarditis. In the same article he traces a direct rheumatic history in about 21 per cent. Cheadle[6] finds that 65 per cent. of his cases give a definite rheumatic family history. Tonsillitis is often found to be associated with rheumatic symptoms, and some authorities have thought the tonsils one of the hiati through which infection takes place. Frederick A. Packard[7] has recently reported five cases of endocarditis following tonsillitis. His paper is well worth

a careful perusal, for tonsillitis as a cause of endocarditis is rarely mentioned in text-books. The connection between scarlet fever and rheumatism has been the subject of much discussion. It is thought by many that an etiologic relation exists between them. The erythemata are said to have a similar connection, and so has purpura.

### PATHOLOGY.

From the foregoing it will be seen that the true pathology remains yet to be written. The existence of free uric acid or its salts in the blood stream is seriously questioned. They nevertheless do exist in the tissues in pathologic conditions. That the blood stream is the medium which carries the morbid agents to their various destinations in the body, there is no doubt. It is also true that the alkalinity of the blood is reduced, and at times it may very nearly approach acidity. There is a decreased number of red corpuscles, and they may transude through the capillary walls and produce ecchymoses. The blood has an abnormal tendency to clot, mostly on account of excess of fibrin. The urine is highly colored and has a high specific gravity. Uric acid is found in abundance, but there is little if any increase in the production of urea. The synovial fluid is abundant and of an acid reaction. The whole of the joint structure is more or less involved, and the articular surfaces become roughened. It is in the joint structures that the "battle royal" between the body cells and the infectious agents usually takes place. The latter, by a series of sorties, attack the system at one of the weakest points in its line of defense, and the debris of uric acid salts, the roughened cartilages, etc., tell the story of the great central conflict; while the abnormal vascularity and thickening around the joint structure point to the concomitant forage and skirmish actions, in the battle for supremacy between the body organism and the infectious agents of the disease. However, the infection may strike directly at the heart, producing none of the stereotyped symptoms of rheumatism except endocarditis. Among the conclusions I wish to draw from this study are: 1, that rheumatism is directly due to an infectious germ, and that the symptoms produced vary in accordance with the position and attenuation of these germs; 2, that these germs may at times complicate other disease conditions, as for instance scarlet fever, thereby causing rheumatic symptoms; 3, that the nidus of the germs may be located in the joints, which is usually the case, especially in adults, or more rarely in the heart, and quite frequently in the muscles; 4, that the uric and lactic acid found in these cases, are products, rather than the cause, of the disease, and that, of themselves, their presence is not pathognomonic of gout and rheumatism, in that they simply show the result of katabolism of the body cells, which condition may be brought on by numerous nutritional disorders; 5, that hereditary tendency, if carefully sought out, may be found in a large majority of cases; 6, that gout and rheumatism, although very dissimilar diseases, each possesses so many traits in common that we have been led to place them in the same family of diatheses. Both produce the same end-products of tissue metamorphosis, their nidi of infection have much the same location, and the pathologic conditions found therein are closely related. There is a tendency to cutaneous disorders in both diseases. I must remark here, however, that not all of the symptomatology of the gouty state described in books should be taken for granted; for under this head authors have included almost every symptom to which our humanity is heir, from eczema to chronic gleet. True it is, they have all been found underlying gouty conditions, but there is nothing else to prove their relation to the gouty state. The difference between the gouty and the rheumatic subject is that one contains that special ingredient requisite to the propagation of the gouty poison, while that of the other harbors a rheumatic poison. I am of the opinion that both conditions are brought to the acute crisis by the agency of an infectious germ, the true biologic nature of which remains yet to be discovered. A further consideration of this part of this most interesting subject, however, would carry us far beyond the limits of this paper.

### REPORT OF CASE.

Since the above was written, a case has been brought to my attention which so much engages the subject in hand that I can not forego the temptation to offer a brief report upon it. Not on account of its rarity, however, for it is such a one as is often seen and many times dismissed by the attending physician without serious consideration, if a physician's advice is even procured.

E. V., a girl 4 years of age, was brought to my office with the following symptoms: For two or three days she had suffered from a slight cold. Her head was much inclined to the left side, being slightly bent forward, and she was unable to rotate it upon the neck on account of pain. There was marked swelling of the muscles of the left side of the neck; slight pyrexia with an accelerated pulse. There was a history of "growing pains," and of rheumatic symptoms in the mother. The child played out of doors the next day, and on the third day had a slight rigor, and I was asked to see her again. I found the temperature at this time 101.5 F., and the pulse was much accelerated. I gave strict orders that the child be kept in doors and placed in bed. In the afternoon a symptom presented itself which served to alarm the parents more or less. The child, naturally somewhat nervous, became fidgety, and some of the muscles began to twitch, especially those of the lips and other facial muscles. The temperature being low, I was able to quiet the fears of the parents as to threatened "spasms," yet, indeed, I had graver fears of my own, lest genuine chorea might ensue. I accordingly ordered the dose of sodium salicylate which had been given from the onset, but in too moderate doses, increased to 20 grains a day. The temperature continued to rise for several hours until it reached 103.8 F.; by the next morning it was normal, and the heart's beat became slowly reduced from 130 per minute to 100, and even lower. She at no time would have been considered a seriously sick child. The appetite scarcely failed her, and no other symptoms were noted except that, on the fourth day, she complained of pains in the left arm and wrist. Upon examining the throat, I found the tonsils and pharynx somewhat inflamed. No complaint, however, had been made on account of this condition. It was difficult to make out any roughening of the heart's tone and, indeed, I do not believe there was any perceptible lesion present. I had little evidence on which to base my opinion, or rather fear, of threatened cardiac complication, except the rapidity of the pulse-rate—which is no proof at all—and the generally accepted opinion that rheumatism in childhood is prone to attack the heart. The diagnosis was carefully made by absolute exclusion; and considering the fact that, as soon as the increased doses of the salicylate began to take effect, the symptoms were brought promptly

under control, leaves little doubt in my mind as to the correctness of the diagnosis.

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## A CASE OF ACUTE DERMATITIS CAUSED BY THE USE OF A HAIR-DYE HAVING FOR ITS BASE THE HYDROCHLORATE OF PARAPHENYLENE DIAMIN.

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On Jan. 30, 1901, Mrs. A. G., aged 44, married, a native of Venezuela, was referred to me by Dr. W. H. Haskin, suffering with a severe attack of dermatitis of the face, and a pruriginous, papulo-vesicular eruption on her arms and thighs. The forehead was swollen, red and shiny, with a few small vesicles near the margin of her hair. The eyelids, especially the upper, were puffy, the conjunctivæ slightly congested, the ears red and swollen; along the upper margins were numerous small vesicles filled with straw-colored fluid, which in places had exuded and formed granular crusts resembling "brown sugar." The nose and cheeks were slightly swollen. There was no eruption on the neck or chest, but the flexor and extensor surfaces of the forearms, and the anterior and inner sides of the thighs presented numerous small, slightly elevated papules, mostly perifollicular, and a few vesicles. The arms and legs were quite pruriginous at times. The face felt tense, uncomfortable, with some prickling sensations, especially marked in the eyes. The patient admitted having had a somewhat similar eruption at intervals during the past seven years, on her arms, legs and body. This eruption, diagnosed as an eczema, was always preceded by gastric and neurasthenic crises.

The distribution of the most intense phases of the eruption along the hair border and on the upper part of the ears suggested a closer examination of the hair; which, although very dark, showed signs of having been dyed in the temporal and frontal regions.

On questioning the patient, she admitted that for three weeks she had been using a French hair-dye; and a day or two after commencing its use she had experienced a prickling sensation in the eyes, followed by an intense inflammation of the entire face. This subsided to its present state.

This hair-dye dermatitis is well known at L'Hôpital Saint Louis, Paris, where it is very frequently met with in the out-patient clinic. Its zone-like distribution to the upper third of the face, the swollen eyelids, and the vesicles on the upper margins of the ear, give it an almost pathognomonic appearance, so much so that Fournier will frequently astonish the patient by saying: "Madame, you dye your hair; you use a dye composed of two liquids; you apply the dark liquid first and then the clear liquid." For such is the method of employing the hydrochlorate of paraphenylene diamin.

Cathelineau,[1] who made quite an exhaustive report on the accidents produced by the use of this dye, describes it as follows: The hydrochlorate of paraphenylene diamin is found in commerce in the form of red, mica-like scales, without appreciable odor; crystallizes at 102 C., melts at 140 degrees, boils at 260, distills at 267, is soluble in water, alcohol and ether. All oxidizing agents transform it into quinone. This transformation takes place slowly on exposure to air, almost instantly on addition of oxygenated water, or some other oxidizing agent.

*Reactions:* If to a liquid containing the paraphenylene diamin one adds a small quantity of its isomere in meta and the bichromate of potash, there is produced the blue of toluidin, whose intense blue color is characteristic. A few drops of a solution thrown on a filter-paper which has been saturated with oxygenated water gives a dark red color which rapidly becomes black. A few drops of a diluted solution of nitrate of potash gives with it a greenish-yellow color which becomes dark.

*Preparation:* To obtain the paraphenylene diamin, one separates from the paranitrilin which has been reduced by tin and hydrochloric acid, the reaction terminated, the tin is precipitated by hydrogen sulphid. The base is extracted by ether from the aqueous solution, rendered alkaline, purified by distillation and sublimation under a current of hydrogen.

*Physiological effects:* Paraphenylene diamin — $C_6H_4{}^2(NH_2)$—has been studied in its physiologic effects on dogs by Dubois and Vigum[2] (1898) who used the pure drug alone by hypodermic injections, while more recently (1901) Laborde and Meillère[3] have used the mixture as found in the dye, both by intravenous injections and subcutaneously. Their results agree in every point except the lungs, which the former found exsanguinated; the latter in a state of intense congestion. In doses of one decigram to a gram hypodermically administered to a dog, there was produced salivation, diarrhea and tenesmus, somnolence, difficulty of respiration, sneezing, coryza, abundant nasal discharge, hoarse voice, irritation of eyes, hyperesthesia of the conjunctivæ, with temperature falls, difficult gait, stiffness of the legs, opisthotonos, and death in twelve to twenty hours. The autopsy shows all the tissues darkly stained, the blood and muscles dark as "ink," the left ventricle in systole and empty, the liver brown to an almost violet tint. Mellière[4] also calls attention to the dark mahogany-colored urine found in his experiments and also in his patient whose case he reported. This was not found to be the case in our patient, whose urine was light amber, acid, 1030, urea .026 per cent., no sugar nor albumin, excess of chlorids.

*Method of using:* In commerce the dye is found in two solutions, No. 1 containing an aqueous or alcoholic solution of the hydrochlorate of paraphenylene diamin, No. 2 containing oxygenated water. The dyeing is effected in two processes. A few cubic centimeters of solution No. 1, on a brush or sponge, are passed over the hairs to be colored; after a few seconds, another brush or sponge wet with solution No. 2 is used. The effect is almost instantaneous. There is produced quinone—$C_8H_3O_2$—well known in organic chemistry, which gives off very irritating vapors at ordinary temperatures. The hair or beard has at first a violet tint which becomes darker under oxygenated water, by varying which tints varying from chataine to jet black may be obtained.

*Clinical study:* The seat of the eruption is almost always on the border of the hair, or upper lip in those who dye the mustache. The forehead, neck, ears, sometimes the entire face, the external surface of the arms, shoulders, back, even the entire body may be affected.

The eruption may come on after the first application, or not until after it has been used for months. Some subjects who do not have an eruption complain of a prickling sensation in the eyes for days after its use. The intense itching is another characteristic. This may be most marked in the scalp and is the usual precursor of the eruption, which appears as bright red placques, with irregular borders along the margins of hair. The skin becomes thickened and also stretched, and the placques disappear under pressure. The lids become swollen after a few days of itching. Under light desquamation the spots become pale and disappear, constituting the benign form. In the medium form, such as our case, with an eruption of bright red erythematous patches, with rare intervals of normal skin, the color does not disappear under pressure. In places there are urticarial elevations, papules, small vesicles filled with clear serum, or milky fluid; in places dried crusts, often yellow and impetiginous. The ears are swollen, the skin thickened, exuding serum where vesicles become broken. Itching may be so intense as to break sleep. There is slow return to normal, the skin remaining rough and edematous, desquamating for weeks.

Brocq,[5] in addition to the above light and medium forms, describes a third or grave form with violent erysipelatoid eruption, with fever, adenitis, extensive desquamation, etc. He mentions the case of a young American woman whose entire body desquamated, who had great depression and fever, with prolonged convalescence and tardy recovery. He recommends that in view of the increasing number and severity of these cases, the law should insist upon a label stating that this substance is "dangerous for all persons who have had eczema or who have irritable skins." G. Tissot[6] arrives at the conclusion that all hair dyes at present known are dangerous, that they may determine inflammatory or toxic accidents, and that it is necessary to regulate the sale, inasmuch as accidents are becoming more and more numerous as their use becomes generalized. The paraphenylene diamin he considers most constantly productive of accidents. Balzer[7] relates a case of an eczematous eruption produced by the irritation from a dye used in hose, which dye proved on chemical analysis to be the chlorate of paraphenylene diamin. The eruption came on twenty-four hours after wearing new hose, which were dyed black, with red, yellow, and green stripes. There was violent itching and the back of the foot presented typical lesions of acute eczema—small papulo-vesicular eruption, and diffuse redness not extending higher than the ankles. The soles of the feet, while presenting no eruption, itched intensely. It was curious to remark that the eruption was in bands corresponding to the black and green stripes; there was no eruption corresponding to the red and yellow stripes. The chemist reported that it was precisely the black and green portions where the coloring matter was the paraphenylene diamin.

*Résumé:* The duration of eruption may be from several days to several weeks. Sometimes exacerbations may occur when one thinks the patient nearly well. In the etiology one must always take into consideration, as in all chemical or medical eruptions, the personal predisposition or idiosyncrasy, and avoid in the treatment any application containing resorcin, which Laborde and Mellière[8] have shown often is used combined in the hair-dye, and under oxidizing influences becomes an irritating coloring product. The prognosis is in general good, but the patient should be warned against continuance of the dye for fear of the grave form described.

*Differential diagnosis:* Confusion might arise with acute eczema, especially where patients usually deny the use of a dye. Nevertheless, the suddenness of the manifestations, enormous swelling of the lids, the metamorphosis of the physiognomy are good guides.

*Treatment:* The usual calmative agents employed against erythematous eruptions due to external causes may be used. The hair must be sacrificed in the grave forms, as the dye in the hair still acts as an exciting cause. As a question to be studied there remains the query, does the eruption appear on the body from transferrence of the irritant by the hands, from nervous erethism, or it is absorbed in quantities sufficient to cause systemic effects?

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## DIFFICULTIES AND DANGERS OF ANESTHETICS.

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Ever since the first deaths resulting from the administration of ether and chloroform, there has been considerable discussion as to the manner in which they cause them. One of the most important contributions was that of the Hyderabad Commission, which concluded from its experiments on animals that chloroform kills by its effects on the respiratory system. Mellish believes that it exerts its bad effects primarily upon the circulatory system, an opinion which is supported by Leonard Hill. Practically all observers agree that chloroform causes lowering of blood pressure at all stages of the anesthesia. Ether produces a slower fall than chloroform. Whether the paralysis of the respiratory precedes or follows that of the circulatory system is of but little practical importance, for the interval between them is so slight as to be almost imperceptible. The writer has in some cases observed a cessation of respiration before that of the heart's action, and in others the reverse condition. Leonard Hill has shown that there are two kinds of syncope, a primary and secondary. The former occurs in the very earliest stages, the latter later. It may be due to fright or other psychic influences. In some cases there seems to be no apparent cause. Respiratory difficulties may be spasmodic, asphyxial or paralytic. The two former occur more frequently during ether than chloroform anesthesia. The last-named danger is far more frequent after chloroform. When this takes place, the respirations gradually become slower and more shallow, the color of the face and lips becomes grayish, the pulse imperceptible, and the pupils widely dilated.

The group of symptoms in which the heart first shows the effects of an overdose of the poison—secondary syncope—differs but slightly from the above, and the anesthetist who closely watches the respiration, color of face, pupil and pulse of the patient from the time the anesthetic is begun will note even slight danger signals quite early. It has been the habit of the writer, in his own cases and when instructing others, especially when chloroform is to be administered, to call attention to the following points: Remove all foreign bodies from the mouth, also all constricting neck or waist bands. Talk reassuringly to the patients, or divert their minds by having them count slowly up to fifty. Do not permit any loud talking or noise of preparations to be heard by the patient. Do not begin to remove dressings or prepare the field of operation before the stage of relaxation. Examine the heart, lungs and the urine before every anesthetic. (This will be referred to later.) Note the size of the pupils, the character of the pulse in regard to pressure and frequency, and watch both pulse and respiration, and the color of the face during the entire operation, keeping the hand on either radial, temporal or facial arteries, as the engineer does his hand upon the throttle. The writer has been able a number of times to guard against a syncope by noting the manner in which the pulse decreased in frequency and force. The pupil is at first dilated moderately, then somewhat contracted, responding, however, to light; but when it dilates again, or, in other words, the secondary dilatation occurs, with failure to respond to light, that is one of the earliest symptoms of syncope. The anesthetist should pay absolutely no attention to the operation, and should not be changed during it.

TREATMENT.

The curative treatment of the immediate difficulties and dangers in the milder forms, such as spasm of the glottis, is to remove the anesthetic—usually it is ether which causes this. Forceps of the kind used by the laryngologists, with pieces of cotton, will easily remove any mucus which has accumulated above the larynx and causes cyanosis. This is best done by placing the patient's head—if it has not previously been so—on its side directly upon the table. At times it is necessary to force the jaws apart with a special (Heister) gag. It is seldom necessary, if care is taken, to hold the jaw up and forward to use a tongue forceps. For the more severe forms of danger, such as sudden heart or respiratory failure, we should have some system or order in which the various methods or remedies shall be applied. The writer usually employs the following mechanical means first, for there can be but little object in giving cardiac stimulants before there is a circulation to carry them to the heart.

1. The method of König, or massage of the heart, I have employed eight times with startling results. This consists virtually, by a number of pushing movements with one or both hands over the heart in exciting a ventricular contraction, and thus preventing the paralytic dilatation of the heart from taking place. This method was first suggested by Professor König, and is but little known in this country. As soon as the heart or breathing has ceased, the operator, by rapid "punchings" with the flexor surface of the half-closed hand, without lifting the latter from the chest wall, seeks to start up a contraction of the ventricles. I have saved three patients by this method alone during the past six months. It is really a shaking-up or massage of the heart. In a dog on which I performed a thoracotomy, the heart's action ceased as soon as the thorax was opened. The Konig method was employed, while one hand was kept over the heart—from the interior of the chest. The effect of this shaking-up of the heart through the external jolting was remarkable. The organ began to pulsate and continued to do so for several minutes.

2. The next method, and one which can be carried out simultaneously by another assistant, consists in mechanically exciting respiration by the so-called pharyngeal reflex, by making rhythmical tractions upon the tongue. (Laborde method.) Insert a tongue forceps and pull the organ, by its tip, out of the mouth as far as possible, about sixteen times a minute.

3. As soon as possible, raise the foot of the table, say 1½ to 2 feet, or bring the patient's head over the edge of the table, permitting it to hang down. At the same time, begin with artificial respiration. (After No. 1 has been employed.) Have two assistants—one on each side—bring a semiflexed arm down upon the lower portion of the chest, compressing this, then raising the arms above the head by extending them, and bringing them to the chest wall again.

4. By this time respiratory or circulatory paralysis will have either become permanent or temporary. If the latter, a few feeble pulsations can be felt and an occasional shallow breath be noticed. Now, an amyl nitrite pearl can be broken and its contents inhaled. Strychnin, 1/30 gr., and digitalin in 1/50 gr. doses can be given hypodermically; later whisky, atropin or ammonia.

5. Bleeding from a large vein, if the patient is plethoric, or the subcutaneous injection of a quart of normal—0.6 per cent.—salt solution, if there is any suspicion of a combination of syncope, with hemorrhage, is extremely valuable and rational.

6. Acupuncture of the heart has been tried as a last resort in two cases, by McArthur, with an encouraging result. Tracheotomy, stretching of the sphincter, irritation of the nostril, and electricity are of doubtful value.

To sum up: 1. Massage of the heart (Konig). 2. Rhythmical tractions of the tongue (Laborde). 3. Artificial respiration. 4. Cardiac stimulants. We should persist in our efforts, even in the most discouraging case, at least half an hour.

AFTER-EFFECTS.

In regard to some of the after-effects or dangers of anesthetics, many can be avoided by proper regard to their prevention. Before every anesthesia is begun the urine should be carefully examined for sugar, albumin and casts. This will only require a few moments, especially if a centrifugal apparatus is at hand, and may spare the operator a great deal of chagrin if a patient whose relatives he had assured that there was practically no danger should die within forty-eight hours of uremia. It has been shown conclusively by a number of investigators, both through experiments on animals and clinical observations, that both ether and chloroform have an injurious effect upon the renal parenchyma. My own observations on 110 cases about equally divided between chloroform and ether have been confirmed by a number of others. They were as follows: Ether and chloroform will cause albumin and casts in small amounts and number to appear after they have been administered to patients whose urine during repeated examinations was previously shown to be normal. This will occur more frequently after ether. Upon the diseased kidney it (ether) has a decidedly more harmful

action, causing in some cases acute suppression of urine, uremia and death. Chloroform, if administered during an operation or obstetrical case, as shown by Fraenkel, for a period of three hours or longer, may cause fatty degeneration of the renal cells and uremia. On the diseased kidney chloroform has a far milder action than ether, although occasionally a case of nephritis will be anesthetized with it and uremia follow, as in a case I observed a few weeks ago. Both, in cases of diabetes, will frequently increase enormously the sugar.

Another dangerous after-effect which can be avoided is pneumonia following ether anesthesia. A careful examination of the lungs will quickly aid us to diagnose a bronchitis or emphysema. Such persons bear ether poorly and should, if the heart permits, be anesthetized with chloroform. In regard to the latter organ, patients with heart trouble should be anesthetized either with ether or the A. C. E. mixture. In many hospitals abroad and in the East, the anesthetist is either a paid assistant, who remains for years, or is assigned to this task as an interne for many months. Slips are filled out for each anesthesia, stating the condition of the heart, lungs and kidneys before operation, etc. This is not impracticable even in small hospitals, and saves many a life.

### CONCLUSIONS.

I have tried in the above to give a brief outline of the causes of syncope during anesthesia, their treatment, and some of the after-dangers or effects. Ether, with the exception of its bad effects upon the kidney, is by far the safest anesthetic. Chloroform kills quickly, ether slowly. The dangerous symptoms of the former are far less amenable to treatment than those of the latter. Children respond more quickly than adults to efforts at resuscitation.

A careful examination of patients is absolutely essential. In serious cases the urine should be collected for several days, and twenty-four hour specimens examined, especially in renal operations or laparotomies. Do not give one anesthetic, be it chloroform or ether, indiscriminately to every patient. We should consider age, condition and the nature of the operation. I append an excellent list, compiled by J. Frederick Silk, an English authority on anesthetics, which I have found very useful to remember: 1. *Age.*—Under 3 years, chloroform all through; between 3 and 12 years, A. C. E. mixture (alcohol 1 part; chloroform, 2 parts; ether, 3 parts); between 12 and 60 years, ether; over 60, induce with A. C. E. mixture, increasing the proportion of ether in long operations. 2. *Condition of patient.*—In the fat and plethoric, induce with A. C. E., and gradually increase the proportion of ether in long operations; in acute or very recent lung troubles, give chloroform all through; in chronic lung troubles—bronchitis or emphysema—give A. C. E. all through; in organic heart disease, if there is not sufficient compensation, e. g., pulmonary edema, use A. C. E. or chloroform, if compensated, ether; in marked atheroma, induce with A. C. E., and increase the ether proportion in long operations. 3. *Nature of operation.*—For an intracranial, give chloroform or A. C. E.; for those on the tongue and mouth, induce with A. C. E. and change for chloroform when the operation begins; in operations on the head and neck, begin with A. C. E., increasing the proportion of ether in long operations; in those on larger joints, always use ether, if possible; in abdominal, we do well with ether, but many prefer chloroform; in rectal and genito-urinary, use ether.

The writer can agree most heartily with most of the above, and would add, under No. 2, in kidney disease, use preferably chloroform, or A. C. E.

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## THE VESICULAR MURMUR AND ITS RELATION TO PULMONARY HEALTH AND DISEASE.*

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My purpose in this writing is to individualize this one and only ausculatory sign as the criterion of pulmonary health, its absence as the positive proof of either functional or organic disease, also suggestions as to the most successful method of restoration and its application to the treatment of pulmonary tuberculosis.

In the auscultation of the normally acting healthy chest, two sounds are heard on inspiration, totally different in production, location and character. The first is the bronchial sound, caused by the friction of the inrushing tidal air, through the convective system of tubes, and is, in varying quality and pitch, always present in health and disease. It is first in regard to the time of its production in the inspiratory act, and, during the first eight to twelve years of life, is the only sound heard in health, the pulmonary system being as yet incomplete. The tidal air does not pass as such further than the third or fourth division of the bronchial tubes, consequently the murmur which follows the bronchial is entirely distinct from the bronchial in location and character, although wholly dependent on it for its production.

Where tidal air ceases, residual air commences, and fills the entire pulmonary system, the volume of which is increased about one-tenth by each normal inspiratory effort. It is this increment of tidal air imposed upon the residual air, which renders the air-sacs tense, and produces the vesicular murmur by the contraction and relaxation of their walls upon the residual air. Here the interchange of gases takes place, in accordance with the well-known law of diffusion, and the circle of the inspiratory act is complete.

The vesicular murmur begins as soon as the residual air is increased to the extent of rendering the air-sacs tense. In full breathing, it is heard before the tidal friction sound of the bronchi ceases, producing the bronchovesicular murmur, and is continuous after the bronchial sound ceases.

The production of the vesicular murmur may be prevented, or interfered with in part, by various influences and conditions of disease, some of which are not incompatible with a considerable degree of comfort and usefulness, for a limited period.

The conditions of this period, we are to take particular notice of, as it is the true pretubercular period.

We very commonly meet with cases in which the vesicular murmur is entirely absent, except in forced inspiration.

In women, this is very often the case, as a result of tight clothing, with the outward and upward movements of the chest, and the murmur can not be produced in the lower lobes of the lungs until the constriction is removed.

We often hear the expression "weak lungs," as ap-

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plied to people of sedentary pursuits, or to those who by heredity or environment are lacking in energy and vitality. I prefer to call them "lazy lungs," as better indicating an exact condition, and as a means of impressing the patient with the fact that by his own exertion he may have strong lungs. Lazy lungs are those in which the pulmonary function is imperfectly performed in the absence of all organic disease, resulting in a disproportion of blood and air in the lungs, the former being in excess, and its progress through the lungs being retarded.

As the blood current rushing into the heart excites it to forceful contractions, so too the air-currents, rushing into the lungs, with each inspiration increasing the tension of the alveolar walls, stimulates them to contraction as evidenced by the vesicular murmur. The necessity for a proper volume of air is just as important for the lungs as a due proportion of blood is required for a perfect and forceful contraction of the heart. The contraction of the air-sacs produces not only a more rapid interchange of gases, but also aids in the propulsion of the blood through the pulmonary capillaries, relieving stasis, and preventing exudates.

An incomplete pulmonary function produces blood stasis, and stasis produces exudation, which may take place into the bronchi, the intercellular spaces, and upon the surface of the pleura. When these exudates occur, there is more or less muffling of the vesicular murmur, and according to degree and location the production of râles, either bronchial or interpleural. That which is exuded into the intercellular spaces causes no sound, but interferes with the production of the normal vesicular murmur. These exudates often occur simultaneously, and are found most frequently in the apices, about the third intercostal space in front, and reaching directly through to the pleura in the interscapular space. These exudates, which are purely of a non-inflammatory character, when stirred by respiration, produce râles which are usually diagnosed as bronchitis, but in consideration of their etiology in obstructed circulation, more properly called bronchial catarrh, or catarrh of the apex, a result of pulmonary inactivity, a passive condition rather than an active process.

There are many direct causes of this passive condition. I have already mentioned the effect of tight clothing in women, which is so often persisted in to such an extent as to produce an arching of the sternum compensatory to the constriction. This takes place only in vigorous breathers, with good muscular development.

Sedentary occupations are productive of pulmonary inactivity. Underfeeding and overworking, the hard side of life, worry and care and many others; any one of the many influences in life which weaken the muscular system indirectly through the nervous and digestive systems, exerts a depressing influence on the respiratory system by decreasing the activity of the diaphragm and chest muscles, and thereby impairing the function of respiration, in the complete oxygenation and vitalizing of the blood, which process is announced by the vesicular murmur.

Big breathers are good eaters, and big eaters are good breathers as a rule, because the muscular and nervous systems are well nourished.

Tuberculous infection becomes a possibility only when the soil is prepared for the reception and propagation of the bacilli. Our attention has been directed so much during the past dozen years to the bacillus, and the means of combating it with drugs and serums, all of which have proved of doubtful utility, that it seems to me that we should take a new departure, not only in our pathological views relative thereto, but also in our practice.

Much has been said and written in regard to "suitable soil," without defining exactly what that soil is, how it is produced, and how immunity may be acquired. It used to be taught that man possessed a surplus of pulmonary tissue, which was not always required to be in complete action, but was kept in reserve for emergencies. This was certainly a fatal mistake, for all that a tubercle bacillus wants for a comfortable home is a choked capillary bronchus, either the result of insufficient expansion of a lazy lung, or of an active process of congestion or inflammation. The tubercle bacillus fails in its attack upon healthy tissue; it succeeds only when it finds either functional or organic abnormalities.

Imperfect function, as evidenced by the absence of the vesicular murmur, must always result in organic disease sooner or later—not necessarily tuberculous—and it is all that is required, as the primary condition in furnishing a suitable soil for the bacillus in the pulmonary tissues.

The pulmonary apices are primarily infected as a rule, because they are not as continuously and thoroughly expanded as the middle and lower portions, consequently blood stasis occurs, producing exudation as revealed by the "mucus click." This symptom has been regarded by many good clinicians as a positive evidence of tuberculosis without the evidence of the microscope. I have seen many such cases of catarrh of the apices under the practice of systematic expansion make a complete recovery of the function, with the removal of all abnormal auscultatory sounds, and the return of the pure vesicular murmur which is the evidence of pulmonary health.

We might as well try to strengthen a weak arm by carrying it in a sling, and by the administration of drugs, as to strengthen weak lungs by any and all the drugs known to medical art, without attention to the deficient function. In the treatment of such conditions we must use the same common sense which would guide us in the treatment of weak muscles or organs in any other part of the body.

Use, and use only, makes strong muscles and strong lungs. The better the oxygenation of the blood, the greater is its capacity for the reception of nutritious pabulum, with an increase of red corpuscles. The cold, livid finger tips become warm and of a healthy pinkish color, the appetite is improved, and every function is benefitted to a remarkable degree, with increase of body weight and endurance.

In the examination of the chest, our attention should be directed first, not so much as to what abnormal sounds are present, but as to the degree in which the normal sounds are present or absent, for the purpose of ascertaining whether an anatomical recovery may be obtained, in order that we may obtain a clinical recovery. In any impairment of pulmonary function, whether the microscope reveals the bacilli or not, it is safe always to suspect that such a development may occur, because the soil is prepared for the seed, and our efforts should be immediately directed toward the cleaning up of that soil, so that there shall be no suitable habitat for the bacillus. The vitality of the tubercle bacillus is very low, and unless it finds a location exactly suited to its growth and development it perishes.

If, according to Nuttall, a tuberculous patient expectorates about three billions of bacilli in twenty-four hours, certainly only a very small number find a suitable soil for their support, and yet when we take into account Naegeli's statistics in the pathologic institute of Zurich it appears that the infection is almost universal, as active or latent, being 97 per cent. of those over 18 years of age, with positive evidence at autopsies of non-fatal tuberculosis.

The human system then is able to resist the infection of tuberculosis in a very large majority of cases, and it must be from nature that we may expect to learn the method of successful treatment, for our art has failed by drugs and serums alone. Even should we be able to cure a specific case by tuberculin or other serum, what is to prevent a new infection if we leave the lungs in the same condition as they were in before the bacilli were rendered innocuous, for it is through the respiratory apparatus, much more than through all the other organs or tissues, that the infection is received?

This brings us to face the stubborn fact of the suitable soil, which Nature by its own processes succeeds in changing to an unsuitable soil, and as Vergely has tersely expressed it: "The soil is everything, the microbe nothing," and another, "that Koch's bacillus is not enough to produce tuberculosis."

There are no doubt other factors which go to make up this preparatory condition beside deficient pulmonary function. We may yet learn that good rich blood contains an antitoxin principle, which it may not always possess, particularly when deteriorated, and that the loss of this antibacillary power is the cause of the system succumbing in rapid miliary tuberculosis. Mays believes that tuberculosis may be primarily a neurosis, and adduces plausible argument in support of his theory, but from my present standpoint I look upon the neurotic condition as contributory to that condition of pulmonary inactivity which may be both a cause and an effect in the preparation of the suitable soil.

It can not be denied that the tuberculous infection is well-nigh universal, and that but few in comparison to the great number infected, live the average life of man, without at some time being infected by it. Autopsies made upon those dying of other diseases and by violence prove this.

The greater number of those infected recover without the knowledge of the fact of infection. Nature can and does get rid of the bacillus, and although there may not be a complete anatomical recovery, as indicated by the scars left after the healing of cavities, yet there is a complete clinical recovery, and full functional activity of all the remaining pulmonary tissue. Fibrinous exudations upon the pleural surfaces form adhesions between the opposing surfaces when there is deficient pulmonary activity, and, according to their closeness and thickness, prevent the expansion of the subjacent lung tissue, as evidenced by the muffling or complete absence of the vesicular murmur.

The starting-point of a tuberculosis may have been years before the actual onset of the disease, occurring in a pleurisy, or a pleuropneumonia, in which the exudates have not been absorbed, but remain as an organized barrier to perfect respiration, either in the lung tissue or on the pleura, and thus furnish the suitable soil for the bacillus. After the clinical recovery from a pneumonia or pleurisy, the closest attention should be given to the anatomical recovery, by systematic expansion of the lungs until the pure vesicular murmur is heard without muffling, when there will be no soil suitable for the bacillus. The expansion of the lungs is very materially aided by cold friction baths. There is a direct nervous connection between the skin and the lungs.

The nervous center which governs inspiration is situated in the gray matter of the medulla, opposite the roots of the pneumogastric nerves, and the nerves which have their center here are the pulmonary branches of the pneumogastric and sympathetic, the latter containing fibers from the spinal cord, also the cutaneous nerves of the face, arising from the fifth cranial pair, and the cutaneous nerves of the body generally. Through these excitor nerves, a stimulating impression is made upon the center by cold friction baths, and this is immediately followed by deeper inspirations.

It is through the intimate nerve connections between the skin and lungs that such remarkable results in the treatment of tuberculosis have been obtained by Winternitz and others in hydropathic institutions, and distinguishes cold bathing as a most valuable adjunct in bringing about a clinical recovery of the lungs, in which the bacillus can not grow and in which the inspiratory act is complete in the pure vesicular murmur.

We should early discover the evidences of tuberculosis, in order to treat it successfully, but we should much earlier discover whether the soil in any suspected chest is prepared for the ever-present bacillus, and by attention to the function of the lungs put them in such condition that infection shall be an impossibility. This is to be done by systematic mechanical expansion of the lungs by appropriate exercises, by the daily use of cold friction baths, by regulation of the diet, by the administration of such medicines as shall strengthen the nervous system and enrich and invigorate the blood cells, by attention to the sanitary condition of the home, by the proper ventilation of living and sleeping rooms, by life out of doors, by cheerful surroundings and cheering company, by a full and clear statement of the case to the patient, concealing nothing of the dangers of such conditions, by the assurance of rapid improvement and perfect restoration to sound health, as a result of strict fidelity to the requirements as directed by the physician.

In a recent article, "On the Early Recognition of Tuberculosis," a physician detailed a series of symptoms which to me appear as very late symptoms. Clubbed fingers, emaciation, capricious appetite, cog-wheel rhythm, intermittent albuminuria, and hemoptysis present to me a picture far on the way to a dangerous and probably incurable stage.

The difficulty of diagnosis—of which much has been written—and the dangers of becoming tuberculous become as nothing if we accept the clinical evidence of an impaired function, producing the suitable soil for the bacillus, and when we act upon that evidence, in Nature's method of restoration, by opening up and clearing out every tube and cell, by systematic expansion of the chest.

Where purulent infection has taken place, as in an ovarian tube, or the appendix vermiformis, or in any locality of the body, we put in the knife, and clean out the cavity and thus get rid of the infection. In choked bronchial tubes, which are the starting points of the active process of infection, we can put in air, which is quite as incisive and effective in the relief of such conditions as the knife is in the others.

Why should we wait until the infection has been proved by the microscope, before commencing radical

treatment, when the clinical features of the case warrant us in declaring that such a chest is prepared for the bacillus, through imperfect function, or through exudations resulting therefrom. In this respect we have been leaning too much upon the evidence of the microscope, and too little upon equally as positive clinical evidence, of far more valuable diagnostic importance, viz.: imperfect function, as shown by the absence or muffling of the vesicular murmur. If we accept the clinical evidence, the fight with the bacillus can be easily carried to a successful issue outside the walls. But if we find that the bacillus has already taken possession, the fight will be longer and harder, and accompanied with many dangers, although it may yet be carried to a successful result if we follow the teachings of Nature, so far as we know.

It is impossible to describe in words the sound of the vesicular murmur. Every individual physician must acquire a knowledge of it through his own independent discovery, by carefully listening to many healthy chests, until his own senses are forcefully impressed with its character and language. It is a gentle breezy sound, exactly like nothing else in the world, but when thoroughly appreciated one of the most delightful sounds the ear can listen to, for it means absolute health; its absence, absolute disease sooner or later, unless restored by appropriate means intelligently directed.

The methods which I have used for many years were described in an article entitled "Personal Observations in Pulmonary Phthisis," published in the *Medical Record*, March 14, 1898, and in THE JOURNAL A. M. A., Feb. 5, 1898. In the absence of more effective means, I still hold to the same methods, for the reasons there given.

The principle of the action of the pneumatic cabinet is correct, and indispensable in many cases, and should be applied where it is possible to obtain it, for it is a very difficult thing to wake up the almost paralytic chest muscles to perform their natural function, and is only obtained by persistent and continuous effort.

I have observed a very great lack of appreciation among medical men of the importance of this fundamental symptom of the vesicular murmur, and many lives are irretrievably lost by neglect of the methods required for its restoration, which otherwise might have been saved by prompt and early mechanical expansion.

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## ON THE RELATION BETWEEN THE VARIETY OF MICRO-ORGANISMS AND THE COMPOSITION OF STONE IN CALCULOUS PYELONEPHRITIS.

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No subject in renal diseases has been more discussed than calculus, especially as regards the etiologic factors involved in the production of the stone. Many theories have been held regarding the origin of stone in nephrolithiasis, but of these most have been finally abandoned from insufficient evidence; thus the idea that telluric conditions play an important rôle in this connection has been practically abandoned by all, as also the belief that gout was the most important etiologic factor in the development of such a condition, while Senator, Von Noorden and numerous other observers have definitely shown that the method of living and the variety of diet play, speaking generally, but a small part.

Our ideas regarding the formation of uric acid in the body have undergone a marked change, through the work of Horbaczewski and Kossel, who showed that in a large number of cases, at least, the uric acid output was directly dependent on the amount of nucleins destroyed in the various vital and metabolic processes of the body.

That, however, simply an increase in the uric acid output is in itself not sufficient to bring about calculus formation is shown in the first place by the fact that in childhood, when the uric acid output is extremely high, renal calculi are extremely uncommon, while in various conditions, pathologic and otherwise, which are associated with an extremely high output of uric acid, such as splenomyelogenous leukemia, calculus formation is rarely met with. Also in cases of experimental phosphaturia, we practically never meet with phosphatic stones.

It will thus be seen that some other factor besides the formation of excessively large amounts of various of the chemical constituents of the urine is necessary for the formation of the different varieties of stone, at least in the great majority of cases. This conclusion and also the discovery of an albuminoid center or nucleus in the case of a number of stones, has led some observers to believe that the stone is formed by deposition of some of the urinary constituents about a proteid mass made up of epithelial cells, pus cells, red blood cells, etc. Comparatively recently, however, bacteria have been assigned an important rôle in this connection, due in the first place to the frequent association of calculus with certain forms of renal infection, and in the second place to the demonstration of bacteria in the center of a number of renal calculi. Thus, according to Harris, who has recently reviewed the subject, various micro-organisms have been found in the center of several renal calculi, by Galippe, in one case by Begoyne, and in an especially interesting case by Lenander, who demonstrated zoögleal masses of the colon bacillus in the center of a calculus composed of calcium oxalate and urates. Harris himself also reports three cases in which cocci or bacilli or both were found in the center of uric acid calculi; in these cases, however, cultures of the bacteria were not made, but their presence was demonstrated only by microscopic examination.

In all the cases which I wish to report, careful bacteriologic examinations were made of the urine, while the chemical composition of the stone was definitely determined in every case by the qualitative methods of chemical analysis usually in vogue. These cases, seven in number, were all those in which infection of the renal pelvis or the substance of the kidney was associated with the presence of stone, and in all cases except one the symptoms definitely pointed to the condition being unilateral, and this was subsequently verified by the bacteriologic, chemic and microscopic examination of the urine on either side. The means of making this examination was as follows: Through the cystoscope a sterile ureteral catheter with a sterile rubber cuff on its distal end was introduced into the ureter and, after the urine had been allowed to flow for a short space of time, the rubber cuff was withdrawn and a certain amount of the urine collected in a sterile test-tube from which, subsequently, the bacteriologic, chemic and microscopic studies were made. This method absolutely eliminates any chance of contamination from the bladder or from external sources if carried out with rigorous care. From the urine thus obtained, cultures were made upon agar plates, and from the colonies that grew thereon the species of micro-organism was determined

by the usual methods. As stated before, ureteral catheterization was practiced in all cases on the side which gave no symptom, and in all cases except one the urine from that side was absolutely normal, showing that the calculous pyelonephritis was unilateral while in the case of the infected side the urine always contained large numbers of pus cells and a smaller number of red blood and epithelial cells and a considerable amount of albumin, while the reaction of the urine from that side depended entirely upon the variety of micro-organism met with, being acid in the one case of calculous pyelonephritis due to the colon bacillus met with, and alkaline in five cases due to various micro-organisms which possess in a marked degree the ability to decompose urea. These seven cases are therefore subdivided into: 1, those where the urine from the affected kidney is alkaline and 2, where the urine is acid.

### WHERE THE URINE IS ALKALINE.

Five cases have been met with and studied bacteriologically and chemically, in which the urine was alkaline, while in one other case, although there had been marked urinary alkalinity at the beginning of the trouble the infection had subsequently died out spontaneously and the urine, when examined by us, was acid and sterile. The history of the development of the infection in these cases is of extreme importance: in Case 1 the condition came on insidiously, without any apparent cause, and was subsequently followed by several typical attacks of renal colic. In Case 2 the onset had also been insidious, while the only symptoms present were dull pain in the back and right side for several years, and loss of strength and weight. In Case 3, where the condition had lasted for over fifteen years, the etiologic factors had been quite obscure, the condition developing after a protracted anemia, the exact cause of which could not be definitely determined although it was probably chlorotic in nature. The symptoms in this case had been pyuria and pain, first on the left side, subsequently on the right side also, and in the former case they became so great as to necessitate the removal of the kidney which was converted into a large pyelonephrotic sac in whose center a calculus was found. In Case 4, five months after a difficult instrumental labor, the patient complained of severe pain in the right renal region, which had been constantly present ever since (3½ years) associated with occasional attacks of sharp pain. In Case 5 the pyelitis was secondary to a cystitis occurring 2½ years after the development of the latter condition. The symptoms were almost constant severe pain in the right renal region, associated with a high grade of pyuria; while in the sixth case, where the infection had spontaneously died out, the patient had developed an acute ammoniacal cystitis after severe instrumental labor thirty years ago, followed shortly by symptoms of an infection of the left kidney; the urine remained alkaline or ammoniacal for many years, but for the past twenty years has been almost constantly acid, although it still at times contains enormous numbers of pus cells as if from some large sac which occasionally empties itself. The bacteria found in these cases were respectively as follows: Case 1, B. proteus vulgaris; Case 2, B. proteus vulgaris; Case 3, a white staphylococcus which rapidly decomposed urea and liquefied gelatin but slowly; in Case 4, the same white staphylococcus just mentioned; in Case 5, the B. proteus vulgaris; while in Case 6, as stated before, the urine was sterile.

In all cases except one, nephrectomy was performed, the stone removed and the renal pelvis irrigated and drained; in the one exception mentioned several calculi were voided with the urine, so that it was possible in all cases to make a careful chemical examination of the stone. The chemical composition of the stone in all these cases was the same, the calculus being made up of the phosphates and carbonates of calcium and magnesium, although the proportion of the various salts differed in the different cases. In one case, that of the calculous pyelonephritis due to the infection of the B. proteus vulgaris, a culture was made under the most careful aseptic precautions from the center of the stone, and the B. proteus vulgaris was obtained therefrom in pure culture; in another case microscopic examination of the center demonstrated staphylococci—in this case the renal infection was due to the white staphylococcus previously mentioned—while in the third case, that in which the infection began thirty years ago and in which the urine had apparently been sterile for upwards of twenty years, no bacterial center was able to be demonstrated. In the other three cases the stones were not examined to see what was the exact condition present in their respective centers.

In one case the diagnosis was made in a rather unique fashion. Through the ureteral catheter there was injected into the renal pelvis of the affected side 15 c.c. of a .2 per cent. solution of hydrochloric acid, which was allowed to remain in the pelvis between ten and fifteen minutes; it was then analyzed chemically, when the marked amount of calcium and magnesium phosphate and carbonate present showed that the pelvis contained a calculus of that composition.

The condition in all these cases was, as far as could be judged from the careful study of the symptoms and the urine, one of infection of the kidney subsequently followed, sooner or later, by stone formation. A consideration of the findings in certain of the cases warrants us in the belief that the nucleus of the stone was a zoögleal mass made up mostly of the micro-organisms causing the infection, while the constant alkalinity of the urine caused by the urea-decomposing power of the micro-organism furnish the salts necessary for formation of the stone.

The extreme frequency of calculus in infections of the kidney brought about by such urea-decomposing bacteria is shown by the fact that, of all the cases of renal infection due to this class of bacteria, stone was found in all the cases but one which was an acute pyelonephritis of but two weeks' duration where, obviously, sufficient time had not elapsed for the deposition of the salts necessary to form the stone.

### WHERE THE URINE IS ACID.

Only one case was met with in which stone was associated with a pyelonephritis due to a micro-organism which retained the normal acidity of the urine. This case was one of infection arising immediately after the formation of a uretero-vaginal fistula, which in turn had been produced by the trauma of a very severe, protracted instrumental labor.

The infection was due to the B. coli communis, and had been present for one year; the urine from this kidney was discharged entirely through the fistula, contained pus, blood and epithelial cells and considerable albumin and was always very markedly acid; from this urine a pure culture of the colon bacillus in considerable number was obtained. There had been absolutely no symptoms of stone, but, following upon a careful vaginal and rectal examination, a small calculus was passed

through the fistula, the chemical analysis of which was a mixture of uric acid and urates, the former largely in excess. The consideration of this case makes it highly probable that the stone was formed definitely because of the urinary infection.

Albarran has divided the cases of renal calculi into primary stones where the kidney is not the seat of infection, and secondary stones where bacteria are found in the renal pelvis; according to this classification our cases fall into the second group, although recently many have ascribed to bacteria the formation of stones of the first group, believing that a renal bacteriuria furnishes the focus about which the stones are built.

My series of cases, therefore, besides showing the definite relationship existing between the variety of micro-organism causing the infection and the chemical composition of the calculus, also adds more cases to the ever-increasing list in which to the presence of bacteria is to be ascribed the formation of stone; this is not only so in the case of renal calculi, but the causal relationship between bacteria and stone has been shown also in cholelithiasis, salivary, lacrimal and pancreatic stones, in rhinoliths and otoliths and various stones found in pathologic conditions of the respiratory tracts.

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## COMPLETE INGUINAL EXTRAPERITONEAL HERNIA OF THE BLADDER; RECOVERY.

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Mr. D. H., West Mansfield, Ohio, aged 51, 5 ft. 6 inches in height and weighing 245 lbs., consulted me May 26, 1900. He stated that he had had an inguinal rupture for eight years, which he had been unable to retain with any form of truss. Ordinarily he had been able to reduce his hernia, but it had now been irreducible for forty-eight hours. The day before he consulted his local physician, Dr. Wanser, who administered an anesthetic but was unable to affect a reduction. He stated that he had noticed many times that he was unable to empty his bladder completely without lifting up the tumor.

The tumor was about the size of two fists and extended to the bottom of the scrotum. It was somewhat oval in outline and conveyed a sensation of fluctuation. It was tender and entirely irreducible. Although he was experiencing some pain, there was no evidence of an intestinal disturbance. I therefore explained to him that I thought the main mass of the tumor was omental in character, but that I should not be surprised to find his bladder involved. I based this statement of the involvement of his bladder on the fact that he had to lift up the tumor in order to completely empty that viscus. I advised immediate operation and assent was given. He was admitted to the hospital and the operation made an hour or two later.

I was assisted in it by my regular assistants, Drs. Shepard and Chapman, Dr. Willey, of Baltimore, Md., being present. The usual incision was made over the tumor, but this had to be somewhat longer than usual, owing to the great amount of fat which was present, an incision about 2 inches in depth being required to reach the external fascia. The tissues were carefully divided until what corresponded to a hernial sac was opened. This disclosed a fleshy mass adherent throughout. The adhesions, however, were easily separated and the mass brought up into view. The fluctuation which I had noticed and which I supposed was due to free serum in the hernial sac, such as is usually met with in cases of strangulation, was now found to be inside the extruded mass. Drawing the tumor down the finger was passed up to the neck when it was found that the extrusion had taken place apparently as in a direct inguinal hernia. The ring being enlarged somewhat, and the finger passed through, the diagnosis was arrived at very promptly that the projecting mass was practically the entire bladder, since all that was left inside the pelvis was merely the neck. The bladder walls contained a thick deposit of fat so that the entire thickness seemed to be about one inch.

With a good deal of difficulty a pelvic receptacle was made by separating the peritoneum, and the bladder replaced. The replacement was only accomplished with the utmost difficulty, owing to the large amount of adipose tissue present. The patient was placed in the Trendelenburg position and so maintained for a considerable length of time before complete reduction was accomplished. The opening was then carefully closed in layers with kangaroo tendon. The hernial sac, which consisted merely of condensed connective tissue instead of peritoneum, was trimmed up and the fat brought together by plain catgut in two layers, with a subcuticular stitch for the skin. The wound was then sealed with collodion and a spika bandage applied.

Recovery was immediate and in every respect satisfactory. The patient reported at my office four months later, when everything was found in normal condition, the tissues being apparently perfectly strong and firm.

I have been able to find in the literature at my disposal but very little bearing on this most unusual form of hernia. In the *Philadelphia Medical Journal*, of June 30, 1900, there is a synopsis of an article by E. Martin, in the *Deutsche Zeitschrift für Chirurgie*, for February, 1900. In this Martin reports a case briefly as follows: A man, 51 years of age, had had a hernia the size of a small walnut in the right groin for some eight years past, present only at intervals and always easily reducible. Twenty-four hours previously the hernia had reappeared, this time larger and irreducible: the pain and acute symptoms led to the diagnosis of incarcerated omental or intestinal hernia. At the operation it was found that the hernia consisted of a portion of the bladder which had been protruded extraperitoneally, and which was easily replaced after the constriction had been relieved. The patient recovered. Martin, in this article, has collected from the pages of literature nine cases of strangulated hernia in which, as in his own case, the bladder alone was involved. In only one of these cases was a hernia of the bladder suspected before the operation was started, and it is plainly to be inferred from this report that in most of these cases, as well as in his own, the bladder was wounded before the mistake in diagnosis was discovered.

According to Martin's article, therefore, my own case makes the eleventh to be recorded. In my case, fortunately, the involvement of the bladder was suspected before beginning the operation, and hence that organ was looked after.

Cases in which the bladder has been involved in a hernia together with omentum and intestine are not so uncommon, but that the bladder alone should become extruded is certainly quite surprising, and for that reason such cases are well worth recording. In the case reported the thick deposit of fat in the bladder wall caused it to so closely resemble omentum that the surgeon, unless on his guard, would more than likely have incised it.

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**Taxing Poisons.**—According to the *New York Times*, in an editorial with this caption, Sir Michael Hicks-Beach, Chancellor of the Exchequer, England, has received a suggestion from the food reformers that a tax be laid on poisons found in food and drinks. Arsenic in beer appears to be the main inspiration of the proposition. Parliament has certainly deemed it of enough importance to create a government commission, much to the consternation of the brewers. The value of the public laboratories is pointed out from the fact that the presence of arsenic in beer is a very recent discovery. The combination of a tax and a benefit is a rare one, as maintained by the editorial in question, but the argument is advanced that not much aid would be given to the replenishment of the imperial coffers since what it was sought to tax would disappear. "To smile but put the question by," virtually concludes the article, is the immemorial habit of a chancellor. Reforms, however, it may be added, are seldom advanced when criticisms regarding methods become too rampant.

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## THE STATE OF THE CIRCULATORY ORGANS IN THE EARLY STAGE OF SYPHILIS.

Syphilis is one of the most conspicuous illustrations of the anticipation by empiricism of science, for although we have now learned to recognize the disease from its manifestations, and to apply almost specific medication, we are yet without positive knowledge as to its causative agent. It is, however, generally believed that this is a micro-organism, probably of vegetal origin, and that to the lodgment of this and the reaction thereby induced the local lesions are due, while the constitutional and remote phenomena are to be attributed to the toxic products of its vital activity. Clinical observation has shown that the affections to which syphilis may thus give rise, directly or indirectly, are almost limitless, no system or organ or tissue being exempt. An interesting clinical study of the circulatory organs in the early stages of syphilis has been made by Dr. Karl Grassmann,[1] in the course of which 238 patients were examined, with the result of showing that the normal function of the heart in the secondary stage exhibits, in at least two-thirds of the cases, principally in females, disturbances varying between clinically slight abnormalities and marked insufficiency of the heart. Such subjective disturbances as may be present are almost unexceptionally attended with objectively demonstrable deviations from the normal. Derangement of the pulse is exceedingly common, especially arrhythmia, and abnormal frequency, in the direction of increase or diminution. In 85 per cent. of patients with disturbances of normal cardiac rhythm the heart exhibited other abnormal manifestations. In addition to "nervous" disorders in cardiac action, actual neuroses of the heart—habitual bradycardia, tachycardia, angina pectoris—also occur in individual cases.

Frequently in the early stage of syphilis the function and the nutrition of the heart-muscle suffer, as indicated subjectively by palpitation, etc., and objectively at times by slight, at other times by more marked, insufficiency of the myocardium. A further sign of injury to the heart consists in the so-called accidental murmurs that are audible in about 40 per cent. of the cases. The weakness of the muscular wall of the heart results in a large proportion of cases presenting systolic murmurs in moderate, sometimes considerable, dilatation of the heart, involving almost exclusively the right side, rarely both, exceptionally only the left ventricle. The clinical picture of functional mitral insufficiency develops with relative frequency, and it is not rarely observed to disappear in the course of antisyphilitic treatment. The changes in the size of the heart, equally with the murmurs, are of varying character, although often, like the disturbances in the pulse, they are constant. Isolated cases suggest a possibility of the occurrence of fresh endocarditis, although the evidence is not complete. Exacerbations of chronic endocarditis also appear to occur now and then in the early stage of syphilis. Dry pericarditis was observed in one instance.

In a small proportion of cases there is increased resistance in the peripheral arteries, even in youthful patients. Nevertheless, in addition to syphilis, other etiologic factors capable of causing premature arteriosclerosis almost always play some rôle in this connection. In no case was aortic insufficiency or evidence of aortic aneurysm observed. The blood-pressure exhibits in almost all cases in the early stage of syphilis greater or less diminution, and exhibits variation in the course of mercurial treatment. Reduction in arterial pressure is likewise a sign of relative functional insufficiency of the left ventricle, just as the dilatation frequently present is a sign of that of the right ventricle.

Coincidently with the existence of symptoms of secondary syphilis the hemoglobin percentage of the blood is reduced in almost all cases, rarely in marked degree. Such improvement as takes place occurs soon after administration of the first doses of mercury, while in the subsequent course, in some cases from the outset, further reduction in the hemoglobin takes place. The changes in the condition of the heart are not to be explained by chlorotic changes in the blood of syphilitics; at least clinical observation discloses no relation between the two. It is likewise beyond doubt that the various abnormalities in the function and the size of the heart are not attributable to the action of mercury, as they may occur before its administration. On the other hand, it can be shown in many cases that the existing alterations in the function of the heart improve or disappear in the course of antisyphilitic treatment—from the slight disturbances in the pulse to functional valvular insufficiency.

In the absence of other etiologic factors, and on the basis of the observations made, syphilis is to be looked upon as the primary cause of the cardiac disturbances, which exhibit an analogy with those observed in connection with chlorosis, anemia, etc., especially with regard to complete restoration to the normal. It is certain that true combinations with ordinary chlorosis are also to be taken into consideration in explanation of the cardiac disturbances in the early stages of syphilis; in the majority, however, the syphilitic infection alone is responsible. The manner in which this affects the nervous apparatus of the heart, as well especially as

1. Deutsches Archiv f. Klin. Med., 69 B., 1, 2, 3, 4, H.

the fibers of the heart muscle, whether indirectly by impairment of the nutrition of the entire organ, or indirectly through the toxic substances that are developed in the body as a result of the activity of the syphilitic virus, is at present beyond solution.

## STUDIES IN THE DIAGNOSIS OF BUBONIC PLAGUE.

Since we know positively that bubonic plague exists in San Francisco and that there is a likelihood of cases appearing in other large cities—a likelihood which must not be neglected—our immediate interest in various matters relating to the diagnosis of this disease has been markedly quickened. In the first place this fact stands out predominant, namely, that the scientific diagnosis of bubonic plague rests upon the bacteriological examination, and no other diagnosis is acceptable in this case but one of scientific accuracy and positiveness. When the plague appeared in Oporto in the summer of 1899, the Institute for Infectious Diseases in Berlin established a separate department for the study of the diagnosis of plague. Needless to say all conceivable precautions were instituted against the possibility of accidental infections. Courses in the diagnosis of pest have been given to physicians in order that there might be no lack of persons with practical experience in the bacteriological diagnosis of this disease. Especially the morphology and the pathogenicity of the bacillus of plague have been studied. In his report of the work of this department for 1899-1900, Kolle[1] refers to a number of interesting observations made during this period. The polymorphism of the bacillus is emphasized; it seems that this organism is especially unstable as regards its form—so-called involution-forms, branching organisms, clubbed swellings, etc., appear with great ease. Polar staining is always obtainable if the cover-glass preparations are brought into absolute alcohol for one minute and then rapidly dried before being stained with dilute aqueous solution of methylene blue. Cultures of plague bacilli are liable to rather sudden attenuations of virulence. Repeated passages through susceptible animals, such as rats, may restore the original degree of virulency. Kolle found direct inoculations of the healthy conjunctiva with the blood of the infected animals the quickest and most reliable method to pass the bacilli through a series of animals.

White mice die without exception when inoculated with an infected needle. A hemorrhagic infiltration forms with swelling of the adjacent glands and septicemia. About half of the mice fed with infected material died. In mice the spleen is rarely enlarged in plague. As in mice, rats that die after being fed with infected material show primary bubo in the submaxillary region as a rule. A larger percentage of the rats so fed died of plague than in the case of the mice. Hence it seems quite clear that rats may infect themselves under natural conditions by eating of plague cadavers.

1. Zeitschr. P. Hyg. u. Infektionskr., 1901, xxxvi, 397.

Guinea-pigs are also very susceptible to injection with the plague bacillus. Minute quantities inserted within the peritoneal cavity cause fatal peritonitis. Indeed typical infection of guinea-pigs follows the placing of bacillary material upon the shaved skin; redness develops and small pustules not unlike vaccine pustules form, bacilli being present in the contents. Soon the regional lymph glands swell and become hemorrhagic; a purulent cord seems to run from the infected area in the skin to the glands. Bacilli are found in large numbers in the subcutaneous tissue, the glands, and the blood. In the spleen and occasionally in the lungs white nodules appear, very much like tubercles, and composed of cells and countless bacilli. In more chronic cases the centers of these nodules may disintegrate. Older cultures with reduced virulence may produce a chronic productive process in the mesentery and peritoneum.

Kolle and his associates determined this important fact, that for the demonstration of plague bacilli in various mixtures where but few may be present the placing of the material upon an area of shaved skin of guinea-pigs is the very best method. Infection takes place even when but few bacilli of slight virulence are present. Bacilli that are not pathogenic on direct injection into the subcutaneous tissue quickly cause fatal infection when rubbed into the intact and shaved skin of the abdomen. This peculiarity may explain some things in the infection of human beings with pest.

Cats also may be infected by eating material containing bacilli, and they may die from septicemia with primary bubo in the submaxillary region.

Efforts to produce infection of rats by means of vermin, especially fleas of these animals, failed entirely in the hands of Kolle. He is inclined to believe that the disease spreads among rats through the live rats eating parts of those dead from plague, but he finds the problem in regard to the fleas of sufficient importance to merit further investigation. Studies in immunization are also under way.

## DEFORMING OR RHEUMATOID ARTHRITIS.

The need for greater refinement in the classification of acute and chronic diseases of the joints would seem to be obvious, and there is not wanting evidence of healthy activity in this direction. It would appear that in addition to acute specific infectious inflammation of one or more joints—which for the sake of convenience we may continue to designate "acute articular rheumatism"—there occur other joint-inflammations that result from infection with the causative agents of other diseases, as scarlet fever, influenza, gonorrhea, smallpox, pyemia, etc. Any of these articular affections may be followed by a chronic condition of the joints, and as to the propriety of designating them "rheumatic" there may be some doubt, although this chronic disorder may also be of insidious origin, apparently without antecedent local disease. From this chronic affection of the joints that known as deforming or rheumatoid arthritis

differs in several respects: and it seems not impossible that more than one disorder has been comprehended in this designation. In fact there has been distinguished from it a chronic disease of the joints that, although it presents certain superficial resemblances, differs essentially in beginning of the synovial membrane rather than in the articular cartilage.

There are certain reasons for believing that deforming arthritis is, in some instances at least, a disease of nervous origin, despite the fact that neither gross nor minute lesions of the nervous system have as yet been discovered. Thus, atrophy takes place in the muscles related to the affected joints, and further, somewhat analogous lesions occur in connection with a number of diseases of the nervous system, such as tabes dorsalis, syringomyelia, neuritis. In further support of the view that so-called deforming arthritis may really comprehend several different conditions is the fact that while in general the disease is most obstinately unyielding to treatment, occasionally most brilliant therapeutic results are obtained, and in some cases these have been brought about by measures directed toward the spinal cord. Thus, P. W. Latham,[1] in discussing this subject, cites a number of cases reported by Dr. J. K. Mitchell in 1831, in which relief of arthritic symptoms supervening upon injury to the spinal cord was afforded by the application of from eight to sixteen cups and abstracting as many ounces of blood from the neighborhood of the cervical or lumbar enlargement, or if this failed by the application of blisters in the same situation. Latham himself reports two cases of deforming arthritis in which great relief was obtained by continued counter-irritation over the spine. Dr. Henry Tucker[2] has reported a case of deforming arthritis in which remarkably beneficial results were brought about by protracted treatment with superheated air, and Dr. M. G. Tull[3] has recorded almost parallel results in a case treated by the application of cold to the spine. The patient was an unmarried woman, 20 years old, who presented painful swelling about the ankles, with difficulty in walking, and deformity of the wrist-joints, which had resisted varied treatment, including superheated air. Dr. Tull applied a long ice-bag to the spine, at first for two hours at a time, morning and evening, and subsequently for one hour twice daily. Guaiacol carbonate, a preparation of lithium and a solution of iodin were also administered. The improvement was quite remarkable, the patient regaining her power of locomotion and being practically restored to health. A similar result was obtained in the case of a negro, 40 years old, who had been confined to bed for twelve months with pain, redness and swelling of the knees, wrists and ankles.

In view of the hopelessness with which cases of deforming arthritis are ordinarily looked upon, it would seem that a fair trial should be given to treatment by means of the application of counterirritants and other remedial measures to the spine. Success in this direction would contribute to the establishment of the nervous origin of at least some forms of the disorder in question, and it can be conceived that it might further lead to the employment of the same measures in the treatment of other diseases both of the joints and of the spinal cord.

1. Lancet, April 6, 1901, 998. Jour. A. M. A., April 27, p. 1213.
2. Trans. Phila. Co. Med. Soc., Nov. 1899, xx, No. 8, p. 273.
3. Proc. Phila. Co. Med. Soc., 1901, xx, No. 3, p. 133.

## COMBINED MEDICAL AND SURGICAL CLINICAL INSTRUCTION.

Although the didactic lecture must ever hold a distinct place in the medical curriculum, it has already been in considerable degree superseded by clinical instruction. While applied knowledge is what the student must ultimately have, it will be more useful and more productive to himself and to others for being based upon a sound comprehension and a clear perception of the underlying principles and from an appreciation of its relations to other subjects. In the evolution of medicine into its various subdivisions it has been found that there are certain disorders that fall at one time or another into the field of more than one of the many specialties that have resulted from the division of labor, and it may be that medicine has thereby lost in profundity what it has gained in extent. The process of disseveration having gone so far, the time now seems ripe for some attempt at a more intimate integration of the various branches of medicine. This necessity seems already to have been appreciated, and it has been given expression to by the establishment within recent years of publications devoted to subjects that may be looked upon as occupying what has been designated the border-line between one and another of the departments of medicine. In line with the same thought, combined demonstration in two subjects, for instance medicine and surgery, has occasionally been undertaken.

There are a number of disorders that are better studied and the better treated for the conjoint observation of both a clinician and a surgeon, and the student will be the better instructed for having the affection presented to him in its entirety, from beginning to end. Besides, the relations of clinician and surgeon are thereby rendered more intimate and mutually more helpful; and each has increased his respect for the ability and the powers of the other. Among diseases of the character under consideration, which from the present point of view may be looked upon as partly medical and partly surgical, are abscesses or suppuration or gangrene or perforation complicating acute or chronic infectious diseases, such as tuberculosis, typhoid fever, and appendicitis, the exanthemata, gastric ulcer, hydatid disease, abscess or tumor of the brain, thoracic, abdominal or intracranial aneurysm, accumulations in serous cavities, diseases of the gall-bladder and the urinary bladder, as well as the kidneys, malignant disease of the viscera, etc.

In a paper read before the Philadelphia County Med-

ical Society by Dr. Robert G. LeConte, one of the surgeons to the Pennsylvania Hospital, he related a plan that he and his medical colleague, Dr. F. A. Packard, had carried out recently in a course of seven or eight lectures. The combined lecture occupied the greater part of two hours, a case or cases being exhibited; the etiology, pathology, symptomatology, diagnosis, prognosis, and the medical treatment being outlined by Dr. Packard. Then Dr. LeConte discussed the surgical treatment, which he at once proceeded to carry out before the class. If death resulted, the reasons for failure were pointed out, and the anatomic specimens were demonstrated. In this way both teacher and student obtained a complete clinical picture that was likely to remain fixed more permanently in the memory of each than the most lucid and interesting description. Such a method of teaching is, of course, not universally applicable. One difficulty resides in the fact that cases available for such conjoined treatment are not always to be had. Some objection might be raised further on account of the additional time required of each physician, but this is an individual matter and those whose desire it is to give the best instruction from both the student's and the teacher's view-point will not consider the sacrifice of time entirely uncompensated. From the pedagogic standpoint also the plan has everything to commend it, and so far as possible it should be amplified and its adoption encouraged.

## RATES FOR THE ST. PAUL MEETING.

Attention is especially called to the report of the Committee on Transportation, concerning the coming meeting of the Association, printed in the last and this week's issue of The Journal. It will be seen that this year the Association has been treated in an unusually favorable manner by the various passenger associations, the Western having granted a rate of one fare and $2 for the round trip for its entire territory, and the Trunk Lines and New England Passenger Associations a rate of one fare and a third. The rulings of the Central Passenger Association, as announced this week, have been changed and the more favorable rate of one fare plus $2 granted. The time limits too are unusually favorable this year, extending to July 15, and so allowing ample time for the proposed excursion to the Yellowstone National Park immediately following the meeting. It is still hoped that concessions will be made by the Trunk Lines and by the New England Passenger Association.

## WILD BEASTS IN INDIA.

A correspondent of the *Indian Medical Record* makes a vigorous protest against the Indian Forest Department's regulations, under which the extirpation of the homicidal wild beasts that infect that country is made impossible. He says the government forests and the game laws are practically responsible for the loss of thousands of human lives, and the ruin of cultivators, all for the benefit of a certain revenue and the sporting proclivities of a privileged class. Shooting privileges are strictly restricted and the consequence is the wild beasts multiply. Owing to these laws he says some sections have become depopulated. The cultivator must not kill the animals that ravage his fields or endanger his own life and destroy his domestic animals, therefore, villages are abandoned and become overgrown with jungle, thus increasing the evils. There may be some reasons for forest preservation, but authorities who make and enforce laws that cost thousands of human lives needlessly, or for the sake of gratifying the sporting proclivities of a class, take upon themselves a serious responsibility. The few thousand lives annually taken by wild beasts may be a very small proportion of the two or three hundred million of India's population, but there is no excuse for their loss if it is in any way due as charged to special regulations made for the amusement of a privileged class. The Indian peasant needs protection against himself with his heathen zoophilism, and it is a pity that his civilized masters should add to his perils for the sake of their own recreation.

## MENTAL CONTAGION.

Every little while some non-medical authority propagates a theory as to the contagion of mental diseases, and this is sure to be brought out if an asylum physician succumbs to such disorder. Association with minds diseased is then dilated upon and extensive generalizations are indulged in on very slim foundations. As a recent instance of this may be mentioned an editorial in a yellow journal *par excellence,* in an interior city, on the alleged mental failure of a prominent ex-asylum superintendent. The individual in question was over 80 years old and had suffered, we understand, from a shock of paralysis, two facts which would probably sufficiently account for such failures in memory, etc., as actually existed, but the chance was too good to be lost and the usual commonplaces had to be indulged in in regard to the perils of association with the mentally afflicted and a moral drawn on the mental effect of associations generally. About one person in about three hundred and fifty is insane enough to be counted as such, in the general population, and a rigid drawing of the line would probably increase this figure. It is extremely doubtful whether any much larger proportion than this could be found in those who are intimately associated with the insane, excluding, of course, relatives, and others who obviously share the same heredity and predisposition. There is such a thing as mental contagion; it is notoriously marked in hysterical cases, but there is very little evidence of any real transmission of serious mental disease, simply as such, to persons of healthy mental organization and not possessing any organic predisposition or heredity. The cause of insanity may be an infection, as is probably that of general paralysis or paresis which seems to be sometimes communicated from husband to wife, but the method here is not obscure and is purely physical. In the ordinary use of language we can not speak of insanity as contagious. These are commonplace facts, but the notion is occasionally in evidence even in medical journals and its correction is therefore not altogether amiss.

### DIFFUSE PAPILLOMATOUS GROWTHS IN THE URINARY PASSAGES.

Busse[1] describes two examples of widespread tumor growth of histologically benign structure in the urinary tracts. In one of the cases the history extended over a period of twenty years, periodical hematuria being the most striking symptom. From the examination of specimens obtained by operation and also after death it was found that the mucous membrane of the pelvis of the right kidney, which formed a hydronephrotic sac, of the entire ureter and of the urinary bladder around the right ureteral orifice was the seat of extensive papillomatous proliferation of altogether benign character. In the second case the history of bloody urine and of pain in the left renal region extended over a period of seven years. There was a large hydronephrotic tumor of the left kidney, which was removed 4½ months before death. Examination of the kidney removed at the time of operation and of the ureter and bladder after death showed extensive papillomatous growths throughout the mucous membrane of the pelvis of the left kidney, the left ureter, and the urinary bladder, with hydronephrosis. In the bladder the tumor had become carcinomatous. As far as the history of these two cases goes, and based upon the results of the examination, it is most reasonable to conclude that the hydronephrosis was caused by obstruction of calculi or by strictures. There was in neither case any history of pyelitis or nephrolithiasis. These cases appear to belong to that category of tumors in which whole organs, or even systems of organs, are involved, e. g., the gastrointestinal tract, fibromas of the nerves, diffuse chondromas of the skeleton. The disease is rare. Busse mentions five other cases. The cause is wholly obscure.

### "PARATYPHOID" FEVER — DISEASES CLINICALLY IDENTICAL WITH TYPHOID FEVER BUT CAUSED BY BACILLI OTHER THAN BACILLUS TYPHOSUS.

Schottmüller,[2] in a series of sixty-eight cases of suspected typhoid fever whose blood he examined bacteriologically, encountered five the blood of which contained bacilli differing in important characteristics from the bacillus of typhoid fever. In all these cases there seemed to be no occasion for any reasonable doubt that the clinical diagnosis of typhoid fever was correct. There was in no case symptoms nor signs incompatible with this diagnosis. The general clinical picture was that of typhoid fever of various grades of severity. The bacilli isolated from the blood, which did not contain typhoid bacilli, presented well-marked differences in cultural peculiarities from both B. typhosus and B. coli communis. They produced gas in glucose media and slowly alkalinized litmus milk without causing coagulation. It is concluded that the bacilli isolated can not be regarded as typhoid bacilli, nor as colon bacilli, but as occupying middle ground. Typhoid serum did not agglutinate any of these bacilli which were promptly agglutinated by their own serums, the latter having, however, no effect upon typhoid bacilli, whereas colon bacilli were agglutinated. Assuming that the foregoing observations are reliable—and observations of similar import are being recorded in various places—then it seems that not all cases clinically typhoid fever are caused by the typhoid bacillus. The cases here referred to were sporadic cases and the mode of infection is unknown. Schottmüller suggests the name "paratyphoid" ("paratyphus") for cases of this kind. Future observations must show whether the familiar clinical picture of typhoid fever harbors various diseases of different etiology, and it is obvious that careful bacteriological studies are necessary in order to clear up questions of this nature. It may be that when attention is turned toward this question close observations may detect differences in the clinical course of typhoid fever and "paratyphoid" fever.

1. Virchow's Archiv, 1901, 164, 119-132.
2. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxvi, 368.

### CONGENITAL ANOMALIES OF THE PANCREAS.

The increased attention now being given to the pathological anatomy of the pancreas has served to create interest in the anomalies of this organ. According to Glinski[1] developmental anomalies of the pancreas may be divided into three groups: 1. The so-called pancreas minus, which consists of an accessory or supernumerary lobule connected with the head of the pancreas, being separated from the latter by a more or less distinct constriction. 2. Accessory pancreas, which is entirely separated from the main organ and generally situated in the wall of the stomach or intestine. When located in the intestine accessory pancreas may occur in the walls of intestinal diverticula, which, in some cases at least, appear to be dependent upon the accessory pancreas. They should consequently be distinguished from Meckel's diverticula. 3. Divided pancreas, produced by mechanical pressure especially by blood-vessels during development, the fusion of the separate evaginations of the intestine by which the pancreas is formed being prevented. In this case either the head or the tail of the pancreas is partially subdivided and separated into unequal parts by blood-vessels, the smaller part being connected with the main pancreas by means of the duct. In addition to these three main groups may be mentioned the unusual but exceedingly interesting anomaly of the pancreas known as annular pancreas—*pancreas annulare*—which is not discussed by Glinski; here the head of the pancreas completely surrounds the duodenum, which passes through the pancreatic tissue. There was a specimen of this anomaly exhibited by Hugo Summa, of St. Louis, at the meeting of the Association in Atlantic City, last June,[2] and more recently Dr. Tieken, of Chicago, presented a specimen to the Chicago Pathological Society.[3] Dr. Tieken's specimen was remarkable for the fact that the encircling pancreas had caused an actual constriction of the duodenum, which presented a large fusiform dilatation above the point of narrowing. Anomalies of the pancreas are consequently of practical as well as of anatomical interest. As regards the genesis of the developmental anomalies of the pancreas, Glinski points out that pancreas minus, accessory pancreas, and pancreas divisum reproduce normal conditions in the lower vertebrates. The anomalies are all explainable on the score of disturbances in the

1. Virchow's Archiv, 1901, 164, 132-146.
2. The Journal, A. M. A., xxxv, 43. 3. Ibid., xxxvi, 908.

normal development of the three, possibly four, evaginations of the intestine which fuse to form the pancreas, the main mass being formed by the ventral evagination, the dorsal evaginations normally forming only the head. The ducts of Santorini, which are found quite frequently in the head of the pancreas, may be regarded as remnants of the originally independent dorsal evaginations.

THE INFLUENCE OF OPERATION PER SE.

All surgeons of experience will have observed, and all readers of medical literature will be familiar with the fact, that not infrequently operative intervention is attended with results of a successful nature that can not be attributed directly to the measures practiced—in fact, sometimes only the preliminary steps are taken—but must be ascribed to some obscure action arising out of the exposure to light and air and other physical and mechanical influences; or else they must be considered coincidental. That such results are merely coincidental would seem negatived by the frequency of their occurrence; and for the present we must accept the fact and await the explanation. Perhaps the most conspicuous illustration of the condition under discussion is the subsidence of the symptoms of tuberculous peritonitis after abdominal section, with or without considerable manipulation of the serous membrane or irrigation of the abdominal cavity. In the same way, after operations on the skull for the relief of epilepsy, in which no obvious lesion is found, the attacks may for a long time remain in abeyance. At times, also, the exposure of supposed malignant neoplasms that are found to be insusceptible of extirpation is sometimes followed by a cessation of growth and possibly a long period of latency. Of this last condition a most instructive instance is reported by F. B. Jessett,[1] in which, following gastrojejunostomy for the relief of vomiting and other symptoms associated with the presence of a tumor the size of a small cocoanut, completely occluding the pylorus and presenting the naked-eye appearances of a scirrhous carcinoma, the patient lived for eleven years, and on postmortem examination the tumor previously present was found to have disappeared. The patient was a woman, 56 years old, who had lost flesh rapidly and had suffered from intense pain. The tumor remained demonstrable for a long time after the operation, though gradually diminishing in size. Death resulted, as stated, after an interval of eleven years, from apoplexy, and on autopsy the stomach was found to present typical hour-glass constriction about its center, being adherent in this situation to the left lobe of the liver. At the constricted portion of the stomach the opening between the two resulting pouches barely admitted one finger. In addition to the communication artificially established at the operation, the pylorus, which was situated immediately behind the constriction, was still patulous, though somewhat constricted. A somewhat similar case has been reported by Demoulin and Tuffier[2] in which a hard swelling as large as an orange and thought to be a malignant growth developed in the epigastrium. On operation a tumor that felt like a fatty growth was found about the pylorus and the adjacent parts of the stomach, and gastroenterostomy was performed. On the twentieth day after the operation the tumor could no longer be felt on palpation and the patient regained his usual health.

1. Lancet, April 6, 1901, p. 1005.
2. Bull. et Mém. Soc. de Chir. de Paris.

# Medical News.

## COLORADO.

**Sufferers from tuberculosis** are excluded from the public schools of the state by order of State Health Commissioner Clough, promulgated April 15.

**A "healer"** of Denver, who claims kinship to Jacob and Moses, and the power to cure disease by sending "vibrations to any distance," recently pleaded guilty to improper use of the mails and was fined $25.

**Gross Medical College,** Denver, held its fourteenth annual commencement exercises April 25, graduating a class of fifteen. The doctorate address was delivered by Rev. R. F. Coyle, on "The Making of the Twentieth Century Man."

## ILLINOIS.

**Dr. Charles E. Crawford** has been elected health commissioner of Rockford.

**Dr. D. M. Landon,** Burton, has been appointed surgeon of the Soldiers' Home, Quincy, vice Dr. John J. Golden, Mt. Vernon.

**Dr. Chauncey H. Wilder,** DeKalb, has been appointed first lieutenant and assistant surgeon in the National Guard, and assigned to the Third Infantry.

**The State Board of Health** met at Springfield, May 11, and elected Dr. Charles B. Johnson, Champaign, president; Dr. James C. Sullivan, Cairo, vice-president, and Dr. J. A. Egan, secretary.

## Chicago.

**The proposed hospital for consumptives** has received thus far for its building fund, $22,983.50.

**The Post-Graduate Medical School** has elected Drs. Carl H. Andersen and Gordon G. Burdick associate professors of surgery.

**The Chicago Surgical Society** gave a dinner in honor of A. W. Mayo Robson, of Leeds, Eng., at the Chicago Athletic Club, May 15.

**The Chicago Eye, Ear, Nose and Throat College** has moved into its new quarters at Washington and Franklin streets. There is a commodious hospital and dispensary in connection with the college. It is located centrally and hence has no difficulty in obtaining suitable clinic material.

**Dr. William Osler,** Baltimore, Md., addressed the joint meeting of the Chicago Medical and Chicago Society of Internal Medicine May 15, on "The Natural Method of Teaching the Subject of Medicine." The annual banquet was given in the Auditorium the following evening.

**Water Supply and Death-Rate.**—It is hoped by the Department of Health that interest in the street-watering proposition will not be allowed to die out. From a sanitary standpoint running water is never wasted. It is the great diluent and purifier and the more of it that runs through the sewers the better for the public health. The comparison of Chicago's supply per capita with Boston's which has been made during the week, should be coupled with a comparison of the death rates of the two cities. Last year the Massachusetts town, which is cited as a model of sanitary development, had a death-rate of 20.82 per 1000; Chicago's death-rate, on the same basis, was 14.68 per 1000, or nearly 42 per cent. less. It is not claimed that this great saving of life was due solely to the abundant water supply, but it undoubtedly helps.

**Statement of Mortality.**—The deaths for the week ended May 11 were 471, equivalent to an annual death-rate of 13.97 per 1000. The deaths of persons over 60 years of age were 109. Though there were 95, or one-sixth, fewer deaths recorded last week than during the week previous the death-rate among the aged still remains abnormally high. During the previous week the proportion of deaths among those over 60 years of age was 23.6 per cent. of the total deaths, and last week it was 23.1 per cent. This is an average of nearly 28 per cent. higher than the normal death-rate for this age with the present constitution of the Chicago population. With the increasing age of the popu-

lation this rate also naturally increases; in 1890 it was 12.2 per cent. of the total mortality, and ten years later it was 18.2 per cent.—an increase of nearly 50 per cent., or an average of 4.9 per cent. yearly. But this increase is by no means uniform; the panic of 1893 increased the rate by 7 per cent., it increased abnormally during the Civil War and again after the great fire of 1871. There has never before, however, been such an increase as the present, and a glance at the causes of death shows it to be due to what have come to be called the group of "American diseases"—Bright's disease, heart disease and diseases of the nervous system, the result of the rapid pace of American life. This is a matter over which sanitary administration has no control and the Health Department can only state the facts and point out the causes. The deaths from violence were 30, of which 12 were suicides, and respiratory diseases caused 164 deaths, including those from diphtheria and scarlet fever.

## KANSAS.

**Dr. Hubbard Linley,** Atchison, has purchased a one-seventh interest in the Central Medical College, St. Joseph, Mo., and has been elected to the chair of abdominal surgery.

**Smallpox.**—Dr. W. B. Swan, secretary of the State Board of Health, has issued his smallpox report for April giving the total number of cases in the state as 1084, with 5 deaths.

**Dr. John B. Dykes,** Lebanon, has been appointed a member of the Kansas State Board of Health, by Governor Stanley, vice Dr. Samuel W. Williston, Lawrence, resigned.

**State Board of Medical Registration and Examination.**—The governor has selected the following as members of the board from lists submitted by the State Medical Society: Dr. Samuel W. Williston, Lawrence, for 4 years; Dr. Orson F. Lewis, Hepler, for 4 years, and Dr. George F. Johnston, Lakin, for 2 years.

## KENTUCKY.

**Dr. W. C. Black,** Barbourville, major-surgeon of the Second Regiment, Kentucky State Guard, has resigned.

**Burglars** entered the house of Dr. J. N. McCormack, Bowling Green, May 8, and stole a valuable gold watch and chain.

**Dr. W. Ed. Grant,** Louisville, has sailed for Europe, to be gone four months, and Dr. J. Garland Sherrill, Louisville, will sail for Europe June 1 for a three months' tour.

**Banquet to Dr. Hare.**—A banquet will be tendered Dr. Hobart Amory Hare, of Philadelphia, upon the occasion of his visit to Louisville, by the profession of the city. He comes to Louisville upon the invitation of the Medico-Chirurgical Society and will deliver an address.

**Medical Student Murdered.**—W. L. Royse, a member of the graduating class of the Kentucky School of Medicine, was fatally stabbed by the janitor of that institution on the afternoon of the 9th. The janitor was intoxicated and noisy; an attempt was made by Royse to make him leave the building when, before the bystanders could interfere, he stabbed Royse in the breast, killing him instantly. An examination by the coroner showed that the blade severed the arch of the aorta.

## LOUISIANA.

**New Doctors.**—The State Board of Medical Examiners held examinations, May 2 and 3, at Tulane Medical College, New Orleans, and granted licenses to practice to 70 of the 95 applicants.

**Dr. Arthur Weber,** New Orleans, who was recently elected a member of the City Board of Health, may be decided to be ineligible because there are already three physicians on the board and in the act creating the board it is stated that it shall consist of "five persons . . . . . Three of the persons shall, if practicable, be duly registered and licensed physicians."

**Tulane Medical College,** the medical department of Tulane University, New Orleans, held its sixty-seventh annual commencement, May 1 and graduated a class of 115. In honor of the fiftieth anniversary of his connection with the institution Dean Stanford E. Chaille was made LL.D. In his address, Professor Chaille remarked that the medical and pharmaceutical graduates of the university numbered 3841, all but 768 of whom had been graduated during the time of his official service. Hon. Hannis Taylor, LL.D., delivered the doctorate address on "The Relation of the Medical Profession to International Law."

## MARYLAND.

### Baltimore.

**The State Board of Medical Examiners** (regular) held its semi-annual examinations in Baltimore, May 15-18.

**Maryland Medical College,** the sixth of the medical schools of Baltimore to hold its commencement, graduated a class of thirty, May 15.

**Dr. J. B. McCallum,** of the Johns Hopkins Hospital, Baltimore, sailed for Europe, May 8, to pursue special studies abroad.

**Dr. George W. Todd** has resigned as superintendent of the Peninsula General Hospital at Salisbury, but will continue as a member of the medical staff. The directors are formulating a plan of reorganization to place the institution on a broader plane.

**Association of American Institutions for the Care of Feeble Minded Persons,** representing all such institutions in the United States and Canada, held a three days' session in Baltimore, May 16. On May 17 the delegates were entertained at the Maryland Institute for Feeble Minded, at Owings Mills.

**Typhus Fever.**—Two cases of this rare disease were discovered in the city last week. They were Lithuanians, and one died. The disease developed at Sparrow's Point, a river suburb of Baltimore, and probably resulted from contact with some sailors who had visited there. The cabin which they occupied was burned by the health authorities.

## MICHIGAN.

**Dr. Frederick W. Mann,** Detroit, has been appointed surgeon-in-chief of the Michigan Central railroad, vice Dr. Donald Maclean, resigned on account of ill-health.

**Detroit College of Medicine** held its thirty-third annual commencement, May 9, and graduated a class of forty-five. Dr. William M. Donald, Detroit, delivered the address to the graduating class.

**A mandamus was granted** by the supreme court compelling Dr. Beverly D. Harison, Sault Ste. Marie, secretary of the State Board of Health, to recognize the authority of the newly-constituted State Board of Registration in Medicine.

**Dangerous Communicable Diseases.**—Including reports by regular observers and others, cerebrospinal meningitis was reported present in Michigan during the month of April, 1901, at 11 places; whooping-cough at 25 places; diphtheria at 55; measles at 62; typhoid fever at 69; smallpox at 139; scarlet fever at 153; and consumption at 209 places.

**April Mortality.**—There were 2999 deaths reported as occurring in Michigan during the month of April, equivalent to a death-rate of 15.3 per 1000 per annum. This number is 489 less than the number reported for the preceding month and 47 less than the number of deaths returned for April, 1900. There were 497 deaths of infants under one year of age, 175 deaths of children aged one to four years, inclusive, and 884 deaths of persons aged 65 years and over. Important causes of deaths were as follows: Tuberculosis, 241; typhoid fever, 32; diphtheria and croup, 42; scarlet fever, 17; measles, 5; whooping-cough, 15; pneumonia, 361; influenza, 142; cancer, 101; accidents and violence, 132. The principal decline for the month was shown in the deaths from pneumonia and influenza, which were considerably less than those reported for March. Small amounts of decrease were also shown in the deaths from typhoid fever and scarlet fever. For the first time in some months, no death from smallpox was reported.

## MINNESOTA.

**Clinton Hospital** was destroyed by fire May 2.

**St. Luke's Hoepital,** Duluth, has received a donation of $5000 from John D. Rockefeller, and $1500 additional from the employees of the Mesaba road.

**A State Sanatorium Commission** has been appointed by the governor to select a site for the new sanatorium. It consists of Drs. George S. Wattam; H. Longstreet Taylor, St. Paul, and James L. Camp, Brainerd.

**The Swedish Hospital** authorities have accepted the plans offered by L. A. Lamoreaux in competition and will proceed at once with the erection of a hospital building at Eighth Street and Tenth Avenue, South, to cost about $40,000.

**Physician Arrested.**—For neglecting to notify the health authorities of a case of scarlet fever, a Minneapolis physician has been arrested, and an osteopath in the same city has been indicted for failing to report a case of smallpox, which he diagnosed as typhoid fever.

## NEBRASKA.

**Dr. Joseph H. Boyes,** Hebron, has been appointed city physician.

**Creighton Medical College,** Omaha, graduated a class of twenty-eight May 6. The doctorate address was delivered by Dr. Walter O. Henry.

**Bishop Clarkson Memorial Hospital for Children,** Omaha, has received a bequest of $3000 to endow a bed, from the estate of the late Maria Sheldon Scammon.

## NEW JERSEY.

**New Hospital for Insane.**—The new county insane asylum at New Lisbon is almost completed and the patients at Trenton will be transferred during May.

**The Children's Seashore House** at Atlantic City will reopen on June 1. During its incorporation it is stated that 22,000 patients have been cared for, and have been admitted without regard to creed, color, or nationality. This institution is dependent for its support on voluntary contributions.

**Scarlet Fever in Pensauken.**—The health authorities of Merchantville are much exercised over the existence of scarlet fever in Pensauken township, and it is feared that the disease will become more widespread unless the board of health of the latter place adopt more aggressive measures.

**Smallpox.**—Certain districts of New Jersey are at this time battling against smallpox. For two weeks past its presence has been known in Gloucester. At first the disease was pronounced chicken-pox, but as the patient died, the nature of the trouble became manifest. After the recognition of this case a search was made, and fourteen cases of smallpox found. It is now stated that the initial symptoms and signs were those of chicken-pox, which caused it to exist for some time before steps were taken to prevent it from spreading. It was decided to close the public schools as a precautionary measure. As a result of this state of affairs in Gloucester every practicing physician was ordered to appear before the board of health to explain why he had not complied with the law requiring that such diseases be reported. On May 8 two more deaths occurred from the disease, while 3 new cases were reported. On this date 600 employees in one factory were vaccinated. On May 6 three new cases of smallpox were found ten miles east of Vineland. It is believed that in this instance the disease was brought from New York. On May 4 a colored man from Haddonfield was taken to the Camden jail, where it was found that he was suffering from smallpox. This created a panic among the other inmates, which at this time has not entirely ceased. The jail has been placed in quarantine. The Camden City Medical Society, at its meeting May 7, passed resolutions commending the county physician and health authorities in their promptness in restricting the disease. On May 10 no new cases had been reported. The county almshouse and asylum at Blackwood has been placed under quarantine.

## NEW MEXICO.

**Dr. J. O. Cobb,** U. S. M.-H. Service, Alamogordo, has been ordered to San Francisco, Cal., to make a report on bubonic plague.

**Delegates to Tuberculosis Congress.**—Governor Otero appointed the following physicians to represent New Mexico, as delegates to the American Congress of Tuberculosis, held in New York City, May 15-17: Drs. James J. Shuler, Raton; John H. Sloan, Santa Fé; E. B. Shaw, Las Vegas; George W. Harrison, and Francis Crosson, Albuquerque; C. G. Cruikshank, San Marcial, and George W. Bryan, Alamogordo. Dr. Crosson, Albuquerque, presented a paper on "The Sanatorium Treatment of Tuberculosis in New Mexico."

## NEW YORK.

**Dedication of Sanatorium for Consumptives.**—On Memorial Day, Governor Odell, Vice-President Roosevelt, and other notable persons will assist in the dedication of the new sanatorium for consumptives belonging to the Montefiore Hospital. This sanatorium will accommodate 150 patients, and will be free. It is situated at Bedford Station, Westchester County.

**Broadcast Distribution of Samples.**—The Board of Health at Lockport is taking action against the pernicious traffic of leaving samples of dangerous nostrums at the doorsteps of houses. Two deaths have recently been attributed to taking these samples. A similar epidemic of sickness occurred among children in the east side of Buffalo, who ate sugar-coated pills in large quantities, thinking that they were candies.

### Buffalo.

**Dr. W. Scott Renner,** who has been in Berlin for the past two months, has returned to Buffalo.

**Dr. William Warren Potter** will deliver the doctorate address at the commencement exercises of the Hospital College of Medicine at Louisville, Kentucky.

**The anti-expectoration ordinance** prohibiting expectoration on the floors of street-cars, public buildings or in any public assembly place other than streets, sidewalks or parks is now a law. The maximum punishment is a fine of $100.

**Civic Sanitation.**—Health Commissioner Wende has addressed a communication to the police and to the medical profession of the city asking their co-operation in maintaining a proper sanitary standard in the city during the Pan-American Exposition, and to be on the alert for any contagious disease, especially smallpox.

**Dr. Ebenezer Johnson's Grave.**—In connection with the disinterment of bodies from the old North Street Cemetery in anticipation of using the site for the erection of a state armory, it is a curious fact that there seems reason to doubt the location of the remains of Buffalo's first mayor, a physician, Dr. Ebenezer Johnson. A movement is now on foot for the erection of a suitable monument in his memory.

### New York City.

**Drunkenness in Bellevue.**—Although strenuous efforts are being made to reform the service at Bellevue Hospital drunkenness among the help has been unusually prevalent. Since March 1, 173 have been discharged because of intoxication, out of a total of 562 employees. It is asserted that sober, responsible help can not be secured for the wages paid—$10 to $12.50 a month.

**Smallpox on the Increase.**—Smallpox is rapidly on the increase in spite of the efforts of the Health Department. In the first six days of May 107 cases were reported, and since that time there has been a daily average of a dozen or more cases. During the entire month of April only 199 cases were reported. Every section of the city is represented. In addition, each ocean liner brings about 1000 immigrants, many of them Italians, and they are furnishing many of the new cases. As a result of a general order issued by the chief of police all policemen in the city have been vaccinated within the last few days.

**New York University vs. Loomis Laboratory.**—Judge Truax, of the supreme court, has handed down a decision which terminates the litigation that has existed since 1897 between the New York University and the Loomis Laboratory, or rather the "Medical College Laboratory." According to this decision, the University must transfer to the Medical College Laboratory property valued at $150,000. The New York University Medical College was established in 1841 and conducted independently of the University until the incorporation of the Medical College Laboratory in 1883. The new corporation carried on the school until Feb. 8, 1897, when the property was deeded over to the university without conditions. Judge Truax holds that the sole consideration for this transfer was the promise to leave the control of the school to the grantor, that this promise has not been kept, and that as a contract can not be repudiated and the one doing so keep what has been obtained under it, the university must return the property. The opinion also holds that the Loomis Laboratory, now connected with Cornell University, is not held in trust for the New York University.

## OHIO.

**The Cincinnati College of Medicine and Surgery** held its fiftieth annual commencement exercises May 1, and graduated a class of sixteen.

**Dr. Phineas S. Conner,** professor of surgery in the Medical College of Ohio, and surgeon-in-chief to the Good Samaritan Hospital, has been appointed by the Superior Court a member of the Board of Trustees of the Cincinnati Hospital.

**Cleveland College of Physicians and Surgeons** held its fortieth annual commencement May 1, and conferred degrees on fifteen. Rev. Morgan Wood, D.D., in his address to the graduating class, reviewed the progress of medicine during the last half century.

**H. M. Hanna Research Fellowship.**—Mr. H. Melville Hanna, Cleveland, has given $12,000 to the Medical Department of Western Reserve University, the income of which is to be paid by the occupant of the fellowship, who shall devote himself to specific original investigation in physiology or pathology under the guidance and approval of the heads of those departments.

**Resignation of Dr. Rutter.**—Dr. H. C. Rutter, manager of the Ohio Hospital for Epileptics, Gallipolis, has been requested to resign by Governor Nash. It is reported that Dr. Rutter's summary discharge of Dr. Albert P. Ohlmacher, pathologist to the hospital, was the cause of this action on the governor's part. Dr. Ohlmacher, in a circular letter, asks the opinion of the profession of the state regarding the continuance of the work of the laboratory.

## PENNSYLVANIA.

**Board of Health Discharged.**—On May 7 the town council of Norristown dispensed with the services of the board of health of that city. A committee was appointed several weeks ago to investigate charges made against them, and failing to appear before council, this last action has been taken.

**Dr. Hallie L. Ewing**, Hastings, Neb., has been elected assistant physician in the women's department of the State Insane Asylum at Norristown. Dr. Ewing is a graduate of the University of Michigan, and has recently been connected with the Hospital for the Chronic Insane at Hastings, Neb.

### Philadelphia.

**The Medical Club of Philadelphia** has issued invitations to a reception given at the Hotel Bellevue, May 23, in honor of Surgeon-General Walter Wyman, United States Marine-Hospital Service.

**Dr. Alfred C. Croftan** has accepted a position in connection with the Pepper Laboratory of the University of Pennsylvania, and has moved from Pasadena, Cal., to Philadelphia.

**Dr. S. Lewis Ziegler** has been appointed surgeon to the Will's Eye Hospital, to succeed Dr. George C. Harlan, resigned. Dr. Ziegler is a graduate of the University of Pennsylvania, class of '85, and has been assistant surgeon to the Will's Eye Hospital for the past seven years.

**Dr. Thomas R. Neilson** has been elected clinical assistant professor of genito-urinary diseases in the University of Pennsylvania. Dr. Neilson is a graduate of the University, class of '80, is secretary of the College of Physicians, and is connected with several hospitals of this city.

**Nathan Lewis Hatfield Prize.**—The committee on the Nathan Lewis Hatfield prize for original research in medicine, of the College of Physicians, of Philadelphia, has awarded to Professor H. F. Harris, M.D., of Atlanta, Ga., $500 for an original research, conducted at the instance of the committee, entitled: "A Study of the Alterations Produced in the Large Intestine of Dogs by the Ameba Coli, by Heat, and by Various Chemic Substances, with Notes on the Anatomy and Histology of the Viscus."

**Anniversary of Pennsylvania Hospital.**—The celebration of the 150th anniversary of the founding of the Pennsylvania Hospital occurred May 1. The ceremonies began by an address from the president of the board of managers, who gave a review of the past history. Of nine representatives of Pennsylvania who signed the Declaration of Independence, two—Benjamin Franklin and John Morton—were for some time managers of the hospital, while Benjamin Rush served as a physician upon its staff for twenty-nine years. Among other eminent physicians who served on its staff and have only recently passed away are Drs. William Pepper, John Ashhurst, Jr., and Jacob M. DaCosta. The board has been reorganized as follows: Mr. Benjamin Shoemaker, president; James T. Shinn, secretary; Daniel D. Test, superintendent and steward; and Dr. John B. Chapin, superintendent of the insane department; Dr. Charles F. Mitchell succeeds Dr. Francis T. Stewart as chief resident physician. The medical staff has been filled by the appointment of Dr. Alfred Stengel to succeed the late Dr. J. M. DaCosta, and the surgical staff by the appointment of Dr. Robert G. LeConte to succeed Dr. Thomas G. Morton. Dr. Simon Flexner succeeds Dr. Henry W. Cattell as pathologist. Dr. Francis T. Stewart was appointed surgeon in the outpatient department to succeed Dr. Robert G. Le Conte, who was promoted to the surgical staff. The Pennsylvania Hospital is the oldest hospital in America, and its property is worth several millions of dollars.

**Emergency Detention House.**—For the purpose of detaining persons in Philadelphia who may land from foreign ports, the State Quarantine Board has established an emergency house at Marcus Hook, capable of accommodating 500 persons. In this way the station will be enhanced in value in its work to prevent infections or contagious diseases from gaining a foothold. The barracks consist of a frame building in which patients may be properly isolated. The pest-house with the crematory has been formally turned over to the officials of the State Quarantine Board. It is believed that this station is the second oldest in the world. The following statistics have been given out relative to the work done at this port during the past two years: Vessels inspected and passed, 2829; vessels spoken and passed, 180; vessels detained for observation, 34; vessels disinfected, 10; passengers inspected and passed, 35,509; passengers and seamen detained for observation and disinfection, 708; medical and surgical cases treated, 458; total number of vessels inspected, spoken and disinfected, 3053. The station is open day and night, and is in charge of fourteen attendants, including the crew at the tug station. The physicians are Drs. John B. Ward, and L. T. Kennedy. The quarantine grounds are enclosed by a high fence and visitors are rigidly excluded.

## GENERAL.

**Another Sacrifice to Dowieism.**—On May 13, a parturient woman died in Chicago from hemorrhage after an illness of two or three days, during which the only treatment employed was laying on of hands and prayer, both of which proved ineffective. Her infant also suffered martyrdom. Even the presence and prayer of Dowie himself are said to have been unable to cause hemostasis. Medical aid was refused, and the woman died. Her body was spirited away and embalmed by a convenient undertaker, but now the case is in the coroner's hands and a full investigation is promised.

**Uniform Medical Legislation.**—Dr. Emil Amberg, Detroit, secretary of the Committee on Interstate Reciprocity and Uniform Medical Legislation of the National Confederation of State Medical examining and Licensing Boards, recently issued a short article on the subject. In brief, he summarizes the conditions which render uniformity of medical laws difficult, emphasizing especially the discrimination of states against medical graduates of other states, the non-uniformity of medical teaching, of length of course and requirements for matriculation and graduation, and the fact that many medical schools are the property of corporations, for the benefit of the few. One of the most serious questions to be considered is the manifest overcrowding of the profession. It is reported, he says, that there is one physician to less than 600 inhabitants in the United States; whereas the ratio in Great Britain is one to 1100, and in Russia one to 8500. There are in the United States, proportionately, six times as many practitioners as in Italy, about four times as many as in France and in Germany, and there are about 156 medical schools in our country to 20 medical schools in Germany. In aiming at "interstate reciprocity for the license to practice medicine and at uniform medical legislation" all points mentioned, besides others, must be considered.

## CANADA.

**Dr. Donald Hingston**, son of Sir William Hingston, has been appointed superintendent of the Hotel Dieu Hospital, Montreal, to succeed Dr. St. Jacques, resigned.

**Appointments.**—Dr. C. M. Stewart, of Toronto, has been elected to fill the position of medical superintendent of the Protestant Hospital, Ottawa, and Dr. Richardson, of Brockville, has been appointed house surgeon.

**Western University.**—The spring examinations of this institution which is situated at London, Ont., were concluded on May 4. The past session has been the most successful in the history of the medical department, the increase in attendance having been most gratifying. Thirteen were graduated.

**Medical Examinations.**—Medical examinations began at Trinity University on May 10. Fifty-eight are writing on the final examination and forty-six at the primary. At Toronto University, fifty-three are writing in the final year, fifty-three in the third year, one hundred and three in the second, and one hundred and fifteen in the first.

**Damages for Slander.**—In a northern town two Ontario practitioners have been at loggerheads, owing to the younger one cutting into the practice of the older. A patient recently died under the care of the younger and the older offered to bet $50 to $100 that if a postmortem were made it would be found that the man had received the wrong treatment. Suit for damages for slander was brought by the younger, and the defendant had to pay $200, the judge stating he would have allowed the full amount asked for ($1,000), but for special circumstances.

**The Janitor at McGill.**—On Saturday morning, May 3, the medical building of McGill University was the scene of the annual presentation to Mr. Cook, the boys' best friend at McGill. "Cookie" was uniformed as usual in a dress suit of huge dimensions. He was presented with an address, in which all his beauties and achievements were eulogized and glorified. What was more acceptable, however, was a barrel of copper coin, from the boys of '03. It contained some $35, to which Cook made an elaborate reply in Shakespearean verse. A procession was then formed, and Cook was marched around Montreal all morning.

**Canadian Nurses' Association.**—The bill to incorporate the Canadian Nurses' Association came before the House Private Bills Committee on the 9th inst., when the Hon. James

Sutherland advised that it be left over for another session, as it was discriminating against the smaller hospitals. This, Mr. Clark, of Toronto, objected to. Mr. Sutherland explained that he objected to a committee of nurses passing on applicants for membership, insisting that a medical board should conduct the examinations. He presented correspondence in support of his contentions. The bill ought to be redrafted. Eventually a series of amendments were proposed; and as the bill now goes to the house, the nurses are given exclusive power to conduct their affairs, but they are not permitted to say who shall not become members. The graduates of any incorporated hospital are eligible for admission, but a candidate may be required to pass an examination before becoming a member of the order. For this purpose power is given the president of each provincial council in Canada to appoint a board of physicians who shall examine candidates whose names are submitted.

**Sir William Hingston.**—A very pleasing demonstration took place at the Hotel Dieu Hospital, Montreal, on the 6th inst., the occasion being the fortieth anniversary of Sir William's entering the hospital as a surgeon. Sir William has now reached his seventy-third year, but still continues in active practice, having only that day performed two difficult operations at the hospital. The ceremonies opened with celebration of mass in the chapel of the hospital by Archbishop Bruchesi, after which the surgeons of the hospital presented Sir William with an address accompanied by an urn of great value. The students of Laval University then gathered in the operating room and presented their esteemed professor with an address, and Lady Hingston with a splendid bouquet. Then the sisters of the institutions also paid their respects to Sir William and presented him with some relics brought from France by Mlle. Manee over two hundred years ago, and still preserved by her successors. The party then proceeded to one of the large halls extemporized for a dining room, where an enjoyable time was spent. They then repaired to one of the larger wards, where the patients were assembled. Dr. St. Jacques, in the name of the patients thanked Sir William for the many services he had rendered them during his forty years' connection with the hospital. Sir William, in replying expressed his surprise at receiving thanks from the patients when he had always been engaged in cutting off their arms or legs or taking out their eyes. However, he thought that he had never performed an operation in all his life which he did not think in the interests of the patient. Thus terminated a most pleasing event in the history of medical work in the city of Montreal.

## FOREIGN.

**Plague in India.**—The average number of deaths per week in India from this disease is approximately 11,000. It is decreasing in the southern part of the country.

**Prime Minister Waldeck-Rousseau,** of France, on account of the alarming spread of diphtheria, has issued a circular urging the prompt application of the antidiphtheria serum.

**The painters** of Grenoble, France, have instituted a strike against all their employers who use white lead (carbonate of lead); they demand the use of zinc white (commercial oxid of zinc), which is not poisonous.

**Plague at Cape Town.**—Up to May 13 there have been 610 cases of the bubonic plague, and 275 deaths. A large proportion of the cases have been Europeans, which evidently accounts for the comparatively low death-rate.

**Death of Dr. H. Napias.**—Paris has lost a prominent figure in Dr. H. Napias, who has been at the head of the department of "Public Assistance" since 1898. He died March 7 in his sixtieth year. He founded the "Société de Méd. Publique et d' Hygiène Professionelle" in 1874, and most of his numerous works were in the line of professional diseases and public hygiene. He recently published a quarto of 834 pages entitled "L'Assistance Publique en 1900."

**Professor Kohlstock,** whose death is reported from Tientsin, where he was chief of the German medical staff, was recognized as an authority on tropical diseases and sanitary organization. He accompanied the East African campaign of 1889, and was Koch's companion in his expedition to South Africa to study the cattle-plague. Kohlstock personally superintended the vaccinations which resulted in the extermination of the cattle plague in the German provinces. He had been decorated with sveral orders.

**Dr. Jean Foustanos,** of Syra, Greece, has been decorated with an order conferring knighthood, by the government of Greece. Besides numerous important works on diseases in Greece, venesection, etc., he has founded and edits two medical journals, one in Greek, which records the transactions of local societies and reviews foreign literature for the benefit of his countrymen; the other is published in French and presents to the scientific world the chief results of the works of members of the profession in Greece and Asia Minor. Both commenced modestly, but are constantly increasing in size and influence.

**Deaths Abroad.**—Other deaths reported are those of Dr. T. Wynen, assistant at the Marburg Institute of Hygiene, a victim of professional infection.——W. von Heineke, professor of surgery at Erlangen and one of the board that publishes the *Muenchener Med. Woch.*——The Italian papers state that Dr. Gibelli, of Cagliari, was shot by a nurse at the surgical clinic.——Dr. Curel, of Cagnes, was stabbed by a former patient, and Drs. Ambrosi and Massari, of Naples, were assassinated in their sleep by an attendant.——The death of Dr. Panzeri, is announced, founder of the Milan Orthopedic Institute and of the *Archivio Ortopedico.*—— Professor Sacchi, of Genoa.

## PARIS LETTER.

### Tuffier's Latest Article on Cocain Anesthesia.

Dr. Tuffier has kept his promise about answering the arguments brought against his method of anesthesia, and in the *Presse Médicale* of April 24, he has sought to justify the technique that he is now using at the Beaujon Hospital. In the article, that he published, he admitted that Leonard Corning was the first to have used the method. He had read his different memoirs on the subject and followed the speeches he had made before the Society of Surgeons of New York. He said he did not approve the manner in which his American colleagues had taken up the cudgels in his behalf, though he admitted that they were right in claiming the discovery. Corning had discovered this method of producing analgesia, he had seen its limits, its extent, the phenomena that accompany it and he had spoken of its application to surgery. But his memoirs remained ignored on the shelves of libraries. Still Tuffier added that he should not be influenced by the large number of German publications, nor feel the ironical comments that might be made, as he was quite willing to admit that Corning's name was inseparable from the history of intrarachidian cocainization. The chief merit of Bier is that he used this method for surgical operations, but Dr. Tuffier added that if he himself had been obliged to use his technique, he would not have dared to make any injections. Dr. Tuffier then went on to describe his operation and he insisted on the following points: the patient should receive the injection outside the operating room; the needle should be very small, and not have too long a point; the solution should be a 2 per cent. one of cocain. Dr. Tuffier tried ordinary saline solution, without any result; eucain, which he found had all the disadvantages of cocain without showing so great power; tropococain, which he tried on the recommendation of Schwartz, and which he found too weak. The puncture should be done on a level with the line which joins the two iliac ridges and the injection made very slowly, more than a minute being taken to inject one gram of liquid. Dr. Tuffier remarked that at the International Congress he had described the different accidents that might be seen, such as vomiting and headache. But as for cases of death during the operation, when Dr. Tuffier's technique has been carried out not a single one can be adduced. As for the six cases of death published by Dr. Reclus, there are two, those of Jullien and Tuffier, which prove doubtful even for Dr. Reclus; as for the other four, the first was just punctured and did not get a single drop of cocain, but died of tubercular meningitis; the second died six days after the operation from acute tuberculosis; the third died after an amputation and there was no autopsy. The same degree of uncertainty can be felt about Jonnesco's and Keen's cases. Dr. Tuffier ended his article by saying that he did not wish to defend intraraehidian injections against all other methods. He had lost but one patient from chloroform, so that he had no aversion to general anesthesia. He considered that this new means of anesthesia should be used in a limited number of surgical operations.

### Cocain Injections in Therapeutics.

Several new cases of treatment by cocain injections were cited by different members of the Society. Dr. Marie spoke of a patient suffering from lumbago, who was cured in eight minutes by an injection of 5 milligrams of cocain. But in a case of recent neuralgia of the scapular region and in one of subacute rheumatism of the lumbar region, there were no results. Professor Debove said he considered lumbar puncture too delicate an operation to be used as yet in the treatment of lumbago, and as Dr. Merklen remarked, small saline injections

give results which are just as good. Professor Debove cited two cases, where lumbar puncture was of benefit in the treatment of gastric crises such as are seen in locomotor ataxia. A patient, suffering from acromegalia, was punctured while having an attack of this sort, and the pressure in the intrarachidian space was so great that a jet of liquid came out. About 30 c.c. were evacuated and the pain ceased. In a case of tabes the result obtained was as surprising. It should not be thought, however, that a radical cure can be obtained in this manner. Dr. Achard spoke of a case of abdominal zona where the pain was much relieved by the use of an intrarachidian injection of 2 centigrams of eocain, and also of a man suffering from syphilitic myelitis and consequent painful priapism, who was relieved of this latter symptom by an injection of one centigram of eocain.

### Bier's Communication to the Berlin Congress.

One of the most important communications made at the Congress of Surgeons in Berlin was the address made by Dr. Bier. He admitted that he considered that the time had not as yet come for adopting it. His experiments were being carried out with certain objects in view—such as using eucain which has proved to be less dangerous than cocain. The brain and medulla oblongata should be protected as much as possible, and Dr. Bier has found it advantageous to place a rubber band around the neck without exerting too great a degree of constriction. This band is left in place two hours after the operation, but should not be used when there is any tendency to arteriosclerosis. Dilute solutions should also be employed, for instance 5 to 8 milligrams of cocain in 5 to 8 c.c. of pure water or water to which a certain amount of salt has been added.

### French and German Methods.

Among the different communications made on other subjects, a certain number show that German and French surgeons are not of the same opinion on certain subjects. Most German surgeons, such as von Bruns, Limon, Czerny and Henle, consider that castration is the best treatment of tuberculosis of the testicle, whereas König, Gussenbauer and Bier believe in temporization before adopting such vigorous methods. German surgeons prefer vaginal hysterectomy in cancer of the uterus, and most of them believe it is best to defer the operation in appendicitis. Braun and Krause gave their statistics in the treatment of epilepsy by extirpation of the cervical sympathetic nerve, and the results adduced seemed far from satisfactory. Kocher gave a new series of a thousand operations for goiter with only fourteen deaths.

## LONDON LETTER.

### The Destruction of Rats on Shipboard by Sulphur Dioxid.

The fact that plague is conveyed by rats has led to the introduction of the following method of destroying them in ships. Sulphur dioxid gas is generated in a chamber in which sulphur is spread on a wire netting in the proportion of 1 pound to every 250 cubic feet required. The sulphur is ignited with the help of alcohol and the gas is pumped into the bottom of the space to be treated. A pipe from the top of the space brings air back to the generator. The oxygen in the treated space, for instance the hold of a vessel, is thus gradually replaced by $SO_2$. This gas being much heavier than air diffuses slowly and the rats retire before it. When the hold is opened they are found dead at the highest parts—those nearest the exit pipe. This is important because otherwise rats may die behind partitions. The only drawback of this method is the tarnishing of gilding.

### Volvulus of the Ileum with Severe Intestinal Hemorrhage.

At the Clinical Society, Dr. J. H. Bryant described the case of a man aged 21 who was admitted to hospital with symptoms resembling intestinal colic which had come on after eating a large quantity of damson tart for supper. The lower abdomen was rigid and a hard mass was felt below and to the left of the umbilicus. During the next day the pain continued and in the evening, about 8 p. m., he became very collapsed and passed about a pint of bright-red blood and a large mass of undigested damson skins of about the size of a tennis ball. He was so blanched and collapsed that injections of strychnin and subcutaneous infusion of saline solution were ordered. During the night he continued to pass blood at intervals. On the following day he was still collapsed and became restless and delirious. He died on the fourth day. Just before death he brought up a large quantity of feculent fluid. Postmortem a volvulus of the ileum was found, 100 cm. of the gut being involved, the lowest portion of which was 10.5 cm. above the ileocecal valve. The wall of the gut was much thickened and felt edematous. The direction of torsion is from left to right. Dr. Bryant has not been able to find a recorded case of volvulus in which so much blood was passed per anum. Hemorrhage in any form of intestinal obstruction excepting intussusception is of exceptional rarity. After the occurrence of the hemorrhage and the collapse the patient was thought to be suffering from localized peritonitis and possibly mesenteric thrombosis or embolism. Volvulus was not suspected. Dr. Zum Busch remarked that he had met with a similar hemorrhage from intestinal obstruction in a case of hernia. A man aged 74 had a hernia which became irreducible. Herniotomy was performed to relieve the constriction. Next day he passed almost a pint of pure blood. On the sixth day after operation he died suddenly from cardiac failure. Postmortem, no lesion was found to account for the hemorrhage.

### Ureteral Calculus Simulating Vesical Calculus.

Mr. F. J. Steward described the case of a man aged 24 who had suffered for three years from attacks of painful micturition with hematuria. A week before admission to hospital the pain became more severe and the urine scarlet, and continued so. On admission there was much blood and a little pus in the urine. There were severe pains in the perineum and at the end of the penis, both during and apart from micturition. There was neither pain, tenderness nor fullness over either kidney or ureter. The bladder was sounded and two radiographs were taken, but with negative result. The case was thought to be one of encysted vesical calculus. The bladder was inflated with air and opened above the pubes, when a stone was felt impacted in the right ureter 2 inches from the orifice. The stone could not be moved down the ureter, so the wound was closed. Later a second operation was performed. An incision was made in the lower part of right linea semilunaris and the abdomen opened. The stone was pushed up the ureter to a point just above the common iliac artery. The ureter was incised and the stone removed. The incision in the ureter was closed by a continuous suture passing only through the outer coats; recovery followed. The calculus was cylindrical and weighed 9 gr. and measured one-half by one-third inches. It consisted of uric acid with a small deposit of phosphates in some places. The chief point of interest is the complete simulation of the symptoms of vesical calculus, there never having been a single symptom of an unilateral lesion. The suprapubic cystotomy was rendered extremely easy by the air distension, the peritoneum being lifted well up and the bladder reached with very little disturbance of the cellular tissue. The absence of the usual flooding of the wound on incising the bladder is another advantage of this maneuver.

### The Cause of Beri-Beri.

The cause of that mysterious tropical disease, beri-beri, appears to have been at last discovered. Captain E. R. Rost, I.M.S., civil surgeon of Meiktila, Burma, has been investigating the connection between beri-beri and a microbe found in rice and Jowari grain, and in the rice liquor which coolies and sepoys drink. He concludes that this microbe is the cause of the disease. But he is not the first to make this suggestion. In May of last year Mr. Charles Hose, D.Sc., who is not a medical man, but a naturalist, who has contributed largely to our national museums, has handed to Dr. Strangeways Pigg, of Cambridge, a paper in which he stated the results of investigations which he had been carrying on for some years in Borneo. He had suffered from the disease and it was mainly to this circumstance that was due his attention to the subject. He found that in Borneo the disease was much more prevalent among men than among women, that it was frequently contracted on a journey in the jungles of the interior, was more prevalent at certain seasons, and frequently occurred in outbreaks among Chinese coolies. The women in Borneo, who very rarely leave the villages for any length of time, live mainly on freshly husked rice, while the men are frequently absent in the interior on rubber-collecting expeditions for several months, and live on rice, which they carry in bags, and which becomes mouldy in the damp climate. Similarly the rice supplied in gaols has been kept in bags for considerable periods, and is often mouldy. By microscopic examination Mr. Hose found a fungoid growth on this mouldy rice. He then tried the experiment of feeding three monkeys *(macacus nemestrinus)* on old rice. Two of the three developed the characteristic nerve symptoms of the disease, but not the characteristic edema of the legs. Thirty-nine Dayaks, who had contracted beri-beri during their expeditions were placed in villages where only freshly-husked rice was used. 33 recovered and 6 died. On

the other hand, of 128 who continued to live on imported rice 47 died. Mr. Hose has forwarded to Cambridge specimens of this mouldy rice for examination. It is reported that beriberi has broken out among the Chinese coolies employed in Christmas Island, which owing to its isolation has only recently become inhabited. This offers a unique opportunity for the scientific study of the disease which it is hoped the Government will take advantage of.

# Correspondence.

### Adhesive Rubber Dam.

CHICAGO, May 14, 1901.

*To the Editor:*—In reply to the criticism of Dr. Fenton B. Turck, in THE JOURNAL dated May 6, I regret exceedingly that the Doctor does not distinguish between the aseptic *adhesive* rubber dam described in my article and the rubber dam, not adhesive, which he advocated in THE JOURNAL of June 9, 1900, or the one mentioned in the *Medical Record* of Aug. 11, 1900, "being held in place with straps and buckles," to use the Doctor's description; or the one mentioned in the *Philadelphia Medical Journal*, March 30, 1901, p. 622, which latter article was published after the dam which I described was made and used publicly in my clinic, and after I had promised my article to the editor of THE JOURNAL. The dam I describe is not put on with bisulphid of carbon cement, nor with any of the Doctor's several special cements made for that purpose. The desirability of material for the prevention of infection from the skin was not original with Dr. Turck nor myself. The trouble with the Doctor's dam is that it lacks the elements to make it stick. If he will give the profession the name of the manufacturer and the date of manufacture of his adhesive rubber dam similar to that produced by Johnson and Johnson, I think the profession will appreciate it. I would further refer him to my correspondence between Mr. Truax, Elwood Lee & Co., and Bauer & Black, in our efforts to secure the adhesive rubber dam described in my article. Very truly yours,

J. B. MURPHY, M.D.

### Anesthesia During Sleep.

ST. LOUIS, MO., May 4, 1901.

*To the Editor:*—In view of the fact that I have not been able to find a recorded case of a sleeping individual being placed under the influence of an anesthetic without first awaking, and also from the medicolegal bearing which such a record would have—an expert medical witness in the recent trial in New York City in the Rice Will Case having stated that such a feat was impossible—I report three cases in which I succeeded in accomplishing such anesthesia:

CASE 1.—Dr. T. C. Witherspoon, professor of surgery in the Marion-Sims College of Medicine, St. Louis, requested me to give chloroform to a healthy boy of about 4½ years for a small operation. On arriving at the home we found the child asleep and I proceeded to administer the chloroform, and the child went under its influence easily; only once did he make a move, and that was to turn his face away from the mask.

CASE 2.—I was to operate for circumcision, on a healthy boy of 8 years. Being a somewhat refractious child, when I was ready to operate I told him I would give him a piece of money if he would go to sleep and not bother me, and within thirty minutes after lying down he was sound asleep and I started the anesthetic, which was chloroform. He went under the influence easily, excepting only one moment, when he turned his face away from the mask.

CASE 3.—A boy of about 7 years, healthy, had sustained an injury around his left shoulder joint, the nature of which was impossible to determine exactly on account of pain and the rebellious nature of the child. I accompanied Dr. C. E. Walker, physician in charge. The boy was asleep when we arrived and I requested that he be not awakened. I began the administration of the chloroform and succeeded in bringing him under its effects without his so much as turning the face away from the mask as the previous subjects had done. The child slept sometime afterward, about three hours, and when he woke up asked when the doctors were coming. He knew we were expected and fell asleep while waiting for us.

These three cases were all boys between the ages of 4 and 9 years, the anesthetic being chloroform in each case, and at the time of their occurrence I was fresh from college, but had had considerable experience as an anesthetist. There being no difficulty encountered in any one of them I did not consider them out of the ordinary and do not think so yet.

P. G. PAUGH, M.D.

# Association News.

### Report of the Committee on Transportation.

The Committee on Transportation reports that the Central Passenger Association has changed its former ruling in the matter of rates for the medical meetings in St. Paul, Minn., May 30 to June 7, from one fare and a third, on a certificate plan, to the more favorable rate of one fare plus $2 for the round trip throughout its territory. The Association has not, however, agreed to the stop-off privilege at Milwaukee, but grants the time limit and restrictions agreed to by the Western Passenger Association, to July 15, thus allowing time for the excursion from St. Paul to the Yellowstone National Park. The Committee yet hopes to get a subsequent ruling favorable to this stop-off. The Trunk Lines and the New England roads are considering the requests of the committee in the matters of rates and time extension, and their action will be promptly reported in THE JOURNAL when received.—H. L. E. Johnson, M.D.; Miles F. Porter, M.D.; I. N. Love, M.D., Committee on Transportation.

### Reception and Ball.

On the evening of June 6, the physicians of Minneapolis will give a reception and ball in honor of the members of the AMERICAN MEDICAL ASSOCIATION, at 8 o'clock. It will be held in the Armory and Campus of the University of Minnesota, Minneapolis. All the buildings of interest to physicians will be illuminated and open for inspection.

### Reception to Women Physicians.

The women physicians of St. Paul and Minneapolis, Minn., will tender a reception to the women physicians attending the St. Paul meeting, on Tuesday evening, June 4. They are requested to register at the headquarters for women physicians, 140 Lowry Arcade, as early as possible.

# Book Notices.

THE THEORY AND PRACTICE OF MILITARY HYGIENE. By Edward L. Munson, A.M., M.D., Captain Medical Department, United States Army. Illustrated by 8 Plates and Nearly 400 Engravings. Cloth. Pp. 971. Price, $8.00. New York: William Wood & Co. 1901.

This book fills a want which has been seriously felt since April, 1898, when the army increased from 25,000 to 250,000 men and its medical force had to be correspondingly augmented. The rapidity with which this increase was effected gave no time for the extension of a practical knowledge of military sanitation from the experienced medical officers of the army to the hastily organized medical force attached to the volunteer army. The want of a good text-book on military hygiene was then fully realized. It may safely be said that if a work of the kind now under review had been in the hands of our hastily enrolled volunteer medical officers in 1898 and had been carefully studied by them much sickness and suffering might have been prevented. The author writes with a facile pen and his discussions of controverted subjects are carried on in a manner which gives the reader an easy appreciation of the views inculcated. The ground also is thoroughly covered.

The book opens with a consideration of the average physical proportions of the United States soldier, the method of examining candidates for enlistment and the conditions which disqualify for the military service. The value of systematic physical training in the development of the recruit and the best means for effecting this are fully discussed. Greater attention

has been given to the importance of physical training by the military authorities of foreign armies than by our War Department. The author urges the establishment of special schools for the training of instructors in gymnastics and physical exercises and the appropriation or allotment of money for providing and maintaining an adequately equipped gymnasium at every military post. Such preparation enables the soldier to undergo the fatigues and exposures incidental to active service with less risk of breaking down under them.

The water supply, rations, clothing and equipments of the soldier are next considered. The chapter on water deals only with the conditions met with in military practice. Hence no space is given to slow sand filtration or to mechanical filtration with alum as a coagulant as methods of purification, these being of more interest to the municipal hygienist than to the military sanitarian; but the filters used by our troops during the Spanish-American War, the Berkefeld, the Pasteur-Chamberland and the Maignen filters are described and illustrated, together with the Waterhouse-Forbes sterilizer now furnished to many of the commands on duty in the Philippines. The ration is exhaustively discussed even to the cooking of its various constituents, particularly on field service and the subject is taken up from another point of view in a subsequent chapter on the hygiene of hot and cold climates. Camps and their sanitary administration are well illustrated by diagrams and engravings of tents, huts, latrines and crematories for garbage and excreta. Posts, barracks, quarters and hospitals are also well illustrated by plans and engravings. The description of the lighting, heating and ventilation of these buildings, of their plumbing when connected with a sewerage system and of the ultimate disposal of the sewage necessarily loses much of the military tone as the principles and practice involved are the same in military as in civil communities. In a valuable chapter on military morbidity and mortality and another on the diseases of the soldier, the experiences of our own army during the years of peace preceding the Spanish-American war and during and since that outbreak furnish many of the illustrative statistics. An excellent article on disinfectants and their use follows the discussion of the infective diseases. Alcoholism, venereal diseases, insanity and suicide receive careful attention at the hands of the author who is, like most army officers, an ardent advocate of the recently suppressed canteen system. It is not possible, however, to do more than indicate the general scope and character of the work. Captain Munson's work has been well done and his Hygiene will no doubt be a standard for many years to come to all American students of military sanitation for the experiences and statistics of our own army, so largely cited in the work, will appeal to them with greater directness and emphasis than similar data derived from British or other foreign sources. The book has received the approval of Surgeon General Sternberg and has been adopted for use in the army.

HUMAN PLACENTATION.—An account of the changes in the Uterine Mucosa and in the Attached Fetal Structures during Pregnancy. By J. Clarence Webster, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology in Rush Medical College, etc., with 235 Illustrations. Cloth. Pp. 126. Chicago: Price, $3.75. W. S. Keener and Co. 1901.

This work is a comprehensive study of the human placenta, and is based upon investigations conducted by the author during eleven years in the College of Physicians, Edinburgh; McGill University, Montreal; and Rush Medical College, Chicago. It covers a study of the uterus during the second, third, fourth, fifth sixth, seventh, eighth and ninth months of pregnancy, in the first and second stages of labor, in the third stage—removed by Porro-Cesarean section—and during various stages of the puerperium. In addition he has studied a number of complete abortions in the early weeks, as well as the placenta and membranes in the late months of pregnancy. In order to investigate the mammalian relationships of the human placenta the uterus was examined in various stages of pregnancy, in the mouse, rat, rabbit, guinea-pig, pig, sheep and cow. The book is illustrated with more than two hundred figures, the great majority of which are reproduced from drawings and micro-photographs by the author. These illustrations demonstrate with accuracy the changes in the decidua and attached fetal structures throughout the greater part of gestation. The descriptive part of the work consists of 126 pages, including the bibliography. The press-work and the reproduction of the illustrations—almost wholly by the half-tone process—are quite satisfactory.

This work forms a most substantial contribution to the interesting department of embryology, with which it deals and in which there exist such great differences of opinion. It is believed that Professor Webster's interpretations of his results will go far toward the settlement of many of the disputed points, as for instance, that in regard to the origin of the syncytium, which is of special interest on account of its relations to the genesis of the so-called "Deciduoma malignum." There seems to be little doubt but that syncytium as well as the cells of Langhans' layer are of fetal epiblastic origin. The discussions of moot questions are all marked by a calmness and clearness creditable to the author's scientific spirit and learning. This is consequently an example of a kind of book which we have entirely too few in this country, namely the scientific monograph. As more extended scientific investigation is undertaken the need for this form of publication is sure to make itself felt. It would be an undoubted gain for scientific medicine in America if our medical book publishers could see their way clear to undertake the publication of monographs as has been done and is being done so satisfactorily in Germany and other countries.

## Married.

E. E. PARKER, M.D., to Miss Dora Moss, both of Flora, Ind., April 30.

J. NUMA ROUSSEL, M.D., to Miss Amelie Dugué, both of New Orleans, April 30.

GEORGE E. SHAMBAUGH, M.D., Chicago, to Miss Edith Capps, of Jacksonville, Ill., May 1.

EDWARD A. BLOUNT, M.D., Nagadoches, Texas, to Miss Minnie Lewis, of New Orleans, April 23.

CHARLES LOUIS FINCKE, M.D., to Miss Mattie Ireson Brown, both of Brooklyn, N. Y., April 25.

FREDERICK N. C. GERAULD, M.D., Circle, Alaska, to Miss Huddleston, of Buffalo, N. Y., May 7.

HUGO A. ENGELHARDT, M.D., Houston, Texas, to Miss Elsie Tristram, of Brenham, Texas, May 1.

WILLIAM F. MALONE, M.D., to Miss Adelaide Peck, both of Milwaukee, Wis., at Chicago, April 30.

JOHN A. HARDY, M.D., Faeger, W. Va., to Miss Virginia T. Armistead, at Williamsburg, Va., April 24.

WILLIAM EDWARD ANDERSON, M.D., to Miss Pearl Horton Venable, both of Farmville, Va., April 30.

CORNELIUS ALLEN HARPER, M.D., to Miss Elizabeth Louise Bowman, both of Madison, Wis., April 22.

## Deaths and Obituaries.

**M. Albert Rhoades, M.D.**, Jefferson Medical College, Philadelphia, 1868, assistant demonstrator of anatomy, Jefferson Medical College; member and president for 11 years of the Reading Board of Health; for twenty-five years on the staff of St. Joseph's Hospital, Reading; sometime president of the Bucks County Medical Society and a member of the Board of Trustees and Judicial Council of the Medical Society of Pennsylvania, died at his home in Reading, where he had practiced for more than thirty years, May 4, after an illness of three years, aged 54 years.

**Samuel Kuypers Lyon, M.D.**, College of Physicians and Surgeons, New York, 1868, while in a New York street, on his way to make a professional visit on May 4, was seized with a hemorrhage and expired soon after having been taken into a physician's office. He was for thirty years a surgeon of the

New York police department, and a fellow of the American Academy of Medicine. Besides being a member of the New York Academy of Medicine and the New York County Medical Association, he was identified with many other scientific bodies.

**Harold Snowden, M.D.,** died at his home in Alexandria, Va., from paralysis, May 4, aged 65. After graduation in medicine and a brief practice he began newspaper work in 1852 upon the Alexandria *Gazette*, of which he was editor at the time of his death. During the Civil War he served as surgeon in the Old Dominion Rifles and later in the 17th Virginia Infantry. Dr. Snowden also served several terms in the Virginia Legislature.

**E. Stanley Perkins, M.D.,** University of Pennsylvania, Philadelphia, 1869, who had practiced for many years in Germantown, a member of the faculty of the Medico-Chirurgical College and an examining physician of the Philadelphia Pension Board, died at Germantown Hospital, May 6, after an operation for peritonitis, aged 56.

**George C. Jarvis, M.D.,** New York University, 1860, Surgeon of the Seventh Connecticut Infantry throughout the Civil War, for many years a consulting physician of the Hartford Hospital, and a member of the American Medical Association, died from pneumonia at his home in Hartford, Conn., April 7, aged 67.

**David H. Bartine, M.D.,** University of Pennsylvania, 1862, surgeon of the 114th Pennsylvania Volunteers in the Civil War, a prominent physician of New Jersey and president of the Board of Health of Merchantville, died at his home in that place, May 3, from heart disease, aged 59.

**William W. Walker, M.D.,** Tulane University, New Orleans, 1871, one of the early settlers of Schulenburg, Texas, died at his home in that place, May 5, from subacute peritonitis. He was a member of the American Medical Association.

**Ephraim Lewis Warren, M.D.,** Berkshire College, Pittsfield, Mass., 1848, who had practiced medicine for more than half a century in Massachusetts, a veteran of the Civil War, died at his home in Melrose, Mass., April 27, aged 78.

**Abraham Deyo, M.D.,** College of Physicians and Surgeons, New York, 1851, and for many years a practitioner in Newburgh and Gardiner, died at his home in that town, May 4, after a long illness following la grippe, aged 71.

**Francis P. Griffith, M.D.,** Willoughby University, Willoughby, Ohio, 1845, who had practiced in La Grange, Ind., for many years, and was health officer of La Grange County, died at his home in that place, April 29, aged 82.

**Elwin Humphrey, M.D.,** Western Reserve University, Cleveland, Ohio, 1865, who had practiced for nearly forty years in Akron, Ohio, died from apoplexy at his home in that city, May 4, after an illness of two days, aged 72.

**Julius Boushey, M.D.,** Medical College of Ohio, Cincinnati, 1874, for more than twenty-five years a practitioner of San Francisco, died at his home in that city April 29, after a protracted illness, from lung disease.

**Marcellus A. Alexander, M.D.,** University of Louisville, 1870, was found dead in his house in Okeene, Okla., April 30, apparently from chloroform poisoning. He was about 70 years of age.

**George Reid Dinsmoor, M.D.,** Bellevue Hospital Medical College, New York, 1865, died after a period of invalidism of twenty-three years, at his home in Keene, N. H., April 28, aged 59.

**Orlando Mitchell, M.D.,** Medical College of Indiana, Indianapolis, 1878, a prominent physician of Marshall, Ill., and a member of the board of pension examiners, died at his home, April 3.

**John Thruston, M.D.,** University of Louisville, 1855, the oldest native born practicing physician in Louisville, died in that city, May 2, after an illness of three years, aged 75.

**Leonard H. Coe, M.D.,** University of California, San Francisco, 1896, of Fresno, Cal., died April 24, at Denver, Colo., where he had gone in the hope of bettering his health.

**John V. Martin, M.D.,** formerly a practitioner of Washington, Iowa, died in the State Hospital at Mount Pleasant, Iowa, May 2, after an illness of several months, aged 40.

**William C. Harris, M.D.,** Central College of Physicians and Surgeons, Indianapolis, 1881, died suddenly from apoplexy at his home in Roachdale, Ind., May 1, aged 73.

**Byron R. Evans, M.D.,** Starling Medical College, Columbus, Ohio, 1898, died at his home in Shawnee, Okla., April 28, from the results of a carbuncle on the neck, aged 33.

**Frank M. Kirby, M.D.,** Columbus (Ohio) Medical College, 1882, of Rockford, Ohio, died at a private sanatorium in St. Louis, April 22, after a long illness.

**Selton W. Stevens, M.D.,** Jefferson Medical College, Philadelphia, 1894, of Scranton, Pa., died April 25, a week after an operation for appendicitis, aged 39.

**William Bovie, M.D.,** University of Michigan, Ann Arbor, 1858, died at his home in Augusta, Mich., from pneumonia, April 25, aged 73.

**Frederic Wyland, M.D.,** Columbus (Ohio) Medical College, 1891, died at his home in Columbus, May 6, after a prolonged illness.

**William D. Boozer, M.D.,** University of Nashville, 1874, died after an illness of ten years, at his home in Hogansville, Ga., April 25.

**Felix G. Brown, M.D.,** Washington University, St. Louis, 1868, died suddenly at his home in Hutchinson, Kan., April 30, aged 57.

**Tandy Allen, M.D.,** for the last ten years a resident of Kona, Hawaii, died suddenly at his home in that place, April 11, aged 44.

**William M. Brunt, M.D.,** Kentucky School of Medicine, Louisville, 1891, died suddenly at his home in Eddyville, Iowa, April 24.

**Francis T. McIntosh, M.D.,** Albany (N. Y.) Medical College, 1886, died at his home in Troy, N. Y., May 5.

**Miles R. Biggar, M.D.,** Detroit (Mich.) Medical College, 1883, died at his home in Detroit, April 30.

**Marion M. Pafford, M.D.,** Atlanta (Ga.) Medical College, 1895, died at his home, Cecil, Ga., May 6.

# Societies.

## COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
North Dakota Medical Society, Fargo, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Laryngological Association, New Haven, Conn., May 27-29, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.
Indian Territory Medical Association, Vinita, June 4-5.
American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
Oregon State Medical Society, Portland, June 11-12.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 11-13.

Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

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**American Climatological Association.**—The Eighteenth annual meeting will be held at the Cataract House, Niagara Falls, N. Y., May 30, 31, and June 1, under the presidency of Dr. Robert H. Babcock, Chicago. The program will include the president's address and papers on:

"Puerto Rico: Its Climate and its Diseases," by Dr. Charles H. Alden, Assistant Surgeon-General, U. S. A., Ret'd.; "The Fevers of Florida," by Dr. Frank Fremont-Smith, Palm Beach, Fla.; "Climatology of Augusta, Ga.," by Dr. Thomas D. Coleman, Augusta; "Remarks on the Climatic Influences of Newport, R. I.," by Dr. W. C. Rives, Newport; "Nantucket and the Ocean Climate," by Dr. Harold Williams, Boston, Mass.; "Notes on the Climate of New York and New England," by Dr. Guy Hinsdale, Philadelphia, Pa.; "Some Observations on Southern California," by Dr. Samuel A. Fisk, Denver, Colo., and Dr. Norman Bridge, Los Angeles, Cal.; "Further Diagnostic Tests with Tuberculin," by Dr. Edward O. Otis, Boston, Mass.; "Two Cases of Aneurism of the Heart and one of Spontaneous Rupture of the Heart," by Dr. R. G. Curtin, Philadelphia, Pa.; "The Association of Tuberculosis and Syphilis," by Dr. F. I. Knight, Boston, Mass.; "A Case of Mechanical Obstruction of a Bronchus Simulating Rapid Phthisis," by Dr. J. B. Walker, Philadelphia, Pa.; "Piece of Meat in Bronchus—Disappearance by Absorption—Recovery," by Dr. Thomas W. Harvey, Orauge, N. J.; "The Selection of Favorable Cases of Pulmonary Tuberculosis for Sanatorium Treatment," by Dr. E. R. Baldwin, Saranac Lake, N. Y.; "The Carrying out of the Hygienic Treatment of Pulmonary Tuberculosis Outside of Sanatoria," by Dr. Charles L. Minor, Asheville, N. C.; "Devitalized-air Toxemia a Prime Cause of Tuberculosis," by Dr. Charles Denison, Denver, Colo.; "Cases in which the Tuberculin Test seemed Justified and Decisive," by Dr. W. E. Casselberry, Chicago; "The Home Treatment of Tuberculosis," by Dr. Leonard Weber, New York City; "The Home Treatment of Tuberculosis," by Dr. Irwin H. Hance, Lakewood, N. J.; "The Importance of Early and Radical Climatic Change in the Cure of Pulmonary Tuberculosis," by Dr. Charles Fox Gardiner, Colorado Springs, Colo.; "Clinical Aspects of Spa Treatment," by Dr. Beverley Robinson, New York City; "Analogous European and American Mineral Springs," by Dr. Guy Hinsdale, Philadelphia, Pa.; "The Relation of Sunshine to the Prevalence of Influenza," by Dr. Howard S. Anders, Philadelphia, Pa.; "A Case of Pulmonary Osteoarthropathy," by Dr. R. C. Newton, Montclair, N. J.; "The Physiological Influence of Climate on Nervous Diseases," by Dr. F. Savary Pearce, Philadelphia, Pa.; "The Use of Strychnia in Diseases of the Heart," by Dr. Abraham Jacobi, New York City; "The Cause of Death in Aneurysms of the Thoracic Aorta which do not Rupture," with report of two cases, by Dr. H. D. Arnold, Boston, Mass.; "The Etiology, Pathology, and Clinical Aspects of the Bovine Heart," by Dr. Leonard Weber, New York City; "The Hygienic and Mechanical Treatment of Heart Disease," by Dr. Boardman Reed, Philadelphia, Pa.; "A Case of Chronic Endocarditis," by Drs. Judson Daland and W. D. Robinson, Philadelphia, Pa.; "The Value of the Terms 'Cured,' 'Arrested,' and 'Improved'in Relation to Pulmonary Tuberculosis," by Dr. J. Edward Stubbert, Liberty, N. Y.; "The Increased Corpuscular Count of the Blood at High Altitudes, Especially on Rapid Ascent," by Dr. W. A. Campbell, Colorado Springs, Colo.; "The Influence of the Colorado Climate upon Pulmonary Hemorrhages," by Dr. Sherman G. Bonney, Denver, Colo.; "Proper Definitions of the Terms Following: 'Pretubercular or Prebacillary Stage,' 'Incipient Stage,' 'Moderately Advanced Stage,' 'Far Advanced Stage,' 'Improved Condition,' 'Arrested Condition,' and 'Cured or Apparently Cured Condition,' as Applied to Pulmonary Tuberculosis," by Dr. J. Edward Stubbert, Liberty, N. Y.; and "The Use of Guaialine in the Treatment of Pulmonary Tuberculosis," by Dr. W. W. Bulette, Pueblo, Colo.

**Alumni Association of Creighton Medical College, Omaha, Neb.**—The alumni, at their meeting, May 7, elected Dr. Edwin C. Henry, president; Dr. Rudolph Rix, secretary, both of Omaha, and Dr. Adda G. Wiley, South Omaha, treasurer.

**American Laryngological, Rhinological and Otological Society.**—The Seventh annual meeting of this Society will occur on May 23 to 25 in the New York Academy of Medicine, President Dr. Robert Cunningham Myles, New York City, in the chair.

**American Orthopedic Association.**—The fifteenth annual meeting of this association will be held at Niagara Falls, N. Y., June 11 to 13, under the presidency of Dr. Arthur J. Gillette, St. Paul, Minn. The sessions will be held in the parlors of the International Hotel.

**Cape May County (N. J.) Medical Society.**—At the annual meeting of this society on May 2 the following officers were elected: Dr. John S. Douglass, Tuckahoe, president; Dr. Joseph C. Marshall, Tuckahoe, vice-president; secretary, Dr. Nathan Cohen, Wildwood, secretary, and Dr. Randolph Marshall, Tuckahoe, treasurer.

**Gulf Coast Medical Association.**—The most important business transacted at the annual meeting of this Society at Pass Christian, Miss., May 1, was the unanimous adoption of a resolution strongly protesting against the abolition of Dry Tortugas as a marine quarantine station.

**American Gynecological Society.**—The twenty-sixth annual meeting of this Society will be held in the Fine Arts Building, Chicago, May 30 and 31 and June 1. Dr. Eli Van de Warker, Syracuse, N. Y., will preside, and Dr. Fernand Henrotin, Chicago, will deliver the address of welcome.

**Denver Clinical Society.**—This Society, which is composed entirely of women, gave its annual dinner, April 26, at which Dr. Mary Elizabeth Zakrzewska, Boston, the first woman to receive a medical diploma in the United States, was the guest of honor. Dr. Mary E. Bates acted as toastmaster.

**Livingston County (Ill.) Medical Society.**—This Society met for organization at Pontiac, April 27, and elected the following officers: Dr. James J. Pearson, Pontiac, president; Dr. Charles L. Hamilton, Dwight, vice-president, and Dr. John Ross, Pontiac, secretary and treasurer.

**Alumni Association of the Detroit College of Medicine.**—At the annual meeting of this body in Detroit, May 9, Dr. J. E. Davis, Detroit, was elected president; Dr. T. B. Scott, Vernon, vice-president; Dr. George C. Bassett, Detroit, financial secretary, and Dr. Charles T. Southworth Monroe, historian.

**Clark County (Ohio) Medical Society.**—The annual meeting of this Society was held in Springfield, May 2. The following officers were elected: Dr. Bennetta D. Titlow, president; Drs. Charles L. Minor and James A. Link, vice-presidents and Dr. William B. Patton, secretary and treasurer, all of Springfield.

**Oklahoma Medical Association.**—The ninth annual meeting of this Association was held in Oklahoma City, May 8. Dr. Charles W. Fisk, Kingfisher, presiding. Dr. Reuben D. Love, Perry, was elected president; Dr. John H. Scott, Shawnee, vice-president, and Dr. Eugene O. Barker, Guthrie, secretary and treasurer.

**American Gastro-Enterological Association.**—This Association held its fourth annual meeting in Washington, D.C., May 1, and elected Dr. John C. Hemmeter, Baltimore, president, Drs. William D. Booker, Baltimore, and Samuel J. Meltzer, New York City, vice-presidents and Dr. Charles D. Aaron, Detroit, Mich., secretary and treasurer.

**Maryland Alumni of Baltimore Medical College.**—The annual meeting and banquet of this Association took place at Baltimore, April 16. The following officers were elected: Dr. Edward L. Whitney, president; Dr. Gustav Goldman, vice-president; Dr. Thomas R. W. Wilson, secretary, and Dr. James C. Lumpkin, treasurer, all of Baltimore.

**Alumni Association of University College of Medicine, Richmond, Va.**—At the annual meeting of this Association, held in Richmond, May 2, Dr. Thomas M. Lippitt, U. S. Navy, was elected president; Dr. Charles R. Turner, Richmond, vice-president; Dr. Roshier W. Miller, Barton Heights, secretary and treasurer and Dr. Marvin E. Nuckols, Richmond, essayist.

**Linton District (Mo.) Medical Society.**—The twenty-ninth annual meeting of this Society was held in Mexico, May 7, when the following officers were elected: Dr. Arthur R. McComas, Sturgeon president; Drs. R. Lee Alford, Vandalia, and Robert I. Gibbs, Hatton, vice-presidents; Dr. Edwin S. Cave, Mexico, secretary and Dr. Martin Yates, Fulton, treasurer.

**Hudson County (N. J.) District Medical Society.**—At the annual meeting of this Society, held in Jersey City, May 7, delegates to the State Medical Society and THE AMERICAN MEDICAL ASSOCIATION were appointed and the following officers elected: Dr. John C. Parsons, president; Dr. Henry H. Brinkerhoff, treasurer, and Dr. Charles H. Purdy, secretary, all of Jersey City.

**District Medical Association of Central Illinois.**—The twenty-seventh annual meeting of this Society was held in Pana, April 30, at which the following officers were elected: Dr. Thomas L. Catherwood, Shelbyville, president; Dr. Everett J. Brown, Decatur, and George W. Fringer, Pana, vice-presidents; Dr. John H. Miller, Pana, treasurer, and Dr. C. R. Spicer, Taylorville, secretary.

**Association of Military Surgeons of the United States.**—This Association will meet in St. Paul, May 30, under the presidency of Dr. Alexander J. Stone, St. Paul. The Committee of Arrangements offers the following program of entertainment: Thursday evening, reception at the Aberdeen Hotel; Friday evening, annual dinner at the Aberdeen Hotel; Saturday afternoon, carriage drive to Fort Snelling; Saturday evening, theater party at Metropolitan Opera House.

**Alumni Association of the College of Physicians and Surgeons, Baltimore, Md.**—The annual meeting of this Association was held in Baltimore, April 27, at which the following officers were elected: Dr. William J. Todd, Mount Washington, president; Drs. William Gombel and T. S. Lowry, Baltimore, vice-presidents; Dr. Charles E. Brack, Jr., Baltimore, treasurer, Dr. Harry Knapp, secretary, and Dr. G. W. Roehrer, assistant secretary.

**National Confederation of State Medical Examining and Licensing Boards.**—This body will convene in St. Paul, June 3, and requests that every state or territorial board whose duty it is to examine or license physicians intending to practice in the jurisdiction of the board, by whatsoever name it may be called, affiliate with the National Confederation. The meeting will be presided over by the president, Dr. J. N. McCormack, Bowling Green, Ky.

**Kansas State Medical Society.**—The thirty-fifth annual meeting of this Society was held in Pittsburg, May 1, 2 and 3. Dr. Lewis H. Mann, Topeka, was elected president; Dr. James W. Ryan, Coffeyville, vice-president; Dr. William E. McVey, Topeka, recording secretary; Dr. James W. May, Kansas City, corresponding secretary and Dr. William E. Barker, Chanute, treasurer. The Society decided to establish and publish a medical journal in Topeka, and to meet for the 1902 session at Lawrence.

**American Therapeutic Society.**—The annual meeting of this Society was held in Washington, D.C., May 7 to 9. The following officers were elected: Dr. Reynold Webb Wilcox, New York City, president; Drs. Howard H. Barker, Washington; Thomas E. Satterthwaite, New York City; and Leon L. Solomon, Louisville, vice-presidents; Dr. Noble P. Barnes, Washington, secretary; Dr. William M. Sprigg, Washington, recorder, and Dr. John S. McLain, Washington, treasurer. The Society will meet in New York City, May 2, 1902.

**Western Alumni Association of the University and Bellevue Hospital Medical College, New York.**—The first banquet of this Association is to be given this evening at the Sherman House, Chicago. Among those on the program to respond to toasts are, Rt. Rev. Charles E. Chency, Mayor Carter H. Harrison, Drs. James F. Todd, Willis O. Nance, Oscar A. King, Joseph M. Patton, and James G. Kiernan, Chicago; Dr. Charles S. Bond, Richmond, Ind., Dr. Charles C. Hunt, Dixon, Ill.; Dr. Fred R. Belknap, Niles, Mich.; Dr. Edward W. Jenks, Detroit, Mich.; and Dr. Edward T. Laughlin, Orleans, Ind.

**Nebraska State Medical Society.**—At the annual meeting of this body at Lincoln, May 7, 8 and 9, the Society put itself on record as opposing the legalizing of the practice of osteopathy, and appropriated $200 to test the constitutionality of the law passed by the legislature, which allowed osteopaths a standing. It adopted a resolution endorsing the proposed plan of reorganization as recommended by the Committee on Organization of the AMERICAN MEDICAL ASSOCIATION and instructed its delegates to assist in the movement. A committee on organization of the profession in Nebraska was also appointed. The following officers were elected: Dr. William B. Ely, Ainsworth, president; Dr. Allen B. Anderson, Pawnee City, vice-president; Dr. A. D. Wilkinson, Lincoln, recording secretary; Dr. H. Winnett Orr, Lincoln, corresponding secretary, and Dr. J. C. Greene, Lincoln, treasurer.

**Ohio State Medical Society.**—The annual meeting of this Society was held in Cincinnati, May 8, 9 and 10. Dr. Frank Billings, Chicago, and John A. Wyeth, New York City, delivered the addresses in medicine and surgery, respectively. The election of officers resulted as follows: Dr. Edmund C. Brush, Zanesville, president; Drs. E. Gustav Zinke, Cincinnati, Stephen S. Halderman, Portsmouth, James C. M. Floyd, Steubenville and William S. Phillip, Belle Center, vice-presidents; Dr. James A. Duncan, Toledo, treasurer, and Dr. P. Maxwell Foshay, Cleveland, secretary and editor.

**American Association of Life Insurance Examining Surgeons.**—This Association will hold its second annual convention in St. Paul, Minn., June 3, one day in advance of the meting of THE AMERICAN MEDICAL ASSOCIATION. The members of the Association who may happen to be in St. Paul one day in advance of the meeting of that body, are cordially invited to attend the meetings, which will be held in the rooms of the Ramsey County (St. Paul) Medical Society, Lowry Arcade, corner Fifth and St. Peter Streets.

**American Medical Temperance Association.**—The tenth annual meeting of this Association will be held, June 5, at St. Paul, Minn. The association now numbers nearly two hundred members, all of whom, with few exceptions, are members of THE AMERICAN MEDICAL ASSOCIATION. This association was organized in Washington in 1891, having for its special object the medical study of alcohol as a medicine and its value as a remedy in disease. Dr. N. S. Davis, of Chicago, has been president from the beginning. New studies of the effects of alcohol will be presented at the annual meeting by Dr. N. S. Davis, the president, Drs. Hall, Madden, Crothers, Stuver, Grosvenor, Webster, and others. The annual address will be delivered by Dr. Didama, the vice-president.

**Mississippi Valley Medical Association.**—It is announced that the dates of the next meeting of this association have been changed from September 10, 11 and 12, to September 12, 13 and 14, because the dates first selected conflict with another large association meeting at the same place. The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, O., and the low rate of one cent, a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as September 12, good returning without extension until September 15. By depositing tickets with the joint agent at Cleveland and paying 50 cents, the date can be extended until October 8. This will give members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland. Full information as to rates can be obtained by addressing the secretary, Dr. Henry E. Tuley, No. 111 West Kentucky Street, Louisville, Ky. Those desiring to read papers should notify the secretary at an early date.

**Alumni Association of Albany Medical College.**—At the twenty-eighth annual meeting of this Association the following officers were elected: Dr. Clarkson C. Schuyler, Plattsburgh, president; Drs. Israel S. Buckbee, Fonda, Daniel S. Cook, New York City, Nelson Everest, Gloversville and Robert B. Lamb, Dannemra, vice-presidents; Dr. Andrew MacFarlane, Albany, secretary; Dr. Robert Babcock, Albany, treasurer, and Dr. Harry S. Pearse, Albany, historian. Dr. Thomas D. Crothers, Hartford, Conn., retiring president, recommended the establishment of a college for the advanced study of medicine. "It is clearly evident," he said, "that a college of this character will be established here at a very early day, and every graduate will rejoice in it and warmly welcome such a school for exhaustive study and personal research into the higher problems of medicine." Dr. H. Judson Lipes, of Albany, was awarded $100 in gold, the Clarkson C. Schuyler prize, for the best essay written by a graduate of the college. Four essays were submitted on the subject "The Influence of the Discovery of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery."

**American Medical Editors' Association.**—The annual business meeting of this Association will convene at the library rooms of the Ramsey County Medical Society, Lowry Arcade, St. Paul, June 3. This Association, as implied in the name, consists of medical editors of the United States. Meetings are held annually, coincident with THE AMERICAN MEDICAL ASSOCIATION. The aims of this Association are the advancement of medical journalism, the foundation of an ethical press in medicine, and the improvement of the medical profession in general. A partial list of papers to be read includes the president's address, Dr. Alexander J. Stone, St. Paul, Minn.; "Relative Value of Medical Advertising," Dr. John Punton, Kansas City, Mo.; "Improvements in Medical Education," Dr. Dudley S. Reynolds, Louisville, Ky.; "Some Thoughts on the Ethics of Medical Journalism," Dr. Burnside Foster, St. Paul, Minn.; "Editorial Corps and Medical Journalism," Dr. George F. Butler, Alma, Mich.; "Relation of the Medical Editor to Original Articles," Dr. Harold N. Moyer, Chicago; and papers, subjects unannounced, by Drs. John V. Shoemaker, Philadelphia, and George H. Simmons, Chicago.

## ASSOCIATION OF AMERICAN PHYSICIANS.

*Sixteenth Annual Meeting, held in Washington, D. C., April 30, and May 1 and 2.*

*(Concluded from p. 1340.)*

### Uncomplicated Hemorrhage from the Pyothorax.

DR. A. JACOBI, New York City, reported the case of M. C., 7 years old, who had been ill for about a month previous to admission to the hospital, complaining of a languid feeling, slight fever, lack of appetite, occasional cough and some pain the right lung and down to the fourth or fifth rib, with flatness over the base. Puncture yielded pus. The next day resection was in the right side of the chest. There was marked dulness over

done and 500 c.c. of inoffensive pus flowed out unmixed with blood. Thiersch's solution was used for injection, and it returned with a little bloody pus when all of a sudden it was followed by the flow of a large quantity of pure blood. The cavity was irrigated and then it could be seen that the blood was oozing from disseminated tufts over the pulmonary pleura; some of these tufts were small, some quite large. The cavity was packed with gauze and when it was removed two days later there was another slight hemorrhage, after which granulation went on in the usual way. Search for malignant tumor was negative and there was no suspicion of tuberculosis. Dr. Jacobi said the case was unique in his experience and furnished an additional cause for hemorrhage into the pleural cavity. A search of the literature had brought out no further information on the subject, no similar cases, and his surgeon friends had seen nothing of the kind.

### A Case of Pneumonia Complicated by Pseudomembranous Exudate on the Mucous Membranes of the Mouth, Tongue, Pharynx, Nares, Conjunctivae, Glans Penis, Anus, Etc., Caused by Diplococcus Pneumoniae.

DR. CHARLES CARY, Buffalo, N. Y., reported this case, remarkable in the occurrence during the course of an attack of acute lobar pneumonia in a boy of 11 years, of a profuse pseudomembranous exudate upon nearly all mucous surfaces of the body open to inspection. There was also evidence of extensive passive pleuritis and probably the involvment of the gastro-intestinal tract throughout its entire length. The affection terminated in recovery by lysis. The pneumococcus was obtained in pure culture from the heart's blood, the organs and the exudate.

### Notes on the Relapsing Fever of Hodgkin's Disease.

DR. J. H. MUSSER, Philadelphia, reviewed the literature and called attention to the paper of Ebstein on chronic recurring fever, and to the article in Nothnagel's System, on the same subject. Dr. Musser reported two cases, the characteristics of which were attacks of fever lasting from eight to twelve days, and alternating with periods of apyrexia. In both there was increase of the glandular swellings coincident with the fever which would rise rapidly to a great height, 105 or 106 F., and after ten days terminate by crisis. In the second case cultures and inoculations failed to disclose the nature of the disease, but the patient now has pulmonary tuberculosis. Dr. Musser concludes that this form of fever is in all probability an expression of the glandular form of tuberculosis to which Hodgkin's disease probably belongs.

### The Acid Intoxication of Diabetes and its Relation to Prognosis.

DR. C. A. HERTER, New York City, spoke of the method of opposing the acids and bases as the best means of detecting the amount of acid in the urine. As a clinical help, the detection of the nitrogen of ammonia was of much value, but not absolutely reliable. He found that with the increase of organic acids, measured as oxybutyric acid, coma was imminent. Crotomic acid was always present and there was an increase for days, weeks or even months before the onset of coma. Coma develops if large amounts of oxybutyric acid persist, say quantities greater than 25 grams a day. When the urine contains little or no trace of organic acids, there is little prospect of coma, though other troubles may present themselves.

### Metabolism in Diabetic Coma, with Special Reference to Acid Intoxication.

DR. E. P. JOSLIN, Boston, Mass., reported a case of fatal diabetic coma, and gave a detailed account of the chemical analysis of the urine from day to day, with special reference to the varying amount of organic acids.

### A Study of Bubonic Plague Based on the Outbreak in San Francisco.

DRS. L. F. BARKER, Chicago, F. G. NOVY, Ann Arbor, Mich., and SIMON FLEXNER, Philadelphia, presented this report:

Dr. Barker opened the discussion with a consideration of the clinical aspects of plague, stating that it belongs to the group of septicemic infections or diseases in which the causative agent can in very susceptible individuals produce a general sepsis without local lesion, but which in more resistant individuals gives rise to a disease characterized by local reaction without general sepsis. The character of the epidemic in San Francisco was like that which has prevailed during the early stages of all other epidemics. Thirty-one cases were definitely proven to be plague, and twenty-eight of these occurred among the Chinese. The ordinary cases of plague begin suddenly, usually with a chill, with fever that increases rapidly but has a curve characterized by intermissions and irregularities; the patient is nauseated, severe nervous symptoms follow and generally within twenty-four hours the bubo appears. The course of the disease is a continuous and progressive failure until death occurs, being the fourth and sixth days. The bubo develops differently from that accompanying venereal affections. The size varies, being sometimes as large as one's fist and occasionally so small that it can not be discovered by inspection or palpation. Buboes are most frequent in the groin, next in the neck and then in the axilla. The two principal types of plague are the bubonic and pneumonic forms, and a primary skin plague can probably be distinguished with a local lesion in the form of a carbuncle. In addition to these there is the plague septicemia, which may be divided into primary and secondary forms clinically. By the first is meant a septicemia produced by the entrance of the bacillus into the blood without the development of a bubo. In the secondary form there is a flooding of the blood by the plague bacillus, causing early death. In the early days of an epidemic and again toward its close there are usually found a number of mild cases, the patients not being sick enough to prevent their walking about. Such individuals are a source of great danger unless they can be isolated, for it has been proven that the urine and feces frequently contain the plague bacillus for as long as four or six weeks after apparent recovery. The pneumonic form of plague is characterized by a very bloody sputum containing immense numbers of the bacilli.

Dr. Barker referred to the great importance of recognizing the first case of plague, and said that no disease is easier of diagnosis if one can take the proper steps. This should consist in a bacteriologic examination of the sputum, the blood, the splenic juices and the bubo contents when present. Serum diagnosis is unreliable, except to show whether or not an individual has had the plague. He insists on the importance of regarding every case of fever occurring in a place where plague is suspected as being a case of plague until it is proven to be something else, and furthermore the importance of believing at such times that every cadaver is one of plague until it has been bacteriologically examined. As to treatment, he said that if he should contract the disease himself he would promptly use the serum.

Dr. Novy considered the bacteriology of bubonic plague, reporting in detail the work done by the Commission in San Francisco to prove the nature of the disease seen there.

Dr. Flexner considered the pathology of this affection. He said that the glandular enlargements can not be mistaken for those occurring in any other disease. The bubonic condition is characterized by a peculiar hemorrhagic edema which is not limited to the gland, but involves its surrounding tissues for some distance and shows numerous foci of necrosis. The enlargement is due to multiplication of the cells normally present in the gland, in addition to the edema, and to the enormous growth of bacteria which is greater than in any other disease with the possible exception of the skin lesions of leprosy. The necrosis is due to the presence of toxins and bacilli in the blood-vessels. The pneumonia is usually lobular in character and the exudate contains enormous numbers of the bacilli, making up a very considerable part of the material which fills the alveoli and produces the consolidation. The changes in the spleen are those of acute splenic fever and the organ is enlarged ocasionally to five times its normal size.

Dr. Flexner said that he expects to hear soon that plague has disappeared from San Francisco and that the statement when received will be reliable in that it will be based on bacteriologic demonstration, for the city and state authorities acting with the United States Government have carried out the recommendations of the Commission for the erection of a

public mortuary and for the establishment of a retention camp in which suspected cases will be kept under observation.

### Experimental Yellow Fever.

DRS. WALTER REED and JAMES CARROLL, U. S. A., presented this report, Dr. Reed giving a detailed account of his recent work in yellow fever (THE JOURNAL, February 16), adding the histories of a number of cases not heretofore recorded. As in the first instances, however, they show very definitely that the poison of yellow fever is carried in the circulation and can be transmitted from one person to another by mosquito inoculations or by direct transmission of the blood hypodermically.

DR. GEO. M. STERNBERG, Washington, D. C., referred to the importance of these demonstrations, which have made clear a number of facts that have heretofore seemed contradictory. For instance, ships arriving from Havana without any cases of yellow fever aboard would be unloaded by stevedores, a number of whom would soon develop the fever. It is now clear how they succeeded in disinfecting such ships by sulphur dioxid. The burning sulphur destroyed mosquitoes hanging about on the ships, whereas it could not have produced disinfection if it were necessary to penetrate the cargo. This work also explains how yellow fever was contracted from passing ships with which no communication had been held. Dr. Sternberg referred to his own work in the effort to determine whether there is anything in the blood of yellow fever patients that would give the disease to others, and said that now that the intermediate host had been discovered he hopes it will not be long before the parasite itself is isolated.

### A Case of Malarial Nephritis with Massing of the Parasites in the Kidney.

DR. JAMES EWING, New York City, in his paper pointed out that microscopic examination of the kidneys of fatal cases of malaria yield evidence of three main types of acute renal lesions occurring in this disease: 1. Acute degeneration of toxic origin, often reaching a degree in which exudation of blood serum into the tubules is added, is responsible for the vast majority of the cases of albuminuria in malaria. 2. An extreme form of acute degeneration with focal necroses which is seen in cases of hemoglobinuric malarial fever. 3. Massing of parasites in the renal capillaries with extreme degeneration of parenchymatous cells, hemorrhages and exudation into the tubules. This is seen only in severe estivo-autumnal infections.

### Septic Infection Through the Stomach and Duodenum.

DR. WALTER B. JAMES, New York City, said that it is generally assumed that septic poisoning rarely takes place through lesions of the stomach and duodenum. Influences that operate against such are the inhibiting effect of the gastric contents on bacterial growth and the effective protective mechanism supposed to reside in the liver and to operate on such elements as find their way into the portal stream. The author was led to inquire into the subject through the occurrence in his practice of several cases in which the clinical picture, and in some instances the results of the postmortem, pointed to the existence of septicemia where it seemed probable that the portal entry for infecting organisms had been lesions of the stomach or duodenum. Dr. James reviewed the recent work to show that the evidence proves that the stomach and duodenum practically at all times contain large numbers of bacteria that are taken with the food and are in an active state capable of exerting their peculiar influences and producing a septic condition should a solution of continuity take place in the mucous membrane. Illustrative cases were given to show that severe and even fatal septicemia may have its starting-point in an ulcer or similar erosion in the mucous membrane of the stomach.

### Two Cases of Streptothrical Infection; One Bronchopneumonia, the Second Abscess of the Brain.

DRS. J. H. MUSSER and N. B. GWYN, Philadelphia, presented this paper. The first case was one of bronchitis of several weeks' duration, due to a mixed infection and terminating in bronchopneumonia, the sputum showing micro-organisms having the characteristics of streptothrix and also of the branching forms of tubercle bacilli. Inoculations and cultures did not show them to be tubercle bacilli. The second case was that of a young man in whom the clinical features of tuberculous tumor of the brain and meningitis were present. There were no localizing symptoms. The patient had epileptic convulsions, and, after an illness of one week, died in coma. The spinal fluid was negative. At the autopsy a small abscess was found in the frontal lobe, which contained foul pus in smears of which the streptothrix was found.

### Report on a Chemical Study of the Tubercle Bacillus.

DR. E. L. TRUDEAU, Saranac Lake, N. Y., presented this report. An assistant of his recently started a chemical analysis of the tubercle bacillus and obtained some very interesting results. He found the organism to be composed of about 30 per cent. of wax, which is undoubtedly the part which takes up the stains. The outside coating consists of cellulois, and he also found three proteids from which he separated a nucleic acid. A coloring matter of light pink shade was obtained and he was inclined to believe that the products of the nuclear proteid are the active portions of the organism. A glycogen was also isolated from the bacillus.

### To What Extent is Urine a Suitable Solid for Bacterial Growth.

DR. WM. A. PARK, New York City, said that as the result of numerous tests it was found that the best growths occur in the neutral or slightly acid urines, but still there are certain urines that, without regard to the reaction, will not permit the growth of any bacteria. An effort was made to determine the amount of acid or alkali production by the bacteria. The colon bacillus made some alkali in albuminous urines. The staphylococci made more in diabetic urines, but the proteus made by far the most, changing some decidedly acid urines in a few hours into alkaline solutions. The practical bearing of this seemed to be that treatment might be aided in certain infections by keeping the urine decidedly acid.

### Orchitis Complicating Fever.

DR. F. P. KINNICUTT, New York City, said that Osler observed this complication in only two of his first 800 cases of typhoid. Dr. Kinnicutt reported two cases occurring in 889 typhoid cases at the Presbyterian Hospital. Of the cases collected by Eshner, 35 occurred during the period of convalescence, and of these 13 went on to suppuration. Six presented, on examination, the Ebert bacillus, and only one the presence of any other pyogenic organism. Dr. Kinnicutt concludes that it is a rare complication of typhoidal origin which develops late in the disease or during convalescence, and terminates usually by resolution. Suppuration occurs in 25 per cent. of all cases. Atrophy of the testicle is a rare sequence and death has not been noted.

### Notes on the Treatment of Some Forms of Cancer by the X-Rays.

DR. F. H. WILLIAMS, Boston, stated that the risk of producing burns is greater when using the x-rays for therapeutic than for photographic purposes, and their caustic action should be carefully guarded against. The cases he reported have all been examined by pathologists first to determine their cancerous nature. They consisted of epithelioma of the lid and hand and rodent ulcers. The cosmetic results were excellent. The treatment sometimes only requires a few exposurs, and it can be conducted without the patient leaving off his usual occupation. The difficulties are that the apparatus is expensive and the treatment sometimes prolonged. In reply to questions from Drs. Bond and Peabody, Dr. Williams said he believed it was the *x*-rays and not the cathode rays which possess therapeutic value, and that the interposition of a cloth or any penetrable substance between the patient and the tube has no difference in the action of the rays.

### Osteitis Deformans.

DRS. F. A. PACKARD and J. D. STEELE, Philadelphia, presented this topic. Dr. Packard analyzed the 67 cases from the literature, showing the preponderance of this affection among males and its greater frequency in old age, together with the comparative infrequency of association with malignant tumors as contrasted with the usual text-book statements. He reported a case with the characteristic changes described by Padgett.

### The Spinal Form of Arthritis Deformans.

DR. WM. OSLER, Baltimore, Md., thinks we should recognize clinically three different grades of this disease: 1, the form occurring in young children, characterized by enlargement of the spleen and lymph glands; 2, the form in adults, chaacterized by atrophic changes; 3, the more characteristic form with the well-recognized changes of the disease. Sometimes all the joints of the body are involved and sometimes only a certain set of joints. He referred to one case in his care where only the feet and hands were involved. Dr. Osler gave particular consideration to the form in which the spinal column is chiefly involved, and which has raised the question whether some of these cases are not due to diseases of the nervous system. He does not believe they are separate and distinct diseases, but looks on them as a variety of arthritis deformans differing only from the other types in involvement of the spine itself, some ligamentous tissue and the posterior spinal nerve roots.

### Certain Trophoneuroses and their Relation to Vascular Disease of the Extremities.

DR. B. SACHS, New York City, reviewed a special group of trophoneuroses heretofore generally believed to be due to changes in the nervous system, but in which careful examination of some cases had shown the trouble to have arisen in disease of the vessels rather than the nerves.

### Personal Experiences in Cases of Jacksonian Epilepsy, with Special Reference to the Question of Treatment by Operation.

DR. J. J. PUTNAM, Boston, Mass., considers this form of epilepsy to be the only one that warrants surgical intervention, and he advises it although neurologists are more conservative on that point now than a few years ago. A focal lesion is not always found, but even in such cases operation frequently does good, perhaps through production of an inhibitory effect and the breaking of a vicious circle.

### The Heredity of Appendicitis.

DR. F. FORCHHEIMER, Cincinnati, Ohio, reviewed at length the history of several families that exhibited genealogic charts to show the number of cases occurring in certain families and their evident inheritance.

### The Importance of a Recognition of the Significance of Early Tuberculosis in its Relation to Treatment.

DR. E. L. TRUDEAU, Saranac Lake, N. Y., reviewed the history of his work at the sanitarium and the work of others to show that tuberculosis placed under treatment in its incipiency will give about 75 per cent. of cures, whereas if these same patients are allowed to waste their opportunities for treatment until the disease is well advanced, a fatal outcome or a prolonged illness is almost certain. He laid particular stress on carefully investigating every case that shows a persistent, though irregular, afternoon rise of temperature of .5 degree or more. His experience has shown that the vast majority of patients seeking entrance to sanatoria apply too late to secure the best results, and he urges physicians in general to investigate their suspicious cases more closely, and to inform such patients of the nature of their disease so that they may secure proper treatment.

### A Study of a Series of Cases of Burns.

DRS. J. G. ADAMI and J. MCCRAE, Montreal, presented this report on experimental work that agreed in every particular save one with that published by Bardeen, of the Johns Hopkins Hospital several years ago. The authors did not find focal necrosis with the same regularity that Bardeen did, but the lesions were in all other respects similar to those of toxin infections.

### Election of Officers.

The following officers were chosen: Dr. J. C. Wilson, Philadelphia, president; Dr. James Stewart, Montreal, vice-president; Drs. S. Solis-Cohen, Philadelphia, recorder; Dr. Henry Hunn, Albany, N. Y., secretary; Dr. J. P. Crozer Griffith, Philadelphia, treasurer; Drs. Frank Billings, Chicago, F. P. Kinnicutt, New York City, councillors; Dr. Wm. Osler, Baltimore, Md., member of the executive council of congress, and Dr. F. H. Williams, Boston, his alternate.

## CALIFORNIA ACADEMY OF MEDICINE.

*Meeting, April 30, 1901.*

The president, Dr. D. W. Montgomery, in the chair.

### Sacral Teratoma.

DR. JAMES F. MCCONE presented a case, as follows: The fetus was one of twins. Its parents were not consanguineously related, and neither had suffered from infective fevers. The tumor grew from the post-anal region, and was in no way intimately connected with alimentary canal, or with sacrum of coccyx. The tumor was a flattened spheroidal mass 10 cm. in diameter, 6 cm. in thickness. It presented microscopically many varieties of tissue, areolar, myxomatous, glandular, nervous, muscular, etc. One part of the tumor had the general structure of small intestine, with its mucous membrane, villi, lymphoid follicles, and muscularis mucosa.

DR. C. A. VON HOFFMANN also exhibited a teratoma arising from the superior and inferior maxillæ, tissues of the neck, and sternum. Its largest circumference was 12 inches, and its circumference at its root was 11 inches. The mother was a strong woman 29 years of age, who had had a normal confinement in 1887. The monstrosity presented was born in December, 1900. It interfered somewhat with the passage of the head through the pelvis, which required the assistance of forceps. The placenta was small and normal, and the puerperium normal. He examined her on January 30, and found involution complete.

DR. D. W. MONTGOMERY said that he had seen a very interesting case of teratoma some years ago in the practice of Dr. McNutt, which differed from those usually seen in being malignant. It was situated on the abdomen, and caused the death of its host. They frequently appear at the sacral and occipital regions, which he thought were their most frequent location. They have to do with the embryonic layers, and contain enormous numbers of tissues. Some look like separate beings glued to the fetus born.

DR. MCCONE protested against the name of sacral being given to these tumors, for they are in no way connected with the sacrum. It was the region where they appeared, and not the tissue of which they were formed, which had given them this name.

DR. H. BRUNN said that teratomas of the sacral region were more common than the one exhibited to-night by Dr. von Hoffmann, those having the location of the latter specimen, being quite rare. Sacral teratoma did not arise from the sacrum, but from the post-anal region. This one had no connection with the sacrum or the coccyx.

### Subphrenic Abscess.

DR. T. W. HUNTINGTON reported a case as follows: "On April 17, 1901, the patient, A. M. F., was admitted to the Medical Service at the City and County Hospital, and the following history was recorded. A male, born in Illinois, age 54, occupation canvasser. Father died of tubercular disease. Family history otherwise unimportant. Uses alcohol and tobacco moderately. Previous history insignificant. Five days prior to admission was seized with violent cramps in upper abdominal region, attended by nausea. Hypogastric pain continued, and was present at first examination. There was persistent hiccough for first two days, which ceased spontaneously. Bowels constipated, suggesting partial obstruction. Pain gradually increased. Heart seemed slightly displaced to the left. Slight dulness at left apex. Excursion of diaphragm not made out. Liver dulness could not be outlined. Spleen somewhat enlarged. Urinary examination negative. Leucocytes 6400.

The patient was transferred to my service April 23, 1901, without definite diagnosis. On examination the entire abdomen was found to be distended, tympanitic, and acutely sensitive. Patient seemed to be in great pain, but painful area had no definite limits. The distension over the region of the gall-bladder was markedly greater than at any other point amounting to a positive elevation of the abdominal wall at that point. Over this area there was tympanitic resonance which extended laterally to the axillary line. From this point posteriorly there was dulness. The temperature had ranged from 99 to 100. Pulse full, rapid and rebounding. Leucocyte count

14,400. Exploration was advised. The patient consenting, chloroform was administered and a vertical incision was made on the outer side of the right rectus, below the costal margin. On opening the peritoneum there was an escape of a considerable amount of gas. This was followed by an outpouring of nearly three quarts of foul-smelling rather thin pus. The abscess cavity was irregularly defined, and its limits could not be definitely determined, except by the examining finger. After extensive irrigation which was repeated many times it was found that the pus cavity was bounded below by the transverse colon. The entire outer surface of the liver was bathed in pus and a large amount escaped from the interspace between the stomach and liver. The diaphragm was forced upward to the level of the fourth rib, and externally against the chest wall. Thinking that there must be communication with the pleural cavity, a small portion of the eighth rib was resected in the axillary line, but at once found the diaphragm lying against the chest wall, and apparently acting as a barrier. This wound was accordingly closed. The abscess cavity was then drained, the original wound partly closed, and frequent irrigation of the cavity ordered. Patient rallied [illegible] well. Since the operation the temperature has ranged from 102 to 104. There has been a free discharge of pus. The patient has taken nourishment and stimulants freely. The diagnosis in this case was never made with any definiteness until an exploratory incision made a demonstration possible. The presence of gas overlying the pus reservoir and crowding outward the containing wall, was a marked feature. Probably a more careful examination of the patient in different postures would have suggested the presence of pus in large quantities, but the patient's condition was such as not to warrant prolonged examination. The origin of the abscess is still a matter of some doubt. From the first suspicions were centered upon the gall bladder, although the patient's history in no definite manner warranted this hypothesis. Careful search was made during the operation for the gall bladder, but it could not be made out. The sudden onset of the original attack furnishes some grounds for assumption of the presence of a perforating ulcer of the stomach, pylorus or duodenum. Subphrenic abscesses, or collections of pus within the lesser peritoneal enclosure may originate variously. They may be primary, that is have their origin in lesions of the stomach, pylorus, duodenum, transverse colon, liver, gall bladder, lungs, pleura, or pericardium. Kern reports one case as probably originating in the spleen as a sequel of typhoid fever. Osler and Lampe state that suppurative appendicitis is a frequent primary cause. Secondarily this condition may result from septic foci in the liver, which are metastatic manifestations following infective processes in remote organs. It seems probable that septic venous thromboses may occur in this locality outside of the liver, but this statement lacks confirmation on the part of observers. In one of my own cases a subphrenic abscess occurred seven days after the evacuation of an appendicular abscess. Surgical interference resulted in marked improvement temporarily, but the patient finally succumbed to a similar pulmonary involvement.

DR. J. H. BARBAT said that this case was of peculiar interest to him. The gas having a fecal odor might suggest the probability of the abscess being an appendicular one. Several years ago he had had subphrenic abscess in his own person which had been incised and drained, and enormous quantities of pus removed. It had finally healed over, but some years subsequently, he had had a well marked attack of appendicitis. His abdomen was opened, and a much thickened and firmly adherent appendix situated behind the cecum, was removed. These adhesions were very dense, showing they had existed for a long time. It was his opinion that his previous abscess originated in the appendix.

DR. H. M. SHERMAN said that he had seen an item within the last six or eight weeks in some journal, that subphrenic abscesses never follow appendicitis. He was able to refute that statement, however, as he had just lost such a case. He thought the presence of gas in Dr. Huntington's case would suggest a perforation of the duodenum or stomach.

DR. PHILIP KING BROWN said that he had autopsied two cases, one was a subdiaphragmatic and pleural abscess, following appendicitis, and subsequently discharging through the mouth. The other case had followed more directly Dr. Huntington's report. It was a case of duodenal ulcer.

DR. HUNTINGTON, in closing, said there was no history of appendicular involvement; he had eliminated that. He had two theories to present as a cause, the first that it was a ruptured gall bladder, and the second, a perforation of the duodenum.

### Acute Nephritis with Syphilis.

DR. D. W. MONTGOMERY exhibited a patient who had had an acute nephritis in the early stage of syphilis. The patient was an Irishman 49 years of age, and presented himself at the clinic with a very much indurated chancre on the belly in the median line, and just above the pubic hair, with immense swellings of the lymphatic nodules in both groins. A few papules, some papulo-squamous lesions, and a fading roseola of the skin. There were mucous patches in the mouth, he was drowsy, had headache, and a coated tongue. About the fifty-second day from the first appearance of the chancre he presented himself with marked edema of lower limbs, scrotum, and lower conjunctival folds. Urine was acid, specific gravity 1022, and large amount of albumen (one gram to the liter). Microscopic examination showed uric acid and oxalate of lime crystals, some pus corpuscles, hyaline, and granular casts. The patient had not been exposed to cold, nor was he a drinking man. He had not had scarlet fever, nor diphtheria, nor pneumonia, and his heart and blood-vessels were normal. He had never had gonorrhea, nor any other trouble with his urinary organs previous to the nephritis attack. He was sent to the Hospital where he remained about ten weeks, iodid of potash being continued in fairly large doses and on leaving, the urine was perfectly free from albumin and casts, nor have any ever been found since. He had been under treatment for syphilis at the clinic, at intervals, until the present time. This was an instance of acute nephritis occurring at an early stage of syphilis, and as he was not taking mercury at the time of the nephritic attack, and as he had since taken mercury without nephritis developing, it was clear that it was not mercurial nephritis. Other causes, such as exposure to cold, rheumatism, and gout, being eliminated, the author was reduced to accept syphilis as the etiologic factor.

### X-Ray Burns.

DR. MONTGOMERY also exhibited a patient who came to him in March, 1901, suffering from a large X-ray burn on the belly, received the previous November, after an exposure of three sittings before a static machine. There was an irregular shallow ulcer with inflamed borders and covered with a yellow leathery, tightly adherent coating, which was very painful and tender. The patient said it had healed over a very considerable portion of its original area, but lately it had come to a standstill. Various ointments and lotions had been used, and finally a 10 per cent solution of lysol, which was found to be best for the control of the pain.

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## DENVER AND ARAPAHOE MEDICAL SOCIETY.

*Regular Meeting.*

Dr. H. G. Wetherill in the chair.

### A Year's Experience with Cataract Extraction.

DR. EDWARD JACKSON reported, in detail, seven cases of cataract extraction, and made the following conclusions: All the cases may be classed as senile cataract, although two of the patients were under 50. In extracting nontraumatic cataract in young persons he has found the lens so soft that it could have been expelled through a much smaller incision. Three of the cases presented mature cataracts, one even somewhat hypermature. In three cases immature cataracts were extracted, in two vision was restored promptly, and in one not until a secondary operation had been done. His experience with ripening operation has been favorable without exception. But even if this were the universal experience, which it is not, he thinks it very doubtful whether the ripening operation would be worth doing in any considerable class of cases. The slight gain in the case of extraction and brilliancy of

immediate result scarcely compensates for the additional period of waiting before the chief operation can be done. The extraction of immature cataract and its advantages apply only where vision has been greatly impaired or lost in the other eye. If in the other eye vision is normal or as good as the cataract extraction is likely to give, there is little reason for doing the operation before the cataract reaches maturity. The chief positive gain from extraction of monocular senile cataract is from the increased field of vision, and in this way the patient is saved from the dangers of accident that attend one who is blind in one eye. Besides, such cases will avoid the risks of hypermature cataract and of temporary blindness should the other eye become involved. He regards a hypermature cataract as a serious complication—the capsule becomes thickened, thus increasing the difficulty of extraction and rendering a secondary operation necessary and more difficult. In relatively young persons the cataract is quite white, making a very noticeable deformity. He uses a simple dressing which consists of a small loose mass of absorbent cotton held in place by one or more strips of adhesive plaster extending from the brow to the cheek. He has never seen any bandage that would retain the dressing with the same accuracy, with as little possibility of making pressure upon the eye, and as little chance of displacement or disturbance by turning the head on the pillow. Expulsive intraocular hemorrhage following lens extraction is a rare but utterly disastrous accident. In cases that seem to be in special danger of such hemorrhage he operates with the patient sitting up, and has kept them sitting up for several hours afterward. A secondary operation was done in but three of the seven cases. Cataract extraction has been less affected by the evolution of antisepsis than any other important surgical operation. We must disclaim the possibility of making the operation absolutely aseptic, and yet is there any other surgical measure that can show a better record as regards infection? His experience with the operation seems to teach the lesson that the line is yet to be drawn between essentials and non-essentials in the technique of aseptic surgery.

Dr. G. M. Black said that instead of the adhesive plaster he uses isinglass plaster. He removes the dressing on the second day, relying on Nature to effect the cure.

Dr. John Chase is averse to the use of adhesive plaster, because he has seen several patients remove the bandage. He prefers to operate on cataract cases at the home of the patient.

### Important Sequelae Resulting from Delayed Operation in Appendicitis.

Dr. A. S. Lobingier said that much has been written in a disconnected way concerning one or more of the various sequelae which may arise from appendiceal infection, but a broad and comprehensive treatment of the subject has yet to be written. The following sequelæ are on record; lymphangitis; lymphadenitis, especially of the mesenteric and retroperitoneal glands; venous thrombosis involving right or left iliac or portal veins; Douglas's, tubo-ovarian, psoas, lumbar, perinephric, and subphrenic abscesses; septic hepatitis, cholangitis, and ulcer of the stomach with hematemesis; intrathoracic abscess; septic pneumonia; fecal fistula; intestinal adhesions, bands and obstruction; urethral obstruction and post-operative hemorrhage.

Drs. Warren, Hall, Grant and Perkins each reported cases of formation of abscesses in various organs following appendicitis, and expressed themselves unqualifiedly in favor of early operative interference.

Dr. John S. Miller said that surgeons may be divided with reference to appendicitis into a group of three: Those who would operate early, possibly before pus formation has taken place, those who wait for Nature's efforts to wall off the general peritoneal cavity, and the class who endeavor to tide the patient over the critical period and do an intermediate operation, viz., between attacks, when there is least inflammatory condition present. The two latter classes are faulty, in that theirs are the very methods which invite sequelæ. He recalled a case in Professor Shuchard's clinic at Heidelberg, ten years ago, in which the abscess was simply opened and drained. The first sequel manifested itself a month later in the shape of a subphrenic abscess; the second sequel a few weeks later in the form of a serous pleuritic effusion, in which streptococci could be traced.

## MEDICAL SOCIETY OF RUSH MEDICAL COLLEGE.

*April Meeting.*

### Tumor of Mediastinum.

Dr. Frank Billings exhibited a patient with tumor of the mediastinum: John J., aged 39, married, a laborer, presented himself as a private patient on January 23. His family history was negative. His previous health had been good during his whole life, excepting an attack of bilious fever when 12 years of age. He uses alcoholic drinks very moderately; also tobacco moderately. He denied venereal disease.

A year and a half ago the present illness began with sharp lancinating pain in the right upper chest. This continued steadily, growing gradually worse until about three months ago, when he commenced having a sharp ache in the left upper chest. This was aggravated by exertion and was especially bad at night. This was accompanied with radiating pain in the left shoulder and down the inner side of the arm to the elbow. The pain is worse when lying down. It is also severe upon first moving about in the morning, but grows somewhat better after a little exercise. He has a dry cough aggravated by exercise and the dyspnea of exertion. The voice has never been changed in quality. The appetite is capricious but the digestion fairly good. The bowels are constipated.

He was 6 feet in height, weighing 135 pounds—a loss of 35 to 40 pounds from his normal weight. The skin was sallow and muddy, the general appearance one of cachexia. The eyes were negative, also the larynx. The superficial veins in the left pectoral region were dilated. Expansion of the chest was limited on both sides and apparently due to want of muscular power. The respirations were rather rapid and shallow. The apex-beat was visible and palpable in the sixth interspace in the nipple line. Dulness extended from the right sternal border at the top of the second rib to 1 centimeter outside the left nipple and upward on the left side to the third rib. No throbbing of the chest could be felt. At the apex of the heart a soft systolic murmur was transmitted downward into the seventh interspace and in the axillary line. No murmurs were heard at the base of the heart nor behind. The pulmonic and aortic second sounds were equal and not accentuated. The radial pulses were equal and synchronous, as were the carotids. The pulse was 96 per minute and occasionally intermitted. The lungs were negative, and also the abdomen. The urine was normal chemically and microscopically. The blood showed 4,200,000 red cells, 70 per cent. of hemoglobin and 8500 white cells.

This patient entered the Presbyterian Hospital on January 26, and many examinations have confirmed the findings named above. Recently the radial pulses have been unequal, the left the smaller with the patient sitting or standing, but they appeared equal when he was recumbent. With rest in bed he has become more comfortable until now he no longer suffers from pain of any importance in the chest. The physical findings are, however, the same, and an *x*-ray photo shows a mass in the mediastinum just above the base of the heart.

The diagnosis of mediastinal tumor is based on the fact that the patient denies venereal disease, has a family of healthy children, his wife has never miscarried, and his disease has been slowly progressive associated with loss of considerable weight accompanied with cachexia. Furthermore, by the fact that in spite of the pressure being great enough to interfere with the circulation in the vein and at a point which must be near the transverse arch of the aorta and therefore near the recurrent laryngeal nerve and blood-vessels of the left side, it has not produced a change in the pupils or larynx or pulse which one would expect to find in an aneurysm of the same region. On the other hand, the patient has improved with a rest and with moderately large doses of iodid, so that there is a possibility of aneurysm and the diagnosis of mediastinal tumor is therefore tentative.

### Malignant Mediastinal Tumor.

Drs. E. Fletcher Ingals and Otto T. Freer presented the

history and pathologic specimen of a case of malignant mediastinal tumor occurring in a man about 35 years of age. The first symptoms, consisting of coryza and tickling sensation in the throat, had begun about four months before he came under observation. Dyspnea began about a month later and had steadily increased. At the end of two months there had been some swelling and congestion of the face, and he had first noticed distension of the superficial veins. There had been no real pain. When first seen the patient was strong and well nourished, but the cough was very troublesome and the dyspnea alarming if he lay down for a few minutes. There was dulness on the front of the chest over an area extending from the clavicles to the lower edge of the ribs, and laterally about three inches each side of the sternum, with flatness over the lower part of the right chest. The fluoroscope revealed a dark shadow nearly corresponding to, though somewhat larger than, the area of dulness. The respiratory sounds were absent over a large part of the dull area and the lower part of the right side, but nearly normal elsewhere. There were tracheal râles indicating compression of this tube. The superficial thoracic and abdominal veins were moderately enlarged, and on stripping the superficial epigastric veins the blood was seen to be flowing downward, because of obstruction of the superior vena cava. There were a number of slightly enlarged inguinal and cervical glands and the left vocal chord was paralyzed in the cadaveric position.

The patient grew steadily worse and died in about two weeks. Postmortem revealed a large anterior mediastinal sarcoma corresponding closely in size to the clinical findings. There were very slight changes within the abdominal cavity. There was a large collection of serum in the right pleura, extensive adhesions of the left pleura, and the heart and larger blood-vessels, together with the trachea, were much involved by the tumor mass. The very interesting pathologic changes were pointed out, which revealed the causes of the symptoms which had been present before death.

### Calculi.

Dr. Arthur Dean Bevan presented specimens of salivary stones, gall-stones, pancreatic stone, kidney stone, bladder stone, and reviewed the points in the etiology, pathology and natural history common to all of them. He also briefly reviewed the histories of the cases from which the specimens had been obtained. He stated that all true stones consisted of two substances of different origin; one the framework of organic material derived from the mucosa of the duct or reservoir in which the stone was formed; the second the crystallizable substances derived from the secretion of the gland in connection with this duct. He believes that the essential cause of true stone formation in any position is a catarrhal inflammation of the mucosa of mycotic origin.

In the case of salivary stones, in addition to this essential cause, i. e., mycotic infection, there is occasionally found, as a nucleus, a foreign body which has worked itself into the ducts of the salivary gland. The germs producing a catarrhal inflammation of the mucosa which lead to the development of salivary calculi gain access to the mucosa probably from the mouth, through an ascending inflammation. The finding of leptothrix and other germ forms by Klebs and Gallippe in salivary calculi seem to demonstrate this fact. One can not exclude, however, the possibility of such germs reaching the salivary glands and ducts through the circulation.

In connection with gall-stones, the same etiologic factors are present. The germs producing the essential catarrhal inflammation reach the mucosa of the bile-tract by an ascending inflammation from the intestines in some cases; in others probably through the blood carried to the liver. It is difficult to state which route is the more common as the germs usually found in gall-stones, the colon bacillus and the bacillus of typhoid, may reach the bile-tract by either route. Foreign bodies are occasionally, but very rarely, here, the nuclei of stone.

In connection with pancreatic stone, Dr. Bevan stated that the etiologic moments are practically the same as in gall-stone formation. He called attention to the difficulty of diagnosing pancreatic stone and to the probability that it is more common than we have heretofore believed; also that it is probably an important factor in acute pancreatitis and fat necrosis. The development of the surgery of the pancreas within the last few years makes us hopeful that in the near future we shall be able to diagnose and operate successfully for pancreatic calculi. In 1885, when Charles T. Parkes first suggested and planned choledochotomy, it seemed to the surgeons of that day as difficult an undertaking as the removal of a stone from the pancreatic duct seems to us to-day, and yet choledochotomy soon earned for itself the position of one of the most successful and brilliant of surgical achievements.

In demonstrating a number of calculi from the urinary tract, he stated that we had here, probably, again the same etiologic factors, viz., a catarrhal inflammation of the mucosa of mycotic origin. There can be no question that the germs producing this inflammation may reach the mucosa by ascending the urinary tract or may be brought to the kidney or bladder by the blood. He believes the most common germ form here is the gonococcus, which represents the first route, and the bacillus of typhoid and the colon bacillus both probably representing the second.

The natural history and symptom-complex is very much the same in all forms of calculi; they may remain for years innocuous without giving evidence of their existence; if they do give evidence of their existence, it is either because, mechanically, from change of position or increase in size, they interfere with the patency of the duct or reach a point in the duct too small for their accommodation, as in the passage of a stone through the common duct or a stone through the ureter; or more frequently the cause of symptoms is the occurrence of a fresh infection of the mucosa—this infection favored by the presence of the calculus.

The æ-ray is of great value in determining the presence of urinary calculi whether in the kidney, ureter, bladder or prostate. This means of diagnosing has not as yet been satisfactory in determining the presence of gall-stones excepting in a limited number of cases. Within the last few years much brilliant work has been done in kidney-stone surgery, thanks to this means of diagnosis.

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## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Annual Meeting, held April 15.*

Parker Syms, M.D., president.

### Adenoma Sebaceum: Nevus: Lateris Sarcoma Cutis.

Dr. William S. Gottheil presented specimens and patients. The first was a rare form of adenoma, most often found on the scalp. The second growth was in the axilla of a boy of 10 years. Microscopic examination proved the dark linear excrescences to be true nevus. Two men with sarcoma cutis were also shown. The lesions were particularly well marked and numerous on the lower extremities. The microscope showed no evidence of tuberculosis. The speaker said that under proper treatment with heroic doses of arsenic the prognosis in such cases is good.

### Diagnosis and Surgical Treatment of Prolapsed Kidney, with a Demonstration of a Simple Method of Examination for its Detection.

Dr. Augustin H. Goelet was the author of this paper. He said that the condition was much more common than generally supposed, because often overlooked in the defective methods of examination commonly employed. According to his experience, and that of others, prolapsed kidney is found in one out of every four or five gynecologic cases coming under observation. Of this number 50 per cent. suffer from this dislocation of the organ. The etiology is obscure. The symptomatology is extensive, and includes persistent intestinal distention, gastric irritability, fatigue on slight exertion, dragging in the loins, irritability of the bladder, and occasionally attacks of acute pain simulating renal colic. The examination should be conducted with the patient standing against a wall or table, with the body bent slightly forward rather than backward. As

the patient takes a deep inspiration, the examiner grasps the loin just below the ribs with the thumb and fingers of the left hand, and then having drawn the skin tense by a downward motion of the right hand, this hand is used to push the displaced kidney, if there be such, upward against the left thumb. Coughing sometimes facilitates these manipulations. A distended gall-bladder, an omental tumor or a mass of impacted feces may be mistaken for prolapsed kidney, but it should be remembered that the kidney is more movable than the gall-bladder and less tender, that omental tumors are usually associated with malignant diseases in other parts, and that impacted feces may be dislodged by appropriate treatment. Dr. Goelet is of the opinion that the only proper treatment for such cases of prolapsed kidney as call for interference is the operation of fixation, and he looks upon this procedure as nearly devoid of risk and very satisfactory in its results. The patient should be kept recumbent for three weeks after the operation.

DR. GEORGE TUCKER HARRISON said that in spite of the beauty of the method of examination just described, the physician would meet with many disappointments in diagnosis, particularly if he does not sometimes resort to ether narcosis. He also deprecates the undue enthusiasm of the present day in regard to these cases and their management.

DR. J. RIDDLE GOFFE said that for some years past he has made use of this method, which he learned from Dr. G. M. Edebohls. Like most other surgeons he favors operating so as to bring the substance of the kidney directly in contact with the muscle.

DR. GOELET said that his method differs essentially from that which he understood is employed by Dr. Edebohls. His results in the operations for fixation of the kidney have been just as good when he has not opened the capsule.

### Officers Elected.

The following are the newly elected officers: Dr. Parker Syms, president; Dr. Alexander Lambert, first vice-president; Dr. Francis W. Murray, second vice-president; Dr. Ogden C. Ludlow, secretary; Dr. Charles E. Denison, treasurer; Dr. Charles S. Benedict, member of executive committee.

## JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

*Meeting held April 15.*

Dr. William H. Welch in the chair.

### The Parasite of Cancer.

The meeting was given up to an exposition by Dr. Harvey R. Gaylord, chief of the New York State Cancer Laboratory at Buffalo, N. Y., of the organism which he believes to be the cause of cancer. The address was illustrated by drawings on the board and by lantern projections on the screen. Dr. Gaylord began by telling of the inception of the laboratory—the only one in the world exclusively devoted to the study of cancer—through the assiduous efforts of Dr. Roswell Park, who, being convinced by his personal experience that cancer is due to a parasite, induced the legislature of the state to make an annual appropriation. Three years ago Dr. Gaylord was placed in charge of the scientific part of the work. At that time fresh cancerous tissue was inoculated into the jugular vein of a dog. Twenty-two days later the animal died, when a distinct cancer was found in his lung. San Felice at this time arrived at the same result and cultivated a yeast as the cause. Russell and Plimmer, of England, did the same thing, and by injecting the culture into a dog caused a growth resembling a cancer. But upon repeating the experiment very many times these observers invariably failed to get the growth. In the one case they had succeeded in cultivating a yeast contamination. Repeating their experiments Dr. Gaylord proved the difference between their yeast protozoon and the true organism of cancer. The latter has a distinct cycle of development, slightly analogous to the plasmodium malariæ, but precisely like the vaccin organism, i. e., it passes through seven stages. In its first stage it can not be distinguished from the cocci. In its highest form it has amœboid movements and appears like a leucocyte except that it has in it a number of hyaline bodies resembling fat, but not true fat because not dissolved by ether or staining in osmic acid. These hyaline cells rise to the top in a hanging-drop, owing to their low specific gravity. By injecting into the cornea of a rabbit, it is found that the cancer protozoon and the vaccin bodies develop alike, but the former more slowly. Dr. Gaylord's method is to take the fluid from the abdominal cavity of patients operated on for cancer. This gives a practically pure culture of the protozoon, mostly in its hyaline form. One or 2 c.c. was inoculated in 100 animals, dogs, rabbits, guinea-pigs and mice and the same organisms were recovered from the various organs of the animals in every case examined. In 12 of the animals distinct cancers were formed. He thought that the amount of infectious material was too great for the animals in the other cases and they died from acute cancerous infection. Bacteriologic examinatons were made in every case with negative results. Dr. Sjoebring, of Lund, Sweden, has succeeded in making a medium of human fat on which the protozoon grows and when inoculated into animals produces cancers. Toward the death of a person with cancer these bodies are found in the blood. Injected into animals, they may be recovered and reinjected indefinitely. In a piece of cancer dried for four months infection resulted on its injection.

Pfeiffer described this protozoon as the cause of cancer as far back as 1891, and has recently reached precisely similar results to Gaylord's, but by different methods. Sjoebring has also stated observations precisely similar. These observers, with Plimmer, San Felice, Funk, Eisen, of San Francisco, and others, deserve as much credit as any one, he said.

## PHILADELPHIA PEDIATRIC SOCIETY.

*Meeting held April 16.*

President Dr. T. S. Westcott in the chair.

### Indigestion in Infants.

DR. L. EMMET HOLT, New York City, by invitation, read a paper entitled "Some Forms of Indigestion in Infants, and Young Children, with Special Reference to their Dietetic Treatment."

The speaker stated that the chronic forms of indigestion in children required most attention on the part of the physician. In the majority of instances it is the method of feeding that determines the degree of digestion. Much harm to the digestive powers of the infant occurs during the first few days, and frequently when the infant is turned over to the physician a considerable period may be required to correct the dietetic errors already committed. As to the milk to be employed, he prefers percentage milk feeding. A common formula would be 1 per cent. fats, 6 per cent. sugar, and .5 per cent. proteids. With proper food the child should not suffer from colic, but should gain rapidly in weight. Infants frequently suffer from constipation, which in itself should not always be considered harmful. The use of purgatives for the purpose of controlling constipation frequently sets up a diarrhea which does more harm than the original trouble. In many instances it may be necessary to begin artificial feeding within the first twenty-four hours. Rarely has gastric dilatation anything to do with the existence of constipation in children. Few things are more irritating to a child's stomach than the organic acids—butyric—found in milk, when in abnrmal amounts. In some instances it requires the addition of 25 per cent. of lime-water to neutralize the excessive acidity. Frequently stomach washing is demanded, and it is surprising to find such large quantities of mucus as are at times present in the stomach of young infants. Within the first few days, if vomiting be severe, often all that will be required is the administration of bicarbonate of soda in very weak solution. In one instance he gave barley water to a patient in whom indigestion had been pronounced, and with relief of the symptoms within twenty-four hours. The carbohydrates in this instance probably inhibited the development of acid fermentation. In some cases, when death occurs from apparent toxemia, the micro-organisms may not be found in the milk but may exist in the child. In one such instance the stomach was irrigated, and rectal feeding enjoined, with relief of this condition.

In some instances indigestion occurs with wet nursing. In one he found that the nurse's milk contained an excessive quantity of fats. Drawing the milk, skimming, and the addition of lime-water gave good results. Later the child was applied to the breast with rapid gain in weight. In inanition there is a great reduction in the amount of chlorids excreted. In instances in which diarrhea, greenish stools, fever and exhaustion are seen the milk may often be diluted so that the fats equal about 2 per cent. and the sugars 50 per cent. with immediate relief. When one kind of milk persistently disagrees with a child a change of food is indicated. In some cases it is best to take the child off of cow's milk entirely and give dextrinized or farinaceous foods. Rickets and scurvy may result from improper feeding. In some cases rectal feeding is of great importance. In such cases from 1 to 1½ ounces of peptonized milk may be given. In case of eructation of sour food rectal feeding may relieve the condition. Frequently the addition of a small amount of brandy to the peptonized milk may do good.

Sometimes dilution of the milk to reduce the fats is the very worst thing which can be done. Dr. Holt instanced a case in which this caused harm, and when the child was given milk with a very large amount of fat it thrived best. Each case demands a separate line of treatment. We must not be wedded to any one special line. Frequently the very opposite will prove the best.

Dr. J. P. Crozer Griffith expressed belief that the good results Dr. Holt always obtains are in part due to his close attention to the smaller details of infant feeding, and the close watch he keeps on the life of the patient. One should always personally inspect the napkins of infants when faulty digestion is present. We must not leave too much to the nurse. The proper system of feeding in great part depends on a correct insight into the condition present. As to the correction of constipation, it is usually best to let it alone, rather than give a medicine and cause diarrhea.

Dr. E. E. Graham has seen good results follow when cow's milk was prohibited, and albumin water or broths given. The peptonization of milk is probably not resorted to as frequently as it should be. Rectal feeding is frequently a valuable aid.

Dr. Frederick A. Packard was glad to note that the speaker was not inclined to lay stress on the subject of bowel washing, which some advised being done every few hours.

Dr. D. J. M. Miller was impressed with the importance of proper feeding within the first twenty-four hours after birth. Milk mixtures, when too much diluted, may not always be borne best.

Dr. J. Madison Taylor thinks much depends on the adoption of common sense rules.

Dr. Alfred Stengel believes that we have hardly reached that stage when the subject of infant feeding can be spoken of as depending absolutely on definite fundamental principles. We attempt to compare the results obtained in the case of diseased conditions with those prevailing during health. In his opinion probably the good results achieved in correcting the diet of adults depend not so much on the special kind of food but on the amount of it. In some instances this rule holds good in the case of children. He has frequently found that, by reducing the fats and proteids, and increasing the carbohydrates, disagreeable features subside. In other cases he has found that lavage gave tolerance to a special kind of food when not previously well borne.

Dr. T. S. Westcott spoke of a case in which cream had not been well borne. In this instance he could not give even a few drops of cream, but the same percentage of cream, when given as part of milk, was well borne. Later the cream could be gradually increased.

Dr. Holt, in closing, stated that he does not approve of giving cow's milk in cases of acute indigestion. The paper for the most part dwelt on the chronic forms of this condition. In one instance he has seen rectal irrigation kept up for many months, doubtless doing harm. The only symptom had been some mucus in the stools. He again wished to make the point that no fixed rule can be formulated so as to meet the indications in all cases.

# Therapeutics.

## Chorea Treated by Sodium Cacodylate.

Lannois has used sodium cacodylate in treatment of chorea, because of its innocuity, in relatively large doses. He gave it hypodermically in doses of .02 to .04 per day. He continued it for five days and began again after an interval of five days. Three weeks' treatment usually sufficed when other treatment failed. He records several cases in which good results were obtained by its use.

Sodium cacodylate is a white amorphous powder, soluble in water, frequently given subcutaneously, and is a good substitute for other arsenic preparations. It contains 48 per cent. of arsenic and is comparatively free from poisonous properties. It may be given by the mouth, well diluted, in one-half grain doses, gradually increased. By the French physicians it is very frequently given per rectum. It has been employed with decided improvement in all the diseases in the treatment of which arsenic preparations are indicated.

## Treatment of Eczema.

Abraham, in *The Clinical Journal*, thinks that the treatment should consist in quieting the inflammatory condition, in removing the hyperemia and lessening the exudate, and at the same time to asepticise and protect the parts.

FOR THE EXUDATION.

℞ Zinci oxidi ..... ℥i 4
Acidi boracici ..... ℥ss 16
Pulv. amyli ..... ℥ss 16
M. Sig.: Use as a dusting powder.

TO REMOVE THE HYPEREMIA.

℞ Zinci oxidi ..... gr. xx 1|33
Hydrarg. subchloridi ..... gr. x 66
Plumbi acetatis ..... gr. x 66
Ung. hydrarg. nitratis ..... gr. xx 1|33
Vaselini q. s. ad ..... ℥i 32
M. Sig.: Apply locally, after first bathing the parts with a weak tar lotion.

Internal treatment should be combined with the local treatment: Alkalies, tonic bitters and aperients for the digestive tract. Full medicated baths containing starch, bran and a small amount of tar. He has found, in some cases, the modified Lassar's paste to be beneficial, prescribed as follows:

℞ Pulv. amyli
Zinci oxidi, āā ..... ℥ii 8
Acidi salicylici ..... gr. x 66
Vaselini ..... ℥ss 16
M. Sig.: To be thickly applied after the bath.

## Treatment of Diabetes with Sodium Salicylate.

R. T. Williamson, of London, in *British Medical Journal*, in an article on treatment of glycosuria and diabetes mellitus, concludes that in certain mild cases of diabetes or in persistent glycosuria, it has a decided action in markedly diminishing the sugar excretion. He states that it is not suitable in all cases of diabetes, however. Its administration should be watched closely, and it should be administered in fairly large doses. It is best to commence with 10 grains three times a day, then four times a day, and increase gradually up to 15 grains four or five times a day, watching for toxic symptoms. In severe forms of diabetes patients frequently gain in weight while taking the drug. It is better borne if well diluted.

## Potatoes in Diabetes Mellitus.

A. Mosse, as noted in the *Indian Med. Rec.*, states that potatoes should have a place in the dietary of diabetics. He cites two cases in which the wisdom of such addition to the fare was evidenced by a prompt decrease in the amount of sugar excreted in the urine. The potatoes should be given to the amount of from two to three pounds daily, as a substitute for the whole or a part of the bread allowed. The cases which seem to respond best to such management are those of medium intensity and of the arthritic type.

## Treatment of Influenza.

L. Bourget, in *Ther. Monat.*, states that the treatment of

influenza and rheumatism should be carried out along similar lines inasmuch as the etiological factors are similar, and consequently he employs the following as a liniment:

| | | | |
|---|---|---|---|
| R. | Acidi salicylici | 3i | 4 |
| | Methyl salicylatis | 3iiss | 10 |
| | Olei eucalypti | 3iss | 6 |
| | Olei salviæ | m. l | 3 25 |
| | Olei myristicæ | 3i | 4 |
| | Olei camphoræ | ʒi | 32 |
| | Spts. juniperis | ʒiv | 128 |

M. Sig.: Put the patient to bed and rub this liniment into both the anterior and posterior portions of the chest two or three times a day.

### Precautions in the Examination of Pregnant Women.

The *Vermont Med. Monthly* gives the following general precautions to be observed by the obstetrician: 1. The hands of the obstetrician are his most valuable agents. 2. That auy infection is almost invariably transmitted by the examining finger and less often by uncleau instruments. 3. Pregnant and parturient women can be very speedily infected by a single examination. 4. Internal examination should be as infrequent as possible during pregnancy and labor, resorting to it only when external examination does not afford sufficient information.

### Subcutaneous Injections of Gelatin for Hematuria.

Gossner, of Königsberg, as noted in the *British Medical Journal*, records the eure of a case of hematuria by first administering tannin, lead acetate, ergotin, etc., but without any effect on the bleeding. Gelatin was then tried as a subcutaneous injection into the tissues of the thorax, the preparation being carefully sterilized and warmed aud 200 cubic centimeters being injected. Severe pain, headache, vertigo and general restlessness followed, which, however, soon subsided and the next day the hematuria still showed absence of blood. Therefore the cure was regarded complete.

### Treatment of Beri-Beri.

B. M. Gibson, of Edinburgh, in the *Jour. of Tropical Medicine*, gives the following treatment of beri-beri, and as this is of more than passing interest to the medical fraternity of the United States we give his outline of treatment, which is as follows: The first step is to remove the patient from the place where he contracted the disease. His diet should then be changed to beans and fat pork in order to supply nitrogen and fat. The following prescriptions are recommended:

| | | | |
|---|---|---|---|
| R. | Tinct. digitalis | 3ii | 8 |
| | Tinct. ferri perchloridi | 3ii | 8 |
| | Acid. phos. dil | 3iii | 12 |
| | Infusi calumbæ q. s. ad | ʒvi | 192 |

M. Sig.: One tablespoonful three times a day.

Or:

| | | | |
|---|---|---|---|
| R. | Liq. arsenicalis | | |
| | Liq. strychninæ, āā | m. xxvi | 1 70 |
| | Liq. ferri perchloridi | 3iss | 6 |
| | Glycerini | ʒi | 32 |
| | Infusi calumbæ q. s. ad | ʒvi | 192 |

M. Sig.: One tablespoonful three times a day.

Or:

| | | | |
|---|---|---|---|
| R. | Quininæ sulph | 3i | 4 |
| | Ferri sulph. | gr. xxxvi | 2 36 |
| | Mag. sulph. | 3iv | 16 |
| | Acidi sulph. dil | 3i | 4 |
| | Spts. chloroformi | 3ii | 8 |
| | Aq. menth. pip., q. s. ad | ʒvi | 192 |

M. Sig.: One tablespoonful three times a day.

He states that in dropsical cases, one tablespoonful of brandy given every two hours is very effective.

### Treatment of Typhoid Fever by Enemata of Olive-Oil.

O. F. Paget, in *The Lancet*, states that splendid results are derived in treatment of typhoid fever by slowly administering every twelve to fifteen hours, an enema of about one pint of olive-oil; this should be retained in the bowels for several hours, if possible. If after twelve hours it is not expelled it may be discharged by giving an ordinary soap and water enema, three hours after which another enema of olive-oil may be given. The daily administration is discontinued after one week, and then may be given only when the temperature is elevated or the bowels constipated. If diarrhea is present olive-oil should always be given and the use of bismuth is not necessary. He claims that the death-rate under this treatment is *nil*. Heart failure, sequellæ, tympanites or perforation of the bowels is not present, nor are cold baths necessary.

### Sexual Irritability of the Male.

A. Sander, in *Med. News*, states that sexual irritability in the male may be classified as belonging to the lithemic type, the nervous type and the third class comprises those in which gonorrhea has been an efficient cause. For the first and second classes he recommends moderate exercise in the open air. The diet of the lithemic should be properly regulated, avoiding too much tea, coffee, and alcohol. Fish and poultry are good. To aid elimination he recommends:

| | | | |
|---|---|---|---|
| R. | Sodii et potass. tartratis | ʒii | 64 |
| | Acidi pot. tartratis | ʒi | 32 |

M. Sig.: One teaspoonful in water upon rising.

To allay the sexual passion of the neurasthenic, one dram doses of fluid extract of salix nigra at bed-time are usually effective. For the nervous system:

| | | | |
|---|---|---|---|
| R. | Liq. potassii arsenitis | 3i | 4 |
| | Ext. ergotæ fluidi | 3iii | 12 |
| | Tinct. capsici | m. x. | 66 |
| | Glycerini | ʒi | 32 |
| | Aquæ q. s. ad | ʒviii | 256 |

M. Sig.: One tablespoonful three times a day.

### Acne Rosacea.

| | | | |
|---|---|---|---|
| R. | Sulphuris precip. | 3i | 4 |
| | Zinci oxidi | 3iss | 6 |
| | Calimini | ʒii | 8 |
| | Glycerini | 3iss | 6 |
| | Aq. rosæ q. s. ad | ʒiv | 128 |

M. Fiat lotio. Sig.: Apply locally night and morning.

## Medicolegal.

**Two Thousand Dollars the Value of a Boy's Life.**—The Supreme Court of New Jersey declares, in the case of Rowe vs. the New York & New Jersey Telephone Company, brought to recover damages for the death of a boy about 12 years old, caused by negligence, that it is unable to see how, on any rational computation of probabilities, the pecuniary loss resulting to his next of kin from his death could equal $5,000, as assessed by the jury, and makes a reduction of the damages to $2,000 the condition of not requiring a new trial.

**Permissible Basis and Form of Expert Evidence.**—The Supreme Court of Alabama says, in the case of the Louisville & Nashville Railroad Company vs. Stewart, that opinion evidence of experts, such as physicians, may be based on facts of which the witness has actual knowledge, as well as on an abstract hypothesis. And it holds that it is not a valid objection to a physician's opinion concerning cause and effect of disease and injury that it assumes the form of a conclusion.

**When Disease is Indirectly Cause of Death from Injury.**—The Supreme Court of Vermont says that the circumstantial evidence bearing on the cause of the insured's death, in the case of Clark vs. Employers' Liability Assurance Company, presented the question whether he was stricken with spontaneous apoplexy and fell in a place where the wheels of his wagon passed over his neck, or whether he accidentally fell where the wheels passed over him and suffered apoplexy as a result of the injuries received. The insurance policy did not insure against death occasioned wholly or partly, directly or indirectly, by disease or bodily infirmity. And the court holds that, inasmuch as the policy did not insure against an accidental death caused indirectly by disease, if the insured's fall was caused by disease, that disease was the cause of his death, within the meaning of the exception. His helpless plight in the tracks of the approaching wheel was due to the apoplectic stroke, and to that alone. An accidental death by crushing, it goes on to say, is caused indirectly by disease, if the person

falls in the place of danger because of disease. The death is caused directly and wholly by the crushing, but it is nevertheless caused indirectly by the disease. Wherefore, it holds that it was necessary for the beneficiary suing on the policy to show, not only that the injury received was the direct cause of death, but that disease did not indirectly cause the death by subjecting the insured to that injury.

**Physical Examination in Action to Annul Marriage.**—A motion was made before Mr. Justice Leventritt, at a special term of the Supreme Court of New York, New York County, to compel the defendant to submit to a physical examination before trial, in an action brought for the annulment of a marriage on the ground of fraud, in a case the title of which is "Anonymous." The alleged fraud consisted in representations of good health, relied on by the plaintiff, when the defendant was, in fact, at the time of his marriage, afflicted with the disease known as "syphilis." The right exercised from the earliest days by courts having jurisdiction in divorce matters, in ordering inspection, the judge says, is not statutory. And he calls attention to the fact that in all the cases cited here, in which an examination was ordered, relief was sought on the ground of impotence, and he says that he was referred to no authority in which an examination had been directed to establish the existence of specific disease. But he declares that he can discover no difference in principle where the essential elements authorizing inspection in the one case exist in the other. A marriage, in his opinion, should be annulled as much on the ground here assigned for relief as in the case where consummation is rendered impossible by reason of the physical defect or malformation of one of the contracting parties. The state which may not improperly be considered a third party, as it were, to every marriage contract, has in a proper case as much interest in dissolving the marriage tie as in upholding it. Where a person to his knowledge afflicted with a most grievous venereal disease, contagious in a very high degree, and which, even under the most favorable circumstances, requires years before it yields to treatment, and may even then for a long time still lurk in the system, a source of hidden danger, marries an innocent girl, under representations that his health is sound, threatens her with infection, and their offspring with hereditary disease, a case, the judge holds, is presented for state interference and judicial annulment. So, while he says that it is quite true that fraudulent representations as to good health, as that term is generally understood, do not vitiate the marriage compact, he sees in this case, if the allegations be true, an instance of extreme fraud, and a misrepresentation as to health not such a one as is contemplated by the authorities. And he is satisfied that the power exists, within narrowly circumscribed limits, in an action of this nature, to compel an inspection of the person of the defendant; that it is inherent in the court in this class of actions; but that the remedy is so extraordinary, and necessarily so violative of the privacy of person, that its application should be restricted to extreme cases, and then not exercised before it is apparent that no other means of proof are available. An examination of this nature, he further says, can and should never be granted as a matter of course. The absolute necessity therefor must unmistakably appear. A proper regard for the rights of the individual requires an adherence to the rule that the necessity for the examination should appear on the trial, and not upon facts shown on a preliminary hearing.

**Society Can Not Enjoin Payment for Vaccination.**—The Supreme Court of Alabama says that the case of the Commissioners' Court of Perry County vs. the Medical Society of Perry County was brought by the medical society, a corporation organized under the charter of the Medical Association of the State of Alabama, and three practicing physicians of said county, who were members of said society and constituted the board of health of the county, who sued as individuals. The theory proceeded on was that the medical society of the county had the exclusive right and power to appoint or employ persons to vaccinate the people and fumigate the houses, etc., in prevention of the spread and stamping out the contagion of smallpox, which had broken out in one section of the county, and that the commissioners' court had no such power or authority; and it was averred that, notwithstanding such want of power in said court, that body had employed a certain party to perform that service at a salary or wage of $100 a month, and that said party was proceeding to perform his part of the contract. The prayer was that said party be enjoined from performing said contract; that the judge of probate, the commissioners' court, and the treasurer of the county be each enjoined from allowing or paying the said party's claim for such illegal services; and that he be enjoined from collecting the same. But, as it was averred in the answers and proved on the hearing that the party had completed the performance of his contract on the day the bill was filed, the court says that no case was made for an injunction perpetually restraining him from further services under the contract. Moreover, the court holds that the medical society and individuals suing with it had no standing or right in a court of equity to restrain the commissioners' court, the probate judge, and the treasurer of the county, or any of them, from paying out moneys belonging to the county under any circumstances whatever. It says that it is too plain for argument that the medical society of the county, even assuming it to be a corporation with capacity to sue, and to be vested with the statutory powers and duties in respect to public health—questions none of which the court decides here—has as such no interest whatever in the disposition the constituted county authorities may make of county funds, and can not be damaged, or in any wise prejudiced, by any appropriation of such funds, authorized or not, which the commissioners' court may determine on. Whatever may be the powers in other respects of the medical society of a county under the statute, it is clear beyond cavil that it has no power in its corporate capacity, if it is a corporation, to sue for the correction or prevention of public abuses committed or threatened by county officers in the disbursement of county funds. Again, the court says that the conclusions of the medical society that it had been "crippled and injured in the performance of its duties under the laws of this state," by the action of the commissioners' court in making this contract would be entirely insufficient as pleading to show any crippling or injury. The facts must be stated. Wherefore, the court holds that the society was without interest in the case made at the hearing, and should not have been awarded relief. Besides, it holds that the individual complainants, considered apart from the medical society, had no title to the relief sought, it not being alleged that they were citizens and taxpayers of the county, nor that they were property owners and taxpayers therein.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## New York Medical Journal, May 4.

1 *Abdominal Pain in Typhoid Fever. Thomas McCrae.
2 *Spinal Anesthesia by Cataphoresis. J. Leonard Corning.
3 The Pathology and Bacteriology of Uretero-intestinal Anastomosis. (To be concluded.) F. Robert Zeit.
4 *The Use of the Suprarenal Capsule in Diseases of the Heart. (To be concluded.) Samuel Floersheim.
5 *The Law and the Inebriate; With Remarks on the Treatment of Inebriety. Joseph Collins.

## Medical Record (N. Y.), May 4.

6 *The Operation for Radical Cure of Inguinal Hernia, at the End of the Century, as I Saw It Performed by Bassini, Lucas-Championnière, De Garmo, Coley, and Broca. Campbell Ford.
7 *Varicella in Adults. Alvah H. Doty.
8 A Plea for the Conservation of Breast Milk in whole or in part. Thomas S. Southworth.
9 *On Bandages for Nephroptosis. George M. Edebohls.
10 *Version: Indication, Technique, Limitation. S. Marx.
11 *Axis-Traction Forceps. Egbert H. Grandin.
12 *Cesarean Section. Edwin B. Cragin.

## Medical News (N. Y.), May 4.

13 Medical Department of the University of Pennsylvania. Charles W. Dulles.
14 *A Report of Twenty-four Operations Performed during Spinal Analgesia. William S. Bainbridge.
15 *Some Sources of Error in Laboratory Clinical Diagnosis. Theodore C. Janeway.

### Boston Medical and Surgical Journal, May 2.

16 *Contusions of the Abdomen. Charles L. Scudder.
17 *Observations on the Use of Antistreptococcus Serum in the Treatment of Puerperal Sepsis with a Report of Five Cases. Frank A. Higgins.
18 A Case of Cesarean Section in a Face Presentation, Complicated by Uterine Fibroid. Emma S. Call.
19 Notes from the Neurological Department of the Massachusetts General Hospital. Exophthalmic Goiter and Fright. E. W. Taylor.

### Philadelphia Medical Journal, May 4.

20 *Puerperal Polyneuritis and Poliomyelitis. James Stewart.
21 *Localization of Sound and its Bearing on Hearing—Especially in Unilateral Deafness. B. Alex. Randall.
22 *German Clinics of To-day. John C. Hemmeter.
23 Volvulvus and Intussusception of Meckel's Diverticulum. Joseph McFarland.
24 *Deaths from Anesthetics. D. H. Galloway.
25 *Esophoria, or Latent Squint. Francis Valk.
26 *Strangulated Hernia. Walter Lathrop.
27 Ammonium Persulphate Solution. A New Decolorizing Fluid for Staining Spores and Sputum. Robt. L. Pitfield.

### American Medicine (Philadelphia), May 4.

28 *An Analysis of my Vaginal Ablations in 181 Cases of Pelvic Inflammation and Uterine Fibroid Degeneration. (Concluded.) W. R. Pryor
29 *Inguinal Hernia. B. Merrill Ricketts.
30 Vaginal False Membrane due to Bacterium Coli. J. N. Hall.
31 *A New Series of Anaerobic Bacteria. Louis LeRoy.
32 *Conclusions from Personal Observations of Compound Fractures. Douglas C. Moriarta.
33 The Food Valne of Alcohol, and Professor Atwater's Experiments and Teachings. (To be concluded.) John Madden.
34 *Some Remarks on the Cumulative Action of Digitalis, with an Illustrative Case. Edwin Zugsmith.
35 *Prolonged Intubation. Edwin Rosenthal.

### Cincinnati Lancet-Clinic, May 4.

36 *Carbuncle. Robert Carothers.
37 Enormous Gall-stones with Ovarian Cyst and Uterine Fibroid. J. F. Baldwin.

### St. Louis Medical Review, May 4.

38 *Complicated Ovarian Tumors. Emil Ries.
39 Case of Vaginal Hernia Complicated with Pregnancy and Sepsis. Frank A. Glasgow.
40 Librarian's Report to the St. Louis Medical Library Association for the Year Ending April 24, 1901. Frank J. Lutz.

### Medical Fortnightly (St. Louis), April 25.

41 Heredity, Criminality, and Degeneracy. H. Hateh.
42 Chronic Gastritis. Frank Parsons Norbury.

### Pediatrics (N. Y.), April 15.

43 *Two Starvations. J. C. O'Day.
44 *Inheritance of a Gouty or Uric Acid Toxemia in Children, with Statistics of Fifty-seven Cases. Carl N. Brandt.
45 Some Pulmonary Affections of Children Following the Infectious Diseases. Albert M. Cole.

### Chicago Medical Record, April.

46 The Clinical Type of Neurasthenia. Harold N. Moyer.
47 Etiology of Neurasthenia. Sanger Brown.
48 On the Pathology of Neurasthenia. L. Harrison Mettler.
49 Treatment of Neurasthenia. Archibald Church.
50 *State Aid in the Prevention of Tuberculosis. C. O. Probst.
51 The Management of Fevers. I. N. Love.
52 *Miscarriage of Municipal Sanitation. Ernest Wende.
53 *Demands of Sanitary Science. H. M. Bracken.
54 Effect of Physical Conditions and Sera on the Typhoid Bacillus. Adolph Gehrmann.
55 Surgical Cases (Inoculation, Tuberculosis from Hides, etc.) Daniel N. Eisendrath.
56 A Case of Raynaud's Disease. Charles Louis Mix.
57 *The Family Physician's Treatment and Prevention of Purulent Otitis. H. Gradle.
58 A Case of Gangrene of the Appendix Simulating Infection Following Labor. Denslow Lewis.
59 Vesicosigmoidal Anastomosis. E. J. Senn.
60 Genito-Urinary Surgical Notes. F. Kreissl.
61 Specimen Obtained from a Bottini Operation. E. W. Andrews.

### Alienist and Neurologist (St. Louis), April.

62 Friedrich Nietzche: A Study in Mental Pathology. William W. Ireland.
63 *The Successful Management of Neuralgia. C. H. Hughes.
64 Degeneracy Stigmata as a Basis of Morbid Suspicion. A Study of Byron and Sir Walter Scott. James G. Kiernan.
65 Medicine in 1800. Samuel L. Mitchell.
66 Morphinism and Crime. T. D. Crothers.
67 The Legal Disabilities of Natural Children Justified Biologically and Historically. (To be continued.) E. C. Spitzka.

### Clinical Review (Chicago), May.

68 On the Use of General Anesthetics. Franklin C. Wells.
69 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

### Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), April.

70 *Benign Epithelial Tumors of the Skin. B. H. Buxton.
71 Case of Dermatitis Herpetiformis Illustrating an Unusual Pustular Variety of the Disease. Grover William Wende and Herbert D. Pease.
72 *Impetigo Contagiosa Bullosa and its Bacteriology. Martin F. Engman.
73 Report of Two Cases of Impetigo Contagiosa Bullosa: One of them Fatal. Joseph Grindon.

### Bulletin of the American Academy of Medicine (Easton, Pa.), April.

74 The Kentucky Medical Law. J. N. McCormack.
75 Associate Medical Examining Boards. Charles A. Groves.
76 A Brief Review of the Medical Curriculum of the United States, with Special Reference to the Defects, and Indicated Modifications as Demonstrated by the State Medical Examination for Pennsylvania. Henry Beates, Jr.
77 The Co-operation of the Medical Profession of the United States with the National Confederation of the State Medical Examining and Licensing Boards, in Establishing Interstate Reciprocity for the License to Practice Medicine. Emil Amberg.
78 What Steps Shall be Taken to Establish a Uniform Standard of Preliminary Requirements in Accordance with the Recommendations Contained in the Report of the Committee on Minimum Standards, Adopted June, 5, 1899. N. R. Coleman.

### Illinois Medical Journal (Springfield), April.

79 *Paralysis of the Sphincters of the Anus Caused by the Forcible Dilatation of That Orifice. Edmund Andrews.
80 Rectal Fistula. A. E. Halstead.
81 *The Diagnosis of Rectal Diseases. J. Rawson Pennington.
82 *The Treatment of Hemorrhoids. N. H. Henderson.
83 *Acute Hemorrhagic Encephalitis. Charles D. Center.
84 *What Shall the Harvest Be? (Public Hygiene and Morals). R. H. Henry.
85 The Medicolegal Status of Abortion. O. B. Will.
86 The Treatment of Tuberculosis and Other Abscesses and Local Infections by Pure Carbolic Acid, with Report of Cases. I. R. and G. W. Walker.
87 Practical Observations on the Chemical Effect of a Few of the Older and Some of the Newer Remedies. E. L. Herriott.

### Journal of Medicine and Science (Portland, Me.), April.

88 The Availability of the Nutrients and Potential Energy of Food Materials. Charles D. Woods.
89 The Process of Digestion. Chas. O. Caswell.
90 A Reply to Dr. D. A. Robinson's Article. Morris Longstreth.

### International Medical Magazine (N. Y.), April.

91 Treatment of the Different Varieties of Chronic Endometritis. Augustin H. Goelet.
92 Impetigo Contagiosa. Jay F. Schamberg.
93 Some General Remarks on Electricity in Gynecology. G. Betton Massey.
94 Rhinoliths, with Report of Two Cases of Diagnostic Interest. Carle Lee Felt.
95 Laceration of the Perineum and its Primary Repair. E. E. Montgomery.
96 The After-Treatment of External Perineal Urethrotomy. J. D. Thomas.
97 The Method of Removing and Preparing Portions of Tissue from the Uterus for Diagnostic Purposes. W. Wayne Babcock.

### American Gynecological and Obstetrical Journal (N. Y.), April.

98 *The Treatment of Displacement of the Uterus, with Adhesions. F. H. Davenport.
99 *Causes of Dysmenorrhea. Albert M. Judd.
100 The Causes and the Significance of the Obstetric Hemorrhages. J. Clifton Edgar.
101 *Osteofibromyoma of the Uterus. George Ben Johnston.
102 *A Case of Natural Uretero-intestinal Anastomosis. C. A. Kirkley.
103 *The Treatment of Cancer of the Uterus. J. Wesley Bovée.

### St. Paul Medical Journal, May.

104 Psychotherapeutics. J. W. Frizell.
105 Psychology of the Medical Profession. Wm. B. Lyman.
106 The Medical Profession. D. W. Day.
107 Rickets. John Specht.
108 Feeding of Infants. Caroline Hedger.
109 The Modern Treatment of Tabes Dorsalis, with Report of a Case. Chas. R. Ball.
110 Glaucoma. Thomas McDavitt.
111 Adrenalin, the Active Principle of Suprarenal Extract, the Most Powerful Hemostatic Known. Frank C. Todd.
112 Excision of the Rectum for Cancer. James W. Robertson.
113 Vesico-vaginal Fistula Repaired Under Hypnosis. A. Shimonek.

### University of Pennsylvania Medical Bulletin (Philadelphia), April.

114 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.

115 *Notes on Fifty Operations for Otitic Extradural Abscess. R. Alex. Randall.
116 Primary Sarcoma of the Spine. James K. Young.
117 A Critique of Certain Methods of Gastric Analysis. David L. Edsall.
118 Adrenalin, the Active Principle of Adrenal Extract, a Proposed Agent in Morphiu and Opium Poisoning, in Circulatory Failure, in the Prevention of Collapse in Anesthesia, and in Allied Conditions—A Preliminary Note. Edward T. Reichert.

International Journal of Surgery (N. Y.), May.

119 Practical Suggestions on the Treatment of Appendicitis. Henry Flood.
120 Regional Minor Surgery. (Continued.) George G. Van Schaick.
121 The Ligament Operation. W. H. Maxson.
122 Practical Suggestions on the Treatment of Rectal Diseases. (Continued.) James P. Tuttle.
123 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
124 Two Interesting Cases of Appendicitis. A. R. Small.
125 Enlarged Prostate, Cystitis, Wound of the Urethra and Abscess of the Testicle. L. H. Schwerin.

Southern California Practitioner (Los Angeles), April.

126 Tuberculosis Literature for the General Practitioner and His Work in the Combat Against the "Great White Plague." S. A. Knopf.
127 *Rectal Reflexes. Wellington Burke.
128 *Oophorectomy and Hysterectomy for Epilepsy. Walter Lindley.

Columbus Medical Journal, April.

129 Operations for Cleft Palate and Hair Lip. Dudley P. Allen.
130 Examination of Candidates for Entrance into Medical Colleges. C. E. Albright.
131 Preliminary Education for Entrance into Medical Colleges. Hugh Hendrixson.

Vermont Medical Journal (Burlington), April.

132 A Few Rambling Thoughts on Medical Matters. C. D. Albro.
133 A Case of Chronic Rheumatism. L. B. Smith.
134 A Non-surgical Treatment of Hemorrhoids with Clinical Reports. Eugene C. Underwood.

Therapeutic Gazette (Detroit), April 15.

135 Puerperal Mastitis: Its Prevention and Treatment. Edward P. Davis.
136 Gastrostomy for the Relief of Painful Deglutition Incident to Tuberculous Laryngitis. Edward Martin.
137 *The Blood-Pressure-Raising Principle of the Suprarenal Glands—A Preliminary Report. Jokichi Takamine.
138 *Physiological Relations of Scopolia Carniolica to Atropa Belladonna. Horatio C. Wood, Jr.
139 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. (Continued.) D. D. Stewart.
140 Management of Arrested Posterior Positions of the Vertex. Richard C. Norris.
141 Hydrocele and its Treatment: Summary of 338 Operations; Description of a New Method Suggested by Doyen for the Radical Cure of Hydrocele of the Tunica Vaginalis Testis. Orville Horwitz.

Georgia Journal of Medicine and Surgery (Savannah), April.

142 *Relation of the Profession to the General Public. R. R. Kime.
143 An Important Class of Skin Diseases and their Treatment. Eugene C. Underwood.
144 Coughs: Their Suppression and Cure. Louis DeLorme.

Texas Medical News (Austin), March.

145 Subarachnoid Cocainization of Medullary Anesthesia, with Report of Cases. J. G. Boyd.
146 Scarlet Fever. W. T. Shearer.

## AMERICAN.

1. **Abdominal Pain in Typhoid.**—From an analysis of 500 cases classified as regards pain the following conclusions are deduced by McCrae: 1. About two-fifths of the patients are free from pain or tenderness, rather less than one-fifth have tenderness only, and pain is present at some time in about two-fifths of the cases, but during the course only in about one-third. 2. Pain due to some condition other than the specific bowel lesions was present in about 14 per cent. of all cases and in about two-fifths of the patients having pain during the course. 3. Pain occurred with hemorrhage or perforation in about 5 per cent. of all cases and in about 15 per cent. of the cases in which there was pain during the course. 4. Pain was most constantly present with perforation, when it was usually sudden in onset, severe in character, and paroxysmal in occurrence. The pain of perforation was most closely simulated by that occurring in some cases of hemorrhage, that from phlebitis, and that of unknown origin. 5. In about two-fifths of all cases with pain during the course no cause could be found. Should this occur with other abdominal symptoms the condition may much resemble perforation.

2. **Cataphoretic Spinal Anesthesia.**—Corning reports experiments to produce spinal anesthesia by cataphoresis and details methods. He performed it on a man in whom it was thought unadvisable to give general anesthesia, by making an incision and injecting through an insulated tube, which passed down through the ligamentum subflavum, fifteen minims of a 2 per cent. solution of hydrochlorid of cocain, which was deposited between the dura and vertebral canal. Then the electric current was passed from the tube to a sponge on the abdomen with a current of .3 milliampere. Anesthesia appeared slowly, fully one-half hour being required and the ether was begun to be administered when it was found that the patient was anesthetic and the ether administration was discontinued and the operation carried on under the cocain anesthesia with success. The operation was an osteotomy of the foot and the anesthesia of the legs persisted for an hour afterwards. While the operation was physiologically a success, Corning concludes it was a failure practically, on account of the time necessary to induce the anesthesia and the formidable paraphernalia required. He reports the case, however, trusting that others may improve upon it or be saved from going over the same ground.

4. **Suprarenal Capsule.**—Floersheim's second paper describes the preparation of suprarenal capsule for internal use, the method of administration, giving the drug by the mouth in gelatin capsules, also the rapidity of its action and the indications. He thinks suprarenal extract is safer and better in heart disorders than digitalis, strychnin, strophanthus, or nitroglycerin, and is the most powerful heart stimulant known. The remainder of his article is taken up with histories of cases.

5. **Inebriety.**—The history of the treatment of inebriety and the legislation of different countries is given by Collins. The paper is simply a brief survey of the laws in relation to the inebriate, abroad and at home.

6. **Hernia.**—After describing the different operators' methods mentioned in his title Ford describes the stitches which he has invented: The single knot stitch, the square knot stitch, and the friction knot stitch and calls attention to the fact that neither of these is the buttonhole stitch commonly called Billroth's. The reader is referred to the article for details of these stitches.

7. **Varicella.**—Doty enumerates the signs characteristic of varicella that distinguish it from smallpox, and also calls attention to the fact that the former may occur in adults, contrary to common opinion. The signs to which he refers are: 1. Character of eruptions. The "shotty" feeling and involvement of the true skin as compared to the superficial nature of the eruption in varicella. 2. The manner in which it appears; smallpox has but a single crop, while chickenpox has successive ones. 3. The distribution or location of the eruption. In smallpox the hands and feet are almost always involved to some extent, while in chickenpox they are either not affected at all or have a very little eruption. The appearance of hard, cicatricial, and distended papules on the hands and feet especially palms and soles, is a very important sign of smallpox. The back gives one of the best localities to study varicella and while umbilication is characteristic of smallpox, what will pass for this may be sometimes found in chickenpox and some forms of syphilitic eruptions. Constitutional symptoms, of course, are not to be neglected, but the character of the eruption should be studied first.

9. **Nephroptosis.**—The subject of bandages to be employed for nephroptosis is discussed by Edebohls, who summarizes his paper as follows: Bandages for movable kidney may be divided into two general classes: 1. Simple bandages, and apparatus embodying the feature of a special kidney pad. 2. Simple bandages act by supporting the entire contents of the abdomen, sustaining and more or less immobilizing the movable kidney or kidneys on top of the intestinal mass. 3. All the relief to be gotten from bandages in cases of movable kidney is

obtainable from one of two devices, either from an elastic bandage, encircling and sustaining well the lower two-thirds of the abdomen, or from a long and low-reaching corset, fitted and adjusted with the same end in view. 4. The relief obtainable from bandages in any case of movable kidney will depend upon the presence and the degree of any associated enteroptosis. The greater the degree of associated general enteroptosis the better the prospects of relief from a bandage or corset. When movable kidney exists without general enteroptosis, no form of apparatus will prove satisfactory. 5. All forms of apparatus with special kidney pads or trusses are to be absolutely rejected because they are impotent to fix and sustain a movable kidney, and because any pressure they may exercise is injurious to either the kidney or to neighboring organs, especially the vermiform appendix, or to both. 6. In all cases in which relief of symptoms can not be obtained from either a proper simple bandage or corset, nephropexy is indicated.

10. **Version.**—The indications of version are elaborated by Marx, who classified them as follows: 1. Malposition and malpresentation. 2. Contracted pelvis, either relatively or absolutely so. 3. Prolapsus funis or allied condition. 4. For all other unclassified conditions, such as placenta previa. 5. Except under very rare conditions in all cases in which the head remains above the brim; the exception being where there is a uterine rupture or Bandl contraction. This is the only indication for forceps as compared to version when the head is above the brim. In the most of these prolonged labors, however, when the child has been already sacrificed or is in immediate danger, elective perforation should be given the preference. When the child is *in extremis*, he thinks most of saving the life of the mother and version is needed in all cases where the life of the mother is threatened, as, for example, by a uremic convulsion, or an embolus of the lung, supposing, of course, a dilatable os or one that is dilated. When such is not present, we must anticipate it with a rapid manual dilatation or deep Dührssen's incision. The following operative rules are laid down, which have been of great value to him: 1. Always be sure of the position and the presentation. 2. Be sure that the fetus is alive or not in immediate danger. 3. Do version as early as possible in the presence of an intact fruit sac, or at least as soon after the rupture of the membrane as possible. 4. Always introduce the hand according to the position of the fetal feet. 5. Always turn the child in such a fashion as to keep Nature's classic ovoid intact, that is, carry the foot along the abdominal plane of the pelvis and not away from it. The technic and details are given. The limitations of the operation are also noted. We must estimate the operation from the standard of the average pelvis and average size of the child and no operation short of perforation should be instituted in the presence of a dead or dying fetus. Our lowest limit for elective version would be in the case of a pelvis whose true conjugate is at or above 3.25 inches in the presence of an average-sized or small child. These measurements would not hold good in the presence of a large or over-sized child. The use of the Walcher position when the head is passing the contracted inlet is mentioned as of advantage, as increasing the true conjugate between one-half and three-fourths of an inch. Individual skill and experience are of importance, but he believes that the operation stands midway between forceps and Cesarean section and the field for symphyseotomy is growing smaller and smaller.

11. **Axis Traction Forceps.**—The advantages of the axis-traction forceps are dwelt upon by Grandin. He thinks that one need only be trained in their use to have fewer impossible deliveries and far less danger to the maternal parts and intracranial injuries laid to their use.

12. **Cesarean Section.**—Nine cases are reported by Cragin as illustrating the advantages of Cesarean section, which he thinks has the preference over symphyseotomy in that every step of the operation is under the control of the surgeon, the mortality is less, and convalescence more rapid and easier. Some points of the technique are mentioned and the writer expresses his personal preference to leaving the uterus as nearly intact as possible whenever it can be done. Only when infection or disease of the uterus and appendages exist or pelvic deformity is extreme does he prefer to follow the Cesarean section by hysterectomy.

14. **Spinal Analgesia.**—A summary from 50 cases, including 24 here reported by Bainbridge, is in substance as follows: 1. Cocain is more satisfactory than eucain. The anesthesia is more uniform and the unpleasant after-effects no greater. 2. Analgesia to the level of the diaphragm can be depended upon in all cases where moderate doses of a potent solution of cocain has been introduced by lumbar puncture. Sometimes the analgesia may be sufficient for operation on the upper extremities. 3. Complete analgesia including the eyes, mouth and throat has been seen. 4. The preparation as for general anesthesia diminishes all the unpleasant effects of cocain and eucain and often prevents them. 5. Moderate doses of bromids before injection frequently do away with the initial vomiting and the liability of headache is lessened. 6. In neurotic patients there are often hysterical symptoms following completion of the injection, but a calm follows, as a rule, in a few minutes. 7. The initial nausea and vomiting often occur soon after puncture, but last only for a minute or two and usually do not recur. Consciousness being preserved the danger of vomited matter getting into the lungs is practically nil. 8. The analgesia lasts from thirty minutes to four hours. 9. Depression after puncture is inconsiderable. The use of ethyl chlorid (Bengue) largely prevents pain when the needle is introduced. 10. The preparation of the patient, the use of nitroglycerin by hypodermic injection or employment of the coal-tar products with caffein, control the headache frequently seen after spinal puncture. 11. In a few cases there may be temporary motor paralysis or vertigo. 12. Spinal puncture has not affected normal or diseased kidneys. 13. Usually the tactile, muscular, hot and cold sensations are retained. The cautery at a dull-red heat causes no pain, but hot water produces discomfort. 14. Usually the patient sleeps the first night. 15. There is often a temperature of a few degrees within eight or ten hours of the operation. Whether of psychic origin or not is unanswered. The circulation and respiration are not seriously affected.

15. **Errors in Laboratory Diagnosis.**—Janeway calls attention to a number of errors which occur in laboratory clinical diagnosis In urinary examination the most conspicuous error is failure to filter the urine, which makes a delicate test impossible. The most reliable tests are Heller's, the acetic-acid, and ferrocyanide, heat and acid tests. As a general test Heller's is undoubtedly the most useful. No conclusion, however, can be drawn from the presence of albumin in the urine, excepting that it is not normal. The greatest significance of the negative test is in cardiac cases in which it gives evidence of absence of congestion of the kidney and makes the prognosis more hopeful. In the sugar test there are many serious errors, especially with Fehling's solution. It is most useful for just one purpose, viz., to exclude the presence of sugar. The tests which give positive indications of the presence of sugar are the polariscope, fermentation and the phenylhydrazin reaction. The second one of these has some advantages in being useful also for quantitative determination. The phenyl-hydrazin test as ordinarily given is the most unsatisfactory, but the use of pure phenyl-hydrazin, 5 drops, glacial acetic acid, 10 drops, and saturated solution of sodium chlorid, 1 c.c. to 10 c.c. of urine, boiling vigorously and letting cool slowly in the air has given him most excellent results. Sugar in the urine does not necessarily signify diabetes. The difficulties of clearing a mixed twenty-four hours' urine is considerable and without this a fairly representative sample is hardly to be obtained. An excellent method where it can not be had is to take equal parts of the water passed in the late afternoon before retiring and upon rising in the morning, but this will not suffice for careful quantitative methods. One of the commonest errors in connection with specific gravity is to conclude that the urine does not contain sugar, if it is below some arbitrary point, 1030 or 1020. He has often seen it with a specific gravity of 1015. Another mistake is failure to recognize the significance of the urine of constant low gravity and increased quantity. If albumin is absent such urine points strongly to contracted kidney. As regards the quantitative de-

termination of urea, it is so dependent upon diet and other factors that he does not think it well to draw many conclusions from a single examination. For practical purposes the total solids, as indicated by the quantity specific gravity ratio, affords as much and less often misleading information. No error is greater than to neglect microscopic examination and certain points are not sufficiently brought out in the text-books. One of these is the occurrence of calcium oxalate in a form closely resembling red-blood corpuscles in size and shape. Janeway has found casts without albumin where he has taken particular pains in applying the trichloracetic acid test, and such findings illustrate the necessity of making one's observations independent of each other. The error of making a diagnosis of diabetes from the existence of sugar or of kidney disease on the presence of a few casts is remarked upon. In sputum examination the tubercle bacillus is not the only thing to be looked for. The examination of the unstained expectoration may be of value. The occurrence of Charcot-Leyden crystals and Curschmann's spirals in asthma is mentioned. Errors in the examination for tubercle bacilli are noted and he particularly speaks of the failure to insure sputum from the chest. In blood examination, the individual idiosyncrasies as regards color estimation in the hemoglobinometer is noticed and the numerous errors possible in the search for malarial organisms. The new polychrome methylene-blue stain just perfected by Dr. L. B. Goldhorn places the staining of malarial parasites within the ability of all and is an easy safeguard from any former errors. The time of examination is also important, the best is about eight hours before the chill, the parasites then accumulating in the internal organs. The mistakes in the diagnosis of leucocytosis, etc., are mentioned and he thinks that the possibility of the confusion of specimens in a large laboratory is a matter of importance. He has known of cases where a laboratory diagnosis of typhoid led to overlooking a large internal abscess for three weeks, the mistake being caused this way. In the examination of the stomach contents errors are possible. The finding of lactic acid has no meaning if milk has been taken, and this often occurs with a patient using a roll for his test breakfast, made with milk. Töpfer's method with the use of alizarin is rejected by the writer, and he uses Congo red to estimate the total free acid and acid salts. The usual tests for lactic acid, Uffelmann's, Kelling's, etc., are subject to so many errors that a positive reaction should not be considered due to lactic acid unless corroborated by a test made in a solution of an ether extract of the filtrate. The most we can obtain by our analysis of the gastric contents is the functional diagnosis. Errors of judgment are possible. The influence of the nervous system on the stomach is so important that the most searching examination of the psychic and physical conditions of the patient can alone guard against serious errors.

16. **Contusions of the Abdomen.**—The author here attempts to present the symptomatology of the conditions that are liable to occur in abdominal contusions and discusses them in detail. The injuries enumerated are those of the ureter, bladder, liver, kidney, stomach, intestines, spleen, and pancreas; in each case the symptoms, diagnosis and treatment are noticed at length. The general considerations are given at the end of the article. The injury may be externally slight and severe internally, or vice versa. The question to be settled following abdominal contusions is whether operative interference is required. An exploratory operation will often be justified, even demanded. Shock alone may be without discoverable pathologic lesions and improvement from this condition is a valuable indication that the patient can bear the operation. Ordinary shock is recovered from in about three hours of the injury. Increasing shock should suggest intra-abdominal hemorrhage or visceral rupture. The absence of shock does not mean the absence of serious lesions. In profound and continued shock active operative interference is absolutely contra-indicated. Hemorrhage, pain, tenderness, vomiting, distension and rigidity are valuable symptoms, the last two suggesting peritonitis and serious infection. The questions to be answered in any case are: Is operation necessary? Are there lesions of viscera? Two classes of cases should not be operated upon at first: 1, that class in which little or no shock is present; in which there are absolutely no localizing signs; and 2, that class in which profound shock, amounting perhaps to collapse, exists. Immediate operation is demanded in persistent moderate shock, with or without localizing signs. Immediate operation is demanded in cases of progressing hemorrhage. Immediate operation is demanded in cases of peritoneal infection. For the details of treatment, etc., the reader is referred to the original article.

17. **Antistreptococcus Serum.**—Five desperate cases of puerperal sepsis treated with antistreptococcus serum reported by Higgins, do not seem to show it to be a valuable therapeutic agent in these conditions. Its power is limited to a very narrow line of cases. It has a very marked depressing effect on the patient and the directions advising its administration off-hand in large and frequent doses should not be followed with very sick patients. He thinks it is best endured by the patient and less danger follows a dose of 10 c.c. repeated not oftener than every twelve hours. In 20 c.c. doses it is a remedy not without danger. He believes that the serum has no place in the routine treatment of puerperal sepsis and should be only used in desperate cases after failure of other measures; if no improvement is shown after two or at the most three days of its use and after the total injection of 40 to 60 c.c. it should be discontinued.

20. **Puerperal Polyneuritis.**—The case reported appears to have been in the first stages, one of neuritis, after several months passing into a poliomyelitis. The rapid ascending progress of the disease was the first indication of the involvement of the spinal cord. The cause is not clear though a number of other cases of puerperal poliomyelitis have been reported. There was severe vomiting during pregnancy, and the author calls attention to the view of Clifford Allbut that such vomiting is due to toxins and suggests that the same toxins may induce neuritis.

21. **Localization of Sound.**—Randall calls attention to what he thinks is a neglected point in regard to unilateral deafness, that is the difficulty of locating sound which must be experienced by its victims. In ordinary hearing there is a sort of stereoscopic action or triangulation by which sound can be rapidly located; but with only one ear hearing, one side of the brain has to do the work of two. He thinks that it is time that the value and importance of "binaural hearing" should be better appreciated.

22. **German Clinics of To-day.**—Hemmeter points out certain tendencies in German clinics, viz., putting the personality of the patient in the foreground of the treatment, not the constitution or disease, and the tendency to make use of a large variety of remedies and many methods. The dietetic treatment, for instance, has been wonderfully evolved. He points out the differences between German and American habits of diet, as indicating the need of a special dietetic journal here. The prophylaxis is also an important point with them and all the humanitarian devices, which are greatly worked up in German clinics. Much attention is also paid there to hydrotherapeutics and aero-therapeutics, the use of hot and cold air, gymnastics and massage. The German internal clinic of to-day is no longer under the ban of pathologic anatomy, but its highest aim is the perfection of treatment, to help and to heal.

24. **Deaths from Anesthetics.**—Galloway calls attention to the common carelessness in regard to the use of anesthetics and gives instances which have occurred under his observation. He says that while many operations are practically devoid of danger, no anesthetic is ever administered without jeopardizing the life of the patient. Administration of anesthetics by an inexperienced man is most strongly condemned. He has, he says, helped to resuscitate 17 patients from an overdose of the anesthetic, but has not had a case of his own for nearly six years until within a few weeks. This case was reported as illustrating the dangerous power of chloroform and the suddenness of its action, which sometimes may make unpleasant complications. He claims that if unnecessary deaths occur from anesthesia the responsibility extends beyond the anesthetizer

and includes the medical colleges which ignore its importance; and make no effort to teach it properly, if at all, and that confer diplomas which the people accept as the evidence of a training which the student has not received.

25. **Esophoria.**—Latent congenital squint is discussed by Valk, who gives a number of cases showing the benefit of operation by shortening. In all the same operation was performed, shortening the muscle by a single tuck at insertion of the tendon into the sclera and leaving the catgut suture to be absorbed.

26. **Strangulated Hernia.**—The mortality in strangulated hernia, according to Lathrop is due to delay in operation and to unnecessary taxis. Taxis is never free from danger and should be discarded, excepting in emergencies. Strangulated hernia is invariably fatal unless relieved and early operation will nearly always succeed.

28. **Vaginal Operation.**—In the continuance of this article Pryor gives the further details of his methods. He does not consider the presence of pus a positive indication for the removal of pus tubes. In young women in the first attacks he generally contents himself with palliative procedures of evacuation. After repeated attacks a radical operation is preferable. When the adnexa of both sides are so damaged as to require removal the uterus is not only a useless organ, but a mischievous one. He goes farther and protests against the removal of one pyosalpinx and leaving the other, though apparently normal. The chances of any functional utility of the other one are too slight to be considered. The indications for ablation in genital sclerosis are found in the subjective symptoms rather than the physical signs. He is outspoken in his opposition to myomectomy, excepting in rare instances. A clean curettage supplemented by the administration of mammary extract is without risk, and causes greater reduction in size than myomectomy. If he operates for fibroids he uses the radical operation, but does not operate unless disagreeable symptoms are present. The mere presence of fibroid is not an indication. In certain cases of pus and fibroids he never operates through the vagina if symptoms of appendicitis are present, or where the uterus is broken down in puerperal sepsis laparotomy is demanded as also is the case in large fibroids, but these form only a small percentage of the cases. When the complications of pus cases are distinctly abdominal, the operation must proceed through the abdomen. Complications and accidents of the vaginal operation are noted and Pryor claims better results than the average in laparotomy. He has never found any shortening of the vagina after vaginal ablation.

29. **Inguinal Hernia.**—The operations for inguinal hernia are reviewed by Ricketts, with the chances of recurrence, etc. He calls attention to three causes of failure in radical operations: 1. Deficient origin (attachment) of the internal oblique. 2. Pressure on the walls of the abdomen by the truss (where one is worn). 3. The length of time hernia has existed, especially in the aged. In making a radical operation he says do not divide the fibers of the tissue. Do not cut the blood vessels, and nerve repair will be more certain and rapid, for the reason that the vitality of the tissue will be preserved, but the operator should cut out the fat.

31. **Anaerobic Bacteria.**—Le Roy quotes from a report read by Veillon at the International Medical Congress in Paris last summer on some hitherto overlooked and unknown anaerobic bacteria that. "Following an extensive systematic series of researches we have been able to isolate 14 species of strictly anaerobic organisms. These anaerobes are the principal agents of a whole series of affections of a gangrenous or putrid nature. They have been isolated in otitis, mastoiditis, cerebral abscess, pulmonary gangrene, putrid pleurisies, dental caries and suppurations of dental origin, sinuses, phlegmons of the orbit, gangrenous pericystitis, appendicitis, peritonitis, hepatic abscess, periuterine suppurations, certain puerperal infections, bartholinitis, urinary abscesses, extravasation of urine, vesico-renal and peri-renal infections, and gangrenous phlegmons. The details of the technic employed in the special study of each of the diseases in which these bacteria have been encountered will be found in a series of works undertaken in the laboratory of Prof. Grancher. We will here content ourselves with giving a resume of the biologic properties of these microorganisms. Exclusively anaerobic, they have the property of necrosing living tissues and at the same time to cause them to undergo a process of disintegration analogous to putrefaction; these are the agents of the gangrenous and putrid processes. Not only do they act locally but by the toxins which they secrete as well, they provoke a veritable general poisoning which is evidenced by the symptoms of constitutional infection and in typical cases by an alteration in general condition which may be termed the putrid facies or cachexia. In the study of their toxins and by immunization we soon hope to have a serotherapeutic treatment which will be truly rational and efficacious." LeRoy has in progress some work on the same line with which he hopes to be able to verify the above.

32. **Compound Fractures.**—Moriarta reports a number of cases of compound fractures and urges that when the pathologic condition is not positively demonstrated in such cases, the puncture or laceration be enlarged, the bone fully exposed, approximated and held there, provided the physician is sure of his technique and the patient's condition does not contraindicate it. The danger, he thinks, is insignificant while the advantages of the method are great.

34. **Digitalis.**—That the impression given by some textbooks that the symptoms of cumulative digitalis poisoning has no real gravity, is erroneous, is held by Zugsmith, who reports a case in which artificial heat was employed with great advantage in counteracting it. The theory, however, of the method he thinks was wrong though the results were good.

35. **Prolonged Intubation.**—According to Rosenthal the rule in intubation should be to remove the tube within five days, unless it be removed by expectoration before and not further required. If the tube is required longer than such time it would be hard to say when it should be removed and the case may be held to be abnormal. All cases requiring the tube longer than five days must be classed as cases of prolonged intubation. The treatment consists in large doses of strychnia and constant re-intubation and extubation daily or every two days with progressively smaller tubes until the case no longer requires it. An illustrative case is reported.

36. **Carbuncles.**—The treatment of carbuncles recommended by Carothers is prophylactic, abortive, medicinal and operative. Many cases can be prevented by cleanliness and where damage to the kidneys and liver exist these should be looked after. If seen in its beginning the carbuncle can often be aborted by injection of a few drops of carbolic acid, or a white hot needle thrust into the center of the inflammation. In more advanced cases he uses a sharpened stick of caustic potash thrust down to the underlying fascia in the center of the carbuncle producing a necrosed crater and this relieving tension and avoiding the more extensive operation of the extirpation. The medicinal treatment is the relief of pain by tonics, diet, etc. He prefers for the local treatment equal parts of castor-oil and turpentine applied to the carbuncle on absorbent cotton or gauze, which is to be kept thoroughly saturated. It relieves pain at once so that in most cases no narcotic is required. It prevents suppuration. He first limits the inflammation and promotes granulation. The most rational operative treatment is the burning away of the entire mass with the actual cautery, creating the carbuncle into a burn of the second or third degree. He does not look with favor on the cutting operations, especially the crucial incisions or curette, which may do serious damage.

38. **Complicated Ovarian Tumors.**—Ries reports two cases interesting on account of the diagnostic difficulties, and emphasizes the following two points: 1. If a pelvic suppuration appears to be present and the history of the patient gives no clue to its cause; remember suppurated ovarian tumors! This is important because, 2, conservative operations which might be successful in simple pelvic suppurations, would fail to cure suppurated ovarian tumors.

43. **Two Starvations.**—The conditions here considered are rickets and scurvy, and the importance of the early diagnosis of the former is insisted on. Rickets is fat starvation, and scorbutus is starvation from the anti-scorbutic element, what-

ever that may be. O'Day considers that these disorders are largely caused by artificial foods, and that fresh raw milk from a healthy cow, properly diluted, is far better. The treatment of rickets is mentioned: cod-liver oil stands pre-eminent as a remedy. The child developing rickets should be given from 15 drops to 1 dram three times a day. If this is not taken kindly, some other kind of fat is indicated, and bacon comes next in its efficiency. Butter and cream can also be given with good effects. For scurvy anything that supplies the anti-scorbutic element is all that is indicated. Fresh raw milk contains this, and fruit, especially oranges, is a specific for the disease.

44. **Uric Acid Toxemia in Children.**—After an analysis of the condition with a table of fifty-seven cases, Brandt calls attention to the various conditions which may depend on a uric acid toxemia including, eczema, indigestion, urticaria, pharyngitis, tonsillitis, joint inflammation, etc. In a large proportion of these cases there was heredity. He insists on frequent quantitative analysis of the urine, made by a competent man in these cases.

50.—See abstracts in The Journal of March 23, p. 832.

52.—Ibid.

53.—Ibid., p. 831.

57. See The Journal of March 30, p. 891.

63. **Neuralgia.**—Hughes objects to the surgical treatment of trifacial neuralgia, which he thinks can be generally managed by medical means. His chief reliance has been belladonna or its active principle (atropin), aconite, strychnia, large doses of quinin with gelsemium, hypophosphites of iron, with locally, ether, menthol, heat and electricity. He also uses arsenic in minimum doses and some coal tar anodynes. In some cases he has found it necessary to employ large doses of muriate of ammonium after Anstie's method, 30 gr. three times a day. He has done this often in combination with bromid of ammonium, and found other bromids often useful as alternatives. His special objection is to Gasserian ganglion excision which he thinks is unnecessary and inapplicable because trifacial neuralgia is not exclusively a disease of this ganglion or of the fifth nerve, and the danger of operation with its uncomfortable side-effects are such as should generally prohibit it. If he was to suggest a neuro-surgical plan of treatment when medical treatment failed, he would prepare the patient for radical relief by securing hopeful consent to combined surgical and neurological treatment, put him or her to bed, give chloroform, extirpate the involved peripheral nerves if desirable, keep both eyes closed as long as one would keep them closed after Gasserian ganglionectomy, keep visitors away, and use proper medication for six to ten weeks. The patient should be treated internally and constitutionally as well as locally.

70. **Benign Tumors of Skin.**—In this article Buxton describes the gross and microscopic appearances of growths such as keratomas, papillomas, akanthomas and the various forms arising from epithelial appendages, sweat and sebaceous glands and ducts. The different forms are elaborately illustrated, but the article itself is not suitable for a condensed abstract.

72. **Impetigo Contagiosa Bullosa.**—The culture and inoculation experiments of Engman with bullous impetigo are reported, together with a general description and discussion of the condition. In seven out of the eight cases examined, pure cultures of the staphylococcus aureus were obtained, in one the streptococcus and a short bacillus normally found in the skin were also found.

79. **Paralysis of Anus Sphincters.**—Seventy-six cases of paralysis of the sphincter of the anus following forced dilatation, lasting from several months up to absolute permanency have been found by Andrews. He has also learned of 7 deaths from this cause. The dilatations were due to all sorts of methods from simple insertion of the fingers to insertion of the whole hand. He says the anus and rectum are in some patients very small congenitally, and in others ulceration has dangerously thinned their walls, cicatrization has contracted their diameter or disease rendered the tissue fragile. In one case a rectal bougie 11 cm. in circumference caused the death of the patient. The conclusions he offers are the following: 1. There are few internal disorders of such location and importance that they imperatively require the insertion of the hand for the purpose of diagnosis or treatment. 2. The case may be so important that the peril of omitting the exploration is greater than the danger of making it. 3. In that case the insertion should be made boldly, though with care, but it should never be done where such urgent necessity does not exist.

81.—See abstract in The Journal, xxxiv, p. 1490.

82.—Ibid.

83.—Ibid., p. 1416.

84.—Ibid., p. 1491.

98. **Uterine Displacements.**—Davenport's method of treating uterine displacements with adhesions is a combination of packing and massage followed by the use of a support. He places the patient in the Sims' position and packs the vagina firmly with pledgets of cotton soaked in glycerin. Pressure is what is required; careful and systematic packing will give this. The glycerin relieves the congestion and promotes absorption. This first packing is allowed to remain two days. If it becomes loose it should be replaced and the treatment should then be repeated and firmer packing substituted. This can be left two or three days. After two or three of such treatments the condition of the organ should be investigated and what he calls massage be used. The patient is placed on the back and an attempt made to dislodge the uterus. With a double hook in the anterior lip it is drawn down as far as it can be without too much pain and with one or two fingers in the vagina the uterus is lifted. If bands of adhesion are felt, they may be stretched, and lightly massaged and the same done to the masses at the sides. This should not be prolonged over a very few minutes, and the same process repeated after two or more treatments. Definite results either positive or negative should show themselves in two or three weeks. The interval between the two menstrual periods is usually sufficient to demonstrate how much can be done. He says it is surprising to see how much stretching of adhesions can be done, what good results can be obtained. If the adhesions are very dense and little can be done, and the patient's sufferings marked, an abdominal operation should be undertaken, but it should be a radical one. It is better under these circumstances to remove the appendages and to amputate the uterus. If this is not done the breaking up of adhesions will not prevent their being renewed.

99. **Dysmenorrhea.**—Most cases, according to Judd, are due to congestive inflammatory disease of the uterus and its adnexa, varying from a simple endometritis to a metritis or perimetritis, or to prolonged inflammation of the adnexa, aided by the local neurotic condition of the pelvic ganglia, which conditions may be congenital, or brought about or aggravated by the inflammatory conditions of the pelvic organs. In a certain proportion of cases the neurotic condition is a larger element in the causation of the pain than the inflammatory condition. The volume of cause, so to speak, must of necessity vary with the individual.

101.—See abstract in The Journal, xxxv, p. 1424.

102. **Uretero-Intestinal Anastomosis.**—In Kirkley's case there was, after abdominal section made for the removal of appendages, the uterus being left, a combined fecal and urinary fistula with common outlet. Owing to the hemorrhagic diathesis, the enormous quantity of pus, and the patient's condition, operative procedure to close the fistula was not to be thought of and free drainage and washing out was relied upon. In about two weeks the urine appeared through the fistula and soon after fecal matter, but at the end of twelve weeks the opening had entirely closed, and after the urine ceased to escape through the fistulous opening, it passed per rectum and has done so ever since the operation. The general health has been good, bowels regular, uterus freely movable, though it still gives trouble and hysterectomy may yet be required. The operation was made under strictly aseptic measures and it seems impossible that infection occurred at the time and the extensive suppuration that occurred, involving the intestines and ureter, probably destroying the latter, is suggested as having arisen from the intestines. A fecal fistula must have formed

into which the divided or destroyed end of the ureter emptied and it seems to be a case in which nature shows us the possibility of an indirect anastomosis with the intestine.

103. **Cancer of the Uterus.**—The operation described by Bovee is a modification of those of Werder, Ries and Pryor. He first uses a vaginal douche of corrosive sublimate 1 to 2000 followed by loose packing of the vagina with bichlorid gauze. 2. Abdominal incision, and placing patient in Trendelenburg position. 3. Ligation of ovarian vessels at the wall of the pelvis, and securing them at the uterine cornua with forceps or ligatures. 4. Separation of bladder from uterus and broad ligament. 5. Partial dissection of the ureter from the iliac artery to bladder, and placing two silk loops around each as guides, ligating and severing the round ligaments at the pelvic wall; splitting the broad ligament and ligating the uterine vessels close to the origin of the uterine artery; dividing broad ligaments at the outer ends; cutting away the utero-sacral ligaments close to the pelvis, and continuing the dissection down outside the vagina near the vulva. The glands and fat are dissected out from all exposed denuded surfaces up to the iliac junction and down to the bottom of the dissection, as well as along the lateral margins and slightly posterior to the rectum. 6. Push all loosened structures down into or through the vulva, and pack above with sterile gauze. Over this gauze suture peritoneal covering of bladder to rectum and posterior margins of peritoneum. Close abdominal incision. 7. Place the patient in the lithotomy position and, grasping the cervix uteri with a volsella forceps, pull out the loosened structures and, by a circular incision through the vaginal wall, meet the edge of the dissection from above. The end of the gauze packed in from above is pulled into the vulvar opening for easy withdrawal about the fifth day. He has operated 15 times, with 1 death and 2 recurrences since March, 1898.

115. **Otitic Extradural Abscess.**—Randall says that in acute as in chronic cases very extensive intracranial collection of pus can occur with minimum symptoms, and this not only in patients with extra thick mastoid cortex, but in some where the yielding of the bone has been exceptionally quick. Free incision of the soft parts may be reserved for cases with fluctuation. It should then be employed as a step to thorough exploration of the bony structures, without which the surgeon is in the dark. The antrum should be freely opened in acute cases and all the tympanic cavities in chronic, not only for drainage, but for thorough exploration, and every portion of diseased or suspicious bone curetted away. If this leads the operator through the inner table to the dura, he should follow the clue without hesitation. Extradural abscesses well evacuated are wonderfully harmless as compared to the conditions when confined. Five cases which led him to these conclusions are reported.

127. **Rectal Reflexes.**—Burke reports several cases where reflex symptoms such as backache, pain in the thighs, general lassitude, abdominal pain and general malaise accompanied rectal ulcers and were relieved by their cure.

128. **Epilepsy.**—From the study of several cases, Lindley concludes that the removal of the ovaries offers very little hope in the great majority of cases of epilepsy, but there is now and then a selected case in which operation is justifiable. The removal of the uterus leaving the ovaries intact, according to some investigators is a promising operation and he shall feel inclined to try it in any future opportunity. In one of his cases, in a girl 19 years of age in whom convulsions seemed to have special connection with the menstrual periods, oöphorectomy has seemed to produce benefit thus far, though only a short time has yet elapsed.

137. **Adrenalin.**—After first noticing the work of Abel and von Furth and their products, epinephrin and suprarenin, neither of which was obtained in the perfectly pure state, Takamine describes his adrenalin, which he considers the isolated active principle of the suprarenal gland. It is a light, white, microcrystalline substance with slightly bitter taste and leaving a slightly numb feeling on the tongue where it has been applied. When dry it is perfectly stable. It shows a slightly alkaline reaction on moistened litmus paper, is soluble with difficulty in cold water, but more readily in hot, the crystals separating after cooling. The colorless aqueous solution is easily oxidized in the air, turning to red and eventually to brown. It is easily soluble in the acids or alkalies, but not in ammonium hydroxid or solutions of the alkaline carbonates. With ferric chlorid a beautiful emerald green color is produced, which by careful addition of caustic alkali becomes purple or even carmin red. Strong acid prevents this reaction, giving only a dirty yellowish-green. It reduces silver salts and gold chlorid very energetically and turns the liquid red. Oxidizing agents such as ferricyanid and bichromate behave the same way. He has produced three kinds of salts, hydrochlorates, sulphates, and benzoates by dissolving adrenalin with three different acids, and evacuating, in vacuo, over strong sulphuric acid. In the course of time the residues became brown brittle amorphous masses, deliquescent in the air. Its physiologic activity is astoundingly strong. A solution of 1 to 10,000 blanches the normal conjunctiva in thirty to sixty seconds. Intravenous injection produces an enormous rise of blood pressure, and 0.000008 of a gram is equal in its effect to 0.005 of a gram of suprarenal extract. Adrenalin administered in quantity of one fourteen-millionth part of one gram per kilo of body weight will produce distinct physiologic effects. It is the most powerful astringent and hemostatic known, and the strongest stimulant of the heart. It is non-irritating, non-poisonous, and non-cumulative, and without injurious effects. It has given satisfactory results in the treatment of acute conjunctivitis, some cases of deafness, bloodless operations on the nose, laryngeal phthisis, hay fever, nasal hemorrhage, "bleeders," diseases of the heart, nose and throat, asthma, laryngitis, urethral disease, Addison's disease, exophthalmic goiter, etc.

138. —**Scopolia Carniolica.**—Wood's investigation gives the comparative action of scopolia carniolica or so-called "Japanese belladonna," with atropa belladonna and concludes as follows: Scopolia carniolica in its physiological action so closely resembles atropa belladonna as to be practically indistinguishable. Like belladonna, scopolia elevates the blood-pressure, paralyzes the pneumogastric nerve, is primarily a stimulant of the respiratory center, and in fatal dose kills by asphyxia. In the frog it is a paralyzant to the spinal cord and to Setchenow's center, and when brought in direct contact with a motor nerve lessens its function. The dominant alkaloids of the two plants, however, are probably not identical, since we find the scopolia apparently a little more depressant to the spinal cord, and distinctly more toxic.

142.—This article has appeared elsewhere. See THE JOURNAL of March 30, title 32, p. 919.

## FOREIGN.

British Medical Journal, April 27.

**Remarks on the Training of Ophthalmic Surgeons.** A. FREELAND FERGUS.—The importance of proper training for the ophthalmic specialist, especially if there is to be a separate register for them, is noted and the lack of such training in the English system of education remarked. Fergus thinks that even in the preliminary education a difference should be made: a better acquaintance with elementary mathematics ought to be required than of the average student and he shows how a knowledge of trigonometry and analytical geometry may be useful and how the lack of it lead to mistakes in text-books, articles, etc. The earlier years of his medical education should also embrace biology, chemistry, human anatomy including histology, and the physiological course should include adequate instruction in physiologic optics, movements of the eyes, the cerebral mechanism of sight, etc. A knowledge of physics is essential and the student should be required to attend an ophthalmic laboratory for at least twelve months, should master such instruments as the spectroscope, spectrometer, spherometer, and the diffraction grating. These are, of course, independent of general medical studies including pathology, therapeutics, etc. A course in special pathology is particularly desirable. The amount of attendance on formal lectures is difficult to determine, but clinical work should be compulsory and cover a period of at least three years, taken up entirely with examination of patients under competent teachers.

**On the Advisability of the Inclusion of the Study of Anesthetics as a Compulsory Subject in the Medical Curriculum.** Dudley W. Buxton.—At present there is no uniform teaching of anesthetics in Great Britain and the importance of this is insisted upon by Buxton. One thing that is especially dwelt upon is "aloofness" from the surgical aspect of the operation, as of paramount importance. This does not mean that the anesthetist should neglect being of aid to the operator, but he should concentrate his mental powers upon establishing and maintaining a perfect degree of narcosis without any swerving of his attention from his business, all other matters being secondary. He suggests that a resolution be passed by the General Medical Council compelling all medical students before applying for final examination to offer evidences of having studied the practice of some recognized anesthetist. This instruction should comprise a course of lectures dealing with the theory of anesthesia, its physiology and practice and include familiarity with common agents, mixtures and apparatus. He should also offer proof of having administered nitrous oxid gas, ether and chloroform. As a minimum an experience of fifty cases might be accepted, at which the student has been present. Of these at least twelve should have been conducted by him throughout. The student should also have obtained a certificate of proficiency from a recognized teacher. The final examination of the students should include tests of their knowledge of anesthetics, both practical and viva voce.

**On Certain Practical Applications of Extract of Suprarenal Medulla.** E. A. Schafer.—The writer makes the suggestion that since observations shew that this extract has a greater power in causing contraction of the musculature of the uterus than any other drug, whether applied directly or introduced into the circulation, it would be very valuable to control hemorrhage and to strengthen uterine contraction in obstetrics. The solution he would recommend to be used is an infusion of dry medullary substance, 30 grains to the pint of sterilized water and injected while still fairly hot; he suggests the solution as a powerful styptic, and says its efficiency can be still further increased by the addition of 60 gr. of calcium chlorid. Another use suggested by the same author is in sudden cardiac failure, for the relief of shock, or hemorrhage or an overdose of an anesthetic. In these cases the sterilized decoction which may be of the strength of 5 gr. to every ounce, must be filtered, and should be injected with a hypodermic syringe very slowly into a superficial vein or even in extreme and hopeless cases into the heart itself through the thoracic wall. He has seen such remarkable results in animals from this method, among them complete resuscitation of the heart when circulation has apparently ceased, that he thinks its trial in the human subject in this class of cases should be called for.

**The Dietetic Value of Sugar.** H. Willoughby Gardner.—From the statistics Gardner finds that Great Britain and the United States consume a larger amount of sugar, *per capita* than any other countries and he attributes to this the vigor and robustness of the Anglo-Saxon race. He goes over the dietetic facts in regard to sugar, showing that it is a muscle food, and that it should be used in cases of fatigue; Alpine climbers and Arctic travelers find its use advantageous. During the past year he has strongly recommended sugar to patients who he thought would be benefited and has been greatly pleased with the results. He mentions a case where it apparently rehabilitated a case of seemingly advanced phthisis after influenza followed by pneumonia and in which the symptoms quickly disappeared after giving 4 ounces per day of pure cane sugar, not counting jam and cakes, of which the patient took freely. The objections to the diet are mentioned; its effects on the teeth he thinks are due to the impurities and not to the sugar itself. Alimentary glycosuria should be watched out for and it is well to test the urine during the treatment. In the case of a child with disorders of the mucous membranes it would be contraindicated, as well as in decided diabetes and glycosuria. In gout and rheumatism, he is inclined to think that the prohibition of sugar in the latter may be only due to prejudice. In gout the condition is more clear. Those who are gouty and fat should avoid sugar like poison, as they can not utilize fats and carbohydrates, but those who are gouty and thin are in a different category. One must limit their nitrogenous food, but may give them sugar and starch without much fear. There are many who do not fall distinctly in either class, and their diet must be determined experimentally and may have to be varied from time to time.

**A Preliminary Note on the Hibernation of Mosquitoes.** H. E. Annett and J. Everett Dutton.—Noticing the observations of Wright in regard to the hibernation of mosquitoes, abstracted in our issue of May 4, p. 1282 the authors give their own observations. They find that the culex and anopheles hibernate during the winter in damp places or old farm-houses, built without damp proof courses. In this condition the position of both culex and anopheles is peculiar; their legs are spread out on the walls and not in their usual resting positions as in summer. They conclude that there is no doubt but that mosquitoes of both genera hibernate during the winter months in England, and Wright shows that larvæ also provide for the continuation of the species during the cold weather.

The Lancet, April 27.

**The Sometimes Successful Treatment of Cases of Apparently Incurable Blindness.** Charles Bell Taylor.—Galvanization in optic troubles is specially insisted upon by Taylor, who reports remarkable successes in blindness after optic neuritis, corneal ulcers, etc. Next to this he would class mercury which may be administered under the form of a blue pill, ointment, vapor, and sub-conjunctival injections. For the latter purpose he prefers the cyanid. As a derivative he mentions blood-letting, which he thinks is too much neglected, also baths, counter-irritants, etc., which distract the attention of the nervous system from the disease. The cases he reports are apparently quite remarkable, as regards his success.

**On Two Cases Bearing Upon the Question of the Limitations of Enterectomy.** Arthur E. Barker.—Two cases are reported, one of a woman aged 58 years, suffering from diabetes with 6.6 per cent. of sugar in the urine. There was a malignant tumor producing stricture of the colon and obstruction of the bowels which was operated upon with removal of four and one-half inches of the gut, one inch of this being taken up by the growth. The patient bore the operation particularly well in spite of the diabetic trouble, and the amount of sugar diminished after the operation. Hitherto such a state of things has been held a counter-indication to severe abdominal operations. The operation was certainly justified in that the patient recovered in spite of diabetes, and its success is gratifying as showing what may be done under such circumstances. The second case was that of a feeble old woman aged 76, who had undergone ovariotomy, and from whom about five and one half feet of small intestine were successfully removed for gangrene, the patient making an excellent recovery. The advanced age appeared to be no bar to most perfect repair and she did as well as a patient of 50 years younger could have done.

Journal of Laryngology, Rhinology and Otology, April.

**The Treatment of Deviations of the Nasal Septum.** E. J. Moure.—The author reports an improvement on the Asch operation for septal deviations. In case of existing spurs he removes them with an osteotome of his own devising which consists of a much-elongated ring, whose ellipsoidal extremity has two opposed cutting edges. These are concave externally and very convex on the other side, meeting at an acute angle at the part destined for cutting the fibro-cartilage. The lower portion of the ring is blunt, so that when the spur is well engaged in the lumen and strong traction made, the projection is forced advantageously between the blades and is cut very close to the base. When the deviation is such as to obstruct the passage and make it impossible to pass the osteotome to enlarge the projecting part, he would begin by making one or two narrow channels by the aid of the galvano-cautery point plunged in from before backwards, parallel to the septum. This preliminary operation done, he removes with cutting pliers all parts situated externally to the region thus hollowed out, thus making an opening sufficient to introduce the instrument.

Generally at the time he removes the cartilage he stops the hemorrhage with a galvano-cautery knife, placed over the raw surface. As a rule the cut surface heals by a pseudo-membranous exudate and he does not further touch the nasal fossa, keeping the patient at rest from twenty-four to forty-eight hours. When suppuration occurs, he uses the nasal douche every morning. When there is present with the deviation not only a spur, but a luxation of the fibro-cartilage at the antero-inferior part of the septum, after asepsis, etc., he incises the mucous membrane at the extremity of the fibro-cartilage with a bistoury and detaches it over the lateral parts as far as possible, that is to say from 0.5 to 1 centimeter in depth and to each side. The fibro-cartilage that is bared is resected with scissors or bistoury, and the cut mucous membranes are united with one or two sutures. The wound generally heals in eight or ten days. In this procedure it is necessary to be careful to resect the fibro-cartilage sufficiently well forward in the nasal fossa, as there is always a tendency to leave a considerable portion which still juts out below the septum. When this operation is finished and the patient has recovered, the spur only remains to be removed in the way already described. When these wounds have healed and cicatrization is completed, that is in about a month, he attacks the deviation. Eight days before operating he sprays the fossæ night and morning with a solution:

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|---|---|---|
| R. | Oleate of cocain | 15 |
| | Powdered menthol | 25 |
| | Thymol | 5 |
| | Oil of vaselin | 45 |

In operating, after antisepticizing and cleansing with boracic acid douche and cocainizing, the fibro-cartilage is cut without further anesthesia in the following manner: With a pair of curved scissors, made on the principle of the Asch shears, he introduces the blades, one into each nostril and cuts along the base of the septum as close to the base as possible for a distance of 2 or 3 c.c. beginning a little back from the nostril. Then without withdrawing the scissors he passes them to the superior part and makes a clean incision, having an acute angle with the first cutting right through the fibro-cartilage. There is then a moveable fragment held in the front by the anterior base of the septum and behind by the peripheral plate of the ethmoid and the vomer. He then takes a special tube dilator, formed of two parallel blades, the outer rigid and the inner one much longer and made of a malleable metal, which he can mould to suit. This he introduces on the side of the deviation, the fixed part turned inwards and the malleable part toward the deviation. The tubes are made rights and lefts to suit each nostril. Having thus introduced the tube he models the soft part by the help of forceps introduced with his dilator, into the shape he wishes the septum to take in its new position. The tube is left in this position for seven or eight days. The operation is performed exceedingly rapidly and is not attended with much hemorrhage. The only inconvenience is in the pain from the inflammatory reaction following the operation during the first forty-eight hours. He advises his patients to keep to their rooms during the first few days and frequently bathe the nose in boiled boracic lotion, which takes the place of wet dressings. The method has the advantage over Asch's in not obliging the operator to remove the tube in twenty-four to forty-eight hours and facilitating drainage by the two sides of the tube being joined simply at their anterior and posterior parts. After two or three days the patient can generally go about his business if the cicatrix goes on in a normal manner, but if there is a tendency to become purulent or to accumulate it is best to wash twice a day with boiled boracic lotion. If there is neither suppuration nor secretion it is best to use no local treatment and remove dried secretion only every one or two days with aseptic gauze introduced with bent forceps. Generally after the eighth day he removes the apparatus and the septum is perfectly corrected as is also the external shape of the nose. The patients often breathe better on the side operated on than the other. He has employed this operation for several years, mostly with success, especially in adults. In children the results have been less brilliant on account of their restlessness or intolerance of the apparatus, or because the septum, not completely developed at this age, has grown deformed afterwards. He thinks it is not wise to touch the septum of children before its development is a little nearer completion, that is to say before 16 or 18 years. The presence of the tube may cause some pain, but that can not be prevented. The hemorrhage is so slight that it may be entirely neglected.

Progres Medical (Paris), March 6.

**Influence of Lead Poisoning on Offspring.**—Bourneville, in an editorial, quotes Paul's statistics to prove that the children of parents suffering from lead poisoning are doomed to certain death in nearly every case. Only 10 children were born alive in 141 pregnancies in which the father, and only 1 out of 27 pregnancies in which the mother was a chronic sufferer from lead poisoning. Six women who had previously borne 10 healthy children passed through 43 pregnancies after lead intoxication with only two living children and both of these sickly. The French authorities have been collecting statistics in regard to the offspring of painters who have to handle white lead, and it was found that only 15 children had survived the third year, out of 141 pregnancies. The records show that in thirteen years, 5484 painters have become affected and, leaving aside the insane, paralytic and idiots, the deaths alone amounted to a total of 598. Bourneville adds that he is now collecting personal data to demonstrate the influence of the profession of house painter on the production of idiocy.

Bulletin de la Soc. des Hop. de Paris, March 21.

**Infectious Origin of Zoster Fever.** Achard.—In two cases of idiopathic zona the same bacillus was cultivated from the cerebrospinal fluid of each patient. This cutaneous trophoneurosis may prove to be traceable to infectious changes in spine and meninges, affecting the nerve-roots or centers.

**Changes in Size of Right Cardiac Auricle Determined Posteriorly.** Teissier.—A number of hitherto puzzling facts in the pathology of the lung are explained by the mechanism of the dilatation of the right auricle. Teissier has found from clinical experience, confirmed by experiments on the cadaver and radiography, that the right auricle always enlarges backward, towards the spine, and that it produces a characteristic area of dulness in the back, in the sixth, seventh and eighth intercostal spaces. Percussion should be parallel to the spine at first to determine the outlines of this rectangular area of dulness. It may be the first sign of cardiac insufficiency, as the weakness of the myocardium entails the dilatation of the right auricle in certain cases. He recently observed an instance of this in a patient dying from typhoid fever. The auricle is most enlarged perhaps, in the asystolic period of mitral stenosis, in case of adhesions of the pericardium or by a reflex dilatation. But the auricle produces the area of dulness described even when only moderately enlarged. The variations in the dulness from day to day afford valuable information for the prognosis. The compression of the pulmonary veins by the enlarged auricle in some cases may explain the puzzling congestion at the apex of the right lung noted in typhoid fever and la grippe principally. The myocardium relaxes under the influence of the infection, with resulting dilatation of the right auricle. The congestion of the lung accompanying a cardiac affection always shows a marked predilection for the right side. It is localized sometimes at the base or exclusively at the apex or generalized. This localization is probably dependent on the group of pulmonary veins, the upper, lower or both compressed by the enlarged auricle.

March 28.

**A Cured Case of Tubercular Pericarditis.** Rendu.—The patient was a man of 34, originally robust, but addicted to liquor, with a tubercular lesion in the lung. The protuberance of the precordial region and left half of the thorax with the intense dyspnea at the slightest effort suggested a large pericarditic effusion. This diagnosis was confirmed by the increased area of dulness which extended from the third intercostal space to blend with the liver and lung dulness. About 800 gm. of fluid were removed by puncture and later, 1250 c.c. The cannula was left in place the second time and 1 gm. of pure camphorated naphthol was introduced through it into the peri-

cardium. The reaction to the naphthol was marked. For four days there were tachycardia, small pulse and pallor, suggesting imminent syncope. By the fifth day, however, the patient began to improve rapidly.

April 4.

**Spinal Cocainization in Sciatica and Tabes.**—Several members of the society reported that they had successfully applied spinal cocainization for the relief of sciatica and the fulgurant pains in tabes. Marie injected 5 mg. of a 1 per-cent. solution. The pains vanished for six hours and the general course of the affection seemed improved. Others reported that the sciatica recurrd in two weeks with all its former intensity. Sicard abolished the pain for three weeks in one case by injection of 4 c.c. of saline solution.

Echo Medical du Nord (Lille), March 24.

**Restoration of the Lacteal Secretion by Electrotherapy.** BEDART.—In eleven out of thirteen patients who found their milk drying up in the second or third month, Bedart succeeded in restoring the flow by the application of static electricity to one or both nipples for fifteen minutes daily for a few days.

Presse Medicale (Paris), April 10.

**Variations in the Physical Signs in Various Stages of Mitral Stenosis.** E. BARIE.—The sound of the opening of the valve is imperceptible in the first and third stages but is frequently audible in the second. The diastolic roll is deep in pitch and tone in the first, much sharper in the second and inaudible in the third stage. The first sound is snapping in the first, hard in the second and absent in the third stage. The second sound is reduplicated, with aortic precedence, in the first stage. In the second there is no reduplication but the sound is accentuated at the pulmonary artery. In the third, the reduplication reappears with pulmonary precedence.

Revue Medicale (Montreal), April 10.

**Peroxid of Hydrogen in Acute Urethritis.** L. RHEAUME.—The moral effect on the patient as he sees his urethra so thoroughly cleansed of pus by the hydrogen peroxid, is an important element in the treatment of acute urethritis. The injection causes much less trouble than the usual irrigation, and to say the least it is fully as effective. As the patient reclines it is much more comfortable. Rheaume uses one part of the peroxid to three of water and 1 cg. of cocain to 30 c.c. of the fluid. He injects 10 to 15 cg. and his results have far surpassed those attained with other treatments.

Centralblatt f. Chirurgie (Leipsic), April 20.

**Value of Aluminum Bronze Wire in Surgery.** R. PICHLER.—Silver for sutures has been completely supplanted by aluminum bronze wire in Mikulicz's clinic. Tests with various bacteria sown in Petri dishes showed that a sterile zone always surrounded pieces of silver, copper or aluminum bronze wire introduced, and that the zone was always widest around the latter. The development of the colonies was also slightly checked at some points. Clinical experience has corroborated the results of the tests. The alloy used contains 85 per cent. copper and 5 per cent. aluminum.

Dermatologische Zeitschrift (Berlin), April.

**Treatment of Syphilis with Specific Serum.** E. MOORE.—For seven years Moore had been testing and experimenting with the serum from syphilities as a cure for the disease. It has never failed to arrest the symptoms and is a valuable differentiating measure for chancre, as its local application produces a marked change in a day or two, with cicatrization in a week, while it has no effect on soft chancre. He derives the serum from syphilitic subjects by applying a blistering plaster, and injects 10 to 40 c.c. every third or fourth day. He has been enthusiastically convinced of the great value of this serum treatment for a long time but has not proclaimed it nor adopted it in general practice, as he remarks: "until he had passed it through the sieve of the Congress"—the recent Latin-American Congress at Santiago, Chili, where he made a detailed report with numerous demonstrations. His experiences include about seventy-five cases, thirty of which are fully described in this article.

Deutsche Med. Wochenschrift (Leipsic), April 18.

**Cardiac Neuroses.** A. SCHMIDT.—The pulse in heart-neurasthenics frequently becomes accelerated with no apparent cause. It may be accelerated or retarded under the influence of emotions and movements. It may also be accelerated by pressure on some painful point and retarded by stooping. The modifications in the pulse during breathing, Schmidt announces, are an important aid in differentiating these neuroses. During deep inspiration, the heart action seems to stop completely and the tracing of the pulse is nearly a straight line, in some cases. In others the pulse persists, much retarded, and the tops of the tracings are rounded. He also calls attention to the frequent coincidence of a sedentary occupation which requires stooping, with a cardiac neurosis. This favors abnormal mobility of the heart and explains the network of congested veins frequently observed in the cardiac region in such patients.

**Imperfect Oxidation of Sugar without Glycosuria.** P. MAYER.—If urine contains no sugar and merely considerable "glukuron" acid, it has been accepted as evidence that the transformations of sugar in the organism are proceeding normally. Mayer announces that the blood contains "glukuron" acid in some combination and that sulphuric acid liberates it. He is now engaged in attempts to isolate this combination from the blood. In the meanwhile, he states that he has established that the presence of "glukuron" acid in the urine is an evidence of defective oxidation of sugar.

Revista Medica de Uruguay (Montevideo), February.

**Cutaneous Isothermia and Cryanesthesia as Symptoms of Exophthalmic Goitre.** J. DE LEON.—This writer has noticed in every case of exophthalmic goiter which he has had occasion to observe, that the peripheral temperature is the same or higher than the axillary. The patients are also peculiarly insensible to cold. They frequently mention that their exceptional resistance to cold had been noted some time before the first manifestations of their disease. This cryanesthesia subsides as recovery progresses.

Gaceta Medica de Mexico, April 15.

**Rarity of Typhoid in Mexico.** A. GAVINO.—Mexican physicians have always expressed surprise that in spite of the contaminated drinking water, typhoid fever is of extremely rare occurrence in Mexico. Some have believed that the typhoid bacillus must produce a clinical picture differing from the usual type elsewhere. Gavino now reports that in his eighteen months of service at the Institute of Pathology, the typhoid bacillus has never been found once in the innumerable specimens sent for investigation, nor at the autopsies, nor were any lesions ever discovered in cadavers with typhoid characteristics. The bacillus, however, was omnipresent.

# Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CHRONIC URETHRITIS OF GONOCOCCUS ORIGIN. By J. DeKeersmaecker, Chief of Service, Diseases of the Urinary Organs at the Centralklinik of Antwerp, and J. Verhoogen, Agrégé at the University of Brussels. Translated and Edited, with Notes by Ludwig Weiss, M.D., Attending Physician to the Genito-urinary and Skin Service, German Poliklinik. Cloth. Pp. 251. Price, $2.75. New York: Wm. Wood & Co. 1901.

DISEASES OF THE HEART. A Clinical Text-Book for the Use of Students and Practitioners of Medicine. By Edmund Henry Colbeck, B. A., M.D., Cantab.; M.R.C.P., London; D.P.H., Cantab., Physician to the Out-Patients at the City of London Hospital for Diseases of the Chest. With 43 Illustrations. Cloth. Pp. 341. Price, 12 shillings. London: Methuen & Co. 1901.

THE THEORY AND PRACTICE OF MILITARY HYGIENE. By Edward L. Munson, A.M., M.D., Captain, Medical Department, United States Army. Illustrated by 8 Plates and Nearly 400 Engravings. Cloth. Pp. 971. Price, $8.00 net. New York: Wm. Wood & Co. 1901.

A TEXT-BOOK OF GYNECOLOGY. Edited by Charles A. L. Reed, A.M., M.D., President of the AMERICAN MEDICAL ASSOCIATION (1900-1901). Illustrated by R. J. Hopkins. Cloth. Pp. 900. Price, $5.00. New York: D. Appleton & Co. 1901.

THE STOCK-POISONING PLANTS OF MONTANA. A Preliminary Report by V. K. Chestnut and E. V. Wilcox. Paper. Pp. 150. Washington: Government Printing Office. 1901.

TRANSACTIONS OF THE ONE HUNDRED AND ELEVENTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF DELAWARE, Held at Rehoboth, June 12, 1900. Paper. Pp. 31. Wilmington, Del.: Sunday Star Print. 1900.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. February, 1901. Paper. Pp. 50. Price, $0.15 per copy. Philadelphia: Published by the Society.

MERCK'S 1901 MANUAL OF THE MATERIA MEDICA. A Ready Reference Pocket Book for the Practicing Physician and Surgeon Containing Names and Chief Synonyms, Physical form and Appearance, Solubilities, Percentage Strengths and Physiologic Effects, Therapeutic Uses, Modes of Administration and Application, Regular and Maximum Dosage. Incompatabilities, Antidotes, Precautionary Requirements, etc., of the Chemicals and Drugs Usual in Modern Medical Practice. A Comprehensive Collection of Prescriptions, Embracing also the Newer Remedies of Established Merit; A Classification of Medicaments; and Miscellany, Comprising Poisoning and its Treatment, Metric System and Tables, etc. Compiled from the Most Recent Authoritative Sources. Muslin. Pp. 282. Price, $1.00. New York and Chicago: Merck & Co.

## New Patents.

Patents of interest to physicians, April 16, 23 and 30:

672,317. Speculum. Willard E. Dow, Braintree, Mass.
672,207. Syringe. Jesse A. Dunn, Chicago, Illinois.
672,322. Inhaler for menthol or similar substances. Theodor H. Gellhaus, Bant, near Wilhelmshafen, Germany.
671,999. Hernial truss. Francis J. Hage, Jr., Goldsboro, N. C.
672,377. Dilator. William D. Kearns, Pittsburg, Pa.
672,177. Inhaler. Wm. H. Metcalf, New Haven, Conn.
672,151. Anesthetic inhaler. Edward M. Morgan, Westmount, Canada.
672,239. Vaginal speculum. Charles J. Pilling, Philadelphia, Pa.
672,391. Abdominal supporter. Wilhelm J. Teufel, Stuttgart, Germany.
34,364. Design, syringe nozzle. Pemberton Lundy, Boston, Mass.
672,672. Medicated salt rock. Charles O. Green, W. P. Wickline, and J. B. Eaton, Centerpoint, Texas.
672,454. Pasteurizing machine. Nelse N. Nelson, Ann Arbor, Mich.
673,021. Inhaler. Wm. B. Hidden, Boston, Mass.
673,321. Syringe nozzle, Isaac N. Lincoln, Providence, R. I.
673,366. Invalid or surgical bed. Adolfo Luria, Chicago.
673,100. Invalid's walking chair. James D. Tyler, South Berlin, Mass.
34,439. Design, massage brush. Margaret Stonebridge, Garrison, N. Y.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 25 to May 1, 1901, inclusive:

Alfred E. Bradley, captain and asst.-surgeon, U. S. A., detailed to represent the Medical Department of the army at the tenth annual meeting of the Association of Military Surgeons of the United States, to be held in St. Paul, Minn., May 30 to June 1, 1901.

John Carling, captain and asst.-surgeon, Vols., recently appointed, relieved from duty with the 35th U. S. Vol. Infantry, to proceed to Manila, P. I., for assignment.

Joseph J. Curry, captain and asst.-surgeon, Vols., leave of absence extended.

Calvin DeWitt, lieut.-col., and deputy surgeon-general, U. S. A., detailed a member of the board at the Army Medical Museum building, Washington, D. C., to examine candidates for admission into the Medical Department of the army.

James D. Glennan, major and surgeon, 38th Infantry, Vols., (captain and asst.-surgeon, U. S. A.), detailed a member of the board of Medical Officers convened in Manila, P. I., for the examination of candidates for admission into the Medical Department of the Army, vice Major Wm. F. Lewis, surgeon, U. S. Vols. (captain and asst.-surgeon, U. S. A.), relieved.

Leonard K. Graves, captain and asst.-surgeon, Vols., now in Brooklyn, N. Y., to duty in the Division of the Philippines, via San Francisco, Cal.

John Van R. Hoff, major and surgeon, U. S. A., detailed to represent the Medical Department of the Army at the tenth annual meeting of the Association of Military Surgeons of the United States, to be held in St. Paul, Minn., May 30 to June 1, 1901.

Richard W. Johnson, major and surgeon, U. S. A., member of a board convened in Manila, P. I., to examine officers of the army for retirement.

Henry S. Kilbourne, major and surgeon, U. S. Army, member of an examining board at the Presidio of San Francisco, Cal., vice Lieut.-Col. B. F. Pope, deputy surgeon-general, U. S. A., relieved.

Charles F. Mason, major and surgeon 26th Infantry Vols. (captain and asst.-surgeon, U. S. A.), relieved from further duty with his regiment, to report to Lieut.-Col. Calvin DeWitt, president of the examining board at the Army Medical Museum building, Washington, D. C., for examination for promotion.

John A. Metzger, major and surgeon, Vols., recently appointed, relieved from duty with the 35th Infantry Vols., to proceed to Manila, P. I., for assignment to duty.

Lorin B. Ohlinger, contract surgeon, now at the U. S. General Hospital, Fort Bayard, N. M., to report to the commanding officer of that hospital for duty.

Junius L. Powell, major and surgeon, U. S. A., member of a board convened in Manila, P. I., to examine officers of the army for retirement.

Willis J. Raynor, captain and asst.-surgeon, Vols., for duty at Fort Washakie, Wyo., to San Francisco, Cal., en route for the Division of the Philippines.

Charles Richard, major and surgeon, U. S. A., detailed to represent the Medical Department of the Army at the annual meeting of the American Medical Association to be held in St. Paul, Minn., June 4-7, 1901.

Hugo C. Rietz, dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Elmer A. Scherrer, contract surgeon, from Fort Grant, Arizona, to Fort Washakie, Wyo., for post duty.

A. B. Smith, contract surgeon, leave of absence granted.

Frederick H. Sparrenberger, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

H. H. Stromberger, contract surgeon, leave of absence granted.

Najib Taky-ud-Deen, contract surgeon, from Columbus Barracks, Ohio, to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for assignmeot in the Division of the Philippines.

William H. Ware, deotal surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Starling S. Wilcox, contract surgeon, now at Columbus, Ohio, to duty at Columbus Barracks, Ohio.

Timothy E. Wilcox, major and surgeon, U. S. Army, detailed to represent the medical Department of the Army at the annual meeting of the American Medical Association to be held in St. Paul, Minn., June 4-7, 1901.

Robt E. Williams, captain and asst.-surgeon, Vols., recently appointed, from Fort McDowell, Cal., to Manila, P. I., for duty in the Division of the Philippines.

## Navy Changes.

Changes in the Medical Corps of the Navy for the week ending May 4, 1901:

Asst.-Surgeon B. L. Wright, ordered to the *Massaschusetts*, May 1.

Asst.-Surgeon S. S. Rodman, detached from the *Adams*, and ordered to the *Alert*, May 11.

Surgeon H. L. Law, retired, detached from the Recruiting Rendezvous, Buffalo, N. Y., and ordered home.

## Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 2, 1901.

Surgeon D. A. Carmichael, to assume temporary command of the San Francisco quarantine station.

P. A. Surgeon C. P. Wertenbaker, to proceed to Prescott, Ark., for special temporary duty.

P. A. Surgeon J. B. Greene, detailed for temporary duty in the Bureau.

Asst.-Surgeon V. G. Heiser, to proceed to Norfolk, Va., for special temporary duty. To proceed to Quebec, Canada, and report to the United States Commissioner of Immigration for duty.

Hospital Steward W. E. Schlaar, granted leave of absence for twenty-six days.

## Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 3, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: San Francisco, April 15-20, 2 cases.
Illinois: April 20-27, Chicago, 9 cases, 1 death; Freeport, 1 case.
Indiana: Evansville, April 20-27, 1 case.
Kansas: Wichita, April 13-20, 30 cases.
Kentucky: Lexington, April 20-27, 2 cases.
Massachusetts: Fitchburg, April 13-20, 2 cases; Holyoke, April 20-27, 1 case.
Michigan: Bay City, April 13-20, 5 cases; Detroit, April 20-27, 1 case; at 94 places, present.
Minnesota: Minneapolis, April 16-22, 8 cases.
Nebraska: Omaha, April 13-20, 11 cases.
New Hampshire: Manchester, April 20-27, 5 cases:
New York: New York, April 13-27, 94 cases, 18 deaths.
Ohio: Cincinnati, April 19-26, 4 cases.
Pennsylvania: Allegheny City, April 12-19, 3 cases; Johnstown, April 13-20, 1 case; Philadelphia, April 13-27, 12 cases, 2 deaths; Steelton, April 20-27, 1 case; Williamsport, April 20-27, 3 cases.
Tennessee: Ducktown, April 20, present; Memphis, April 13-20, 24 cases; Nashville, April 20-27, 14 cases.
Utah: Salt Lake City, April 13-20, 17 cases.
Philippines: Cebu, March 12, 5 cases, 1 death; Manila, March 8-16, 8 cases.
Porto Rico: To April 10, Aguas Buenas, 4 cases; Clales, 1 case; Isabella, 4 cases; Manati, 1 case; Ponce, 34 cases; San Juan, 6 cases.

SMALLPOX—FOREIGN.

China: Hongkong, March 8-23, 23 cases, 10 deaths.
Colombia: Panama, April 15-22, 5 cases, 3 deaths.
Ecuador: Guayaquil, March 2-23, 3 deaths.
Egypt: Cairo, March 25-April 1, 2 cases.
France: Paris, April 6-13, 7 deaths.
Great Britain: England—Liverpool, April 6-13, 2 deaths. Wales—Cardiff, March 8-30, 6 cases, 1 death. Scotland—Dundee, April 6-13, 2 cases; Glasgow, April 12-19, 6 deaths.
Mexico: Mexico, April 7-14, 1 death.
Russia: St. Petersburg, March 30-April 6, 14 cases, 3 deaths; Warsaw, March 23-30, 5 deaths.
Straits Settlements: Singapore, March 2-16, 1 death.

YELLOW FEVER.

Mexico: Vera Cruz, April 8-16, 1 death.

PLAGUE—FOREIGN AND INSULAR.

Australia: Adelaide, Feb. 28, 1 case.
China: Canton, Feb. 28, epidemic; Chan Tsin, Feb. 28, epidemic; Fatshan, Feb. 28, epidemic; Hongkong, March 8-23, 22 cases, 21 deaths.
Straits Settlements: Singapore, March 7-16, 2 deaths.
Hawaii: Honolulu, March 29, 1 death.
Philippines: Manila, March 8-16, 10 cases, 8 deaths.

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## PRELIMINARY REPORT OF THE COMMITTEE ON ORGANIZATION.*

The report of your Committee herewith submitted contains suggestions and recommendations which are made with full appreciation of the responsibility assumed. Your Committee has from the outset keenly realized the magnitude of the task to which it was set, but it has been spurred on by the hope that its work, if wisely and conscientiously performed, might if favorably received by the ASSOCIATION result in lasting benefit to the medical profession of America. Actuated by this motive, the Committee, after full consideration of the problem entrusted to its care, early reached the conclusion that it would be useless at this late day to suggest the adoption of either half-way or compromise measures. Thus its report will be found to contain recommendations that to many who have not studied closely the defects of present-day medical organization may appear radical.

In order to frankly lay before you a compact scheme of effective organization, your committee is preparing and will submit for your consideration a completely revised Constitution and By-Laws, such as will be necessary to carry into effect the proposed plan of reorganization.

Your Committee proposes that a Business Section shall be constituted, to be known as the House of Delegates, which shall proportionately represent the state societies in accordance with their numerical strength, with the addition, also, as directly representative of the scintific work of the ASSOCIATION, of one delegate from each Section. It is suggested that the present ratio of representation for the state societies be fixed at one delegate to every 500 members.

By the means of expert committees this House of Delegates can deal exhaustively with all the large problems of state medicine. Opportunity will be afforded to every state to be heard in full, and free debate without the necessary consequence of tabling the project under consideration. Important measures will not be neglected as in the past. The states near the place of meeting will no longer wield a preponderating influence. The House of Delegates can work every day of the annual meeting, at the same hours that the Sections are in session, without interfering in the least with the scientific work of the ASSOCIATION. This House of Delegates will be the "Section of Business," and will be composed of physicians who are interested in the general affairs of the medical profession.

Your Committee is endeavoring to provide every possible safeguard for maintaining this new organization as truly representative of the medical profession of all the states and territories. Provision has been made against political combinations, against perpetuation in office, and against self-election to office. If necessary precautions have been neglected, it has not been from any lack of desire on the Committee's part to create a great democratic organization that shall federate the state societies into a compact whole, and that shall command the respect of the entire world, but rather from the inherent difficulties of comprehending at once all phases of so involved a subject, and providing fully for all future emergencies.

While the Committee has endeavored to make its report so clear as to be readily understood by all, it yet feels some obligation to lay before you a reasonably full outline of the facts which determined its action, and a detailed explanation of the recommendations contained in this report. The Committee therefore presents herewith a supplementary *argument*, which it hopes will enable every member to understand the urgent situation that sooner or later the ASSOCIATION, as the representative organization of the medical profession of the United States, must face and settle.

The report has been made as brief as is compatible with a clear presentation of the Committee's findings, while the supplement is in more argumentative form, designed to meet criticism and to show the present necessity for the action that is urged. The report is condensed, so as to be readily available for discussion and adoption.

The Committee earnestly requests that every member of the ASSOCIATION, before passing judgment on the report, carefully read the facts submitted in the explanatory supplement.

In its revision of the Constitution and By-Laws, the Committee is adopting a rearrangement of topics which

* The Committee expects to present the official report, in concise form, at the meeting at St. Paul. It will be printed and distributed at the first General Session, and will include the Constitution and By-laws as revised. A decision as to one or two details has not yet been reached, although practically all that is herewith submitted is approved by the Committee.

brings these instruments more in harmony with those of other similar organizations. Careful comparison will show that the Committee has made as few real changes as possible, endeavoring simply to reform the organic law of the ASSOCIATION in harmony with the recommendations contained in the Committee's report.

To further elaborate a complete and effective scheme of uniting the medical profession, the Committee suggests plans for the uniform organization of both state and county medical societies, as being directly subsidiary to the plan outlined for the ASSOCIATION itself.

If the ASSOCIATION will give its sanction to these recommendations, there will be good reason to hope that in five years the profession throughout the entire country may be welded into a compact organism, whose power to influence public sentiment will be almost unlimited, and whose requests for desirable legislation will everywhere be met with that respect which the politician always has for organized votes. With the ASSOCIATION in constant, personal, definite, and essential touch with each state medical society, and through them with the societies in every county, the profession of medicine can at no distant day demand and receive that respect from law-makers, from government officials, and from the general public to which it is admittedly entitled by reason of its ideals, its education, and its power for doing good to all mankind.

Your Committee expected at this time to submit a Constitution and By-Laws revised in accordance with its recommendations; these are not yet complete. They will be printed in time for distribution at the St. Paul meeting. The following embody the recommendations which will be incorporated in the Constitution and By-Laws to be submitted:

1. The delegate body shall hereafter be known as the "House of Delegates of the AMERICAN MEDICAL ASSOCIATION."

2. The House of Delegates shall consist of not more than 150 members and shall be created as follows: a, one delegate for every 500 members or fraction thereof of the state and territorial societies recognized by the AMERICAN MEDICAL ASSOCIATION; b, one delegate from each of the Sections of the AMERICAN MEDICAL ASSOCIATION, to be elected as are other officers of the Section; c, one representative each from the U. S. Army, the U. S. Navy, and the U. S. Marine-Hospital Service.

3. Delegates representing the state societies shall serve for two years, one-half, or as near as may be, of such delegates to be elected the first year for one year only.

4. Whenever the number of delegates exceeds 150 there shall be such a reapportionment among the affiliated state societies as will bring the total membership of the House of Delegates below that number.

5. The House of Delegates—as the Sections—shall hold its sessions daily, from 9 A. M. to 12 M. and from 2 P. M. to 5 P. M., or so much of such time as may be necessary, provided that it shall hold no session on the morning of the first day of the annual meeting, nor during the time of the General Sessions.

6. The General Sessions of the AMERICAN MEDICAL ASSOCIATION shall be composed of members and delegates who may be in attendance at the annual meeting, and the time of meeting shall be 11 A. M. on the first day of the annual meeting, 7:30 P. M. on the first three days of the annual meeting, and 12 noon (or such other hour as may be agreed upon) on the last day of the meeting, which session shall be for the installation of the officers for the ensuing year and other concluding exercises.

7. All the officers of the ASSOCIATION shall be elected by the House of Delegates, but no member of the House of Delegates shall be eligible to any office whose incumbent is elected by that body.

8. No one shall be elected a member of the House of Delegates who has not been a permanent member of the AMERICAN MEDICAL ASSOCIATION for at least two years.

9. The election shall take place on the morning of the fourth day of each annual meeting.

10. No one shall be elected to any office who is not present at the annual meeting at which the election occurs.

11. The officers elected shall be installed at 12 o'clock on the last day of the annual meeting.

12. The membership of the ASSOCIATION, in addition to the delegates, shall be composed of permanent members, honorary members, and associate members.

While the Committee fully appreciate the fact that its duties do not extend below the AMERICAN MEDICAL ASSOCIATION, nevertheless it has in the interest of a complete organization considered the state and local societies, and to complete this urgently-required organization of the regular medical profession, offers the following recommendations to the various state and territorial medical societies:

*a.* That each state society shall at the earliest possible moment appoint a "Committee on Organization," to which shall be referred, with the ASSOCIATION'S endorsement, the report of your Committee, and especially that part which refers to state and county societies.

*b.* That each state society immediately raise funds and employ an organizer to organize the profession in its territory.

*c.* That the state societies unitedly agree to federate themselves in the AMERICAN MEDICAL ASSOCIATION, and as a preliminary to this adopt a uniform organic law in regard to certain fundamental principles: viz., to divide their annual meeting into two branches, legislative and scientific; the legislative branch to be as small as is compatible with representation from all the county societies, and to be composed of delegates elected by the county societies.

*d.* That membership in the county or district societies shall constitute membership in the respective state society without further dues, and that no one be ad-

mitted to membership in the state society except through county or regular district societies.

*e.* That funds to meet the expenses of the state society be raised by a *per capita* assessment on the county and district societies.

*f.* That a united effort be made to influence special societies to limit their membership to those who support the regular organization, and the seminational and miscellaneous societies to encourage systematic organization, by covering a definite territory and also by limiting their membership to supporters of the regular organization.

*g.* That each state society create a permanent committee and a fund for the purpose of enforcing all medical laws in every part of its territory.

*h.* That each state society co-operate with the American Medical Association and with the other state societies in solving the problem now before the profession relating to medical education, medical legislation, reciprocity, licensing, etc.

Your Committee further recommends that a committee of three be appointed at the St. Paul meeting to continue, in behalf of the American Medical Association, the plans authorized in this report, and to act in conjunction with the large Committee to be appointed by the various state societies. Your Committee also presents herewith supplementary arguments in favor of organization, all of which is respectfully submitted.

[Signed:]

J. N. McCormack, Bowling Green, Ky.
P. Maxwell Foshay, Cleveland, Ohio.
George H. Simmons, Chicago.

## ARGUMENT.

A CONSIDERATION OF THE CONDITIONS, PAST AND PRESENT, UPON WHICH THE COMMITTEE BASES ITS RECOMMENDATIONS.

### RETROSPECTIVE.

The convention, or first meeting of the American Medical Association, was held in 1846, and the Association itself was organized in 1847, in the days before railroads and telegraphs had brought about free intercommunication between the various parts of the United States. At that time there were comparatively few societies and these were very weak. The population of the country was about 20,000,000 and there were probably less than 25,000 physicians of every kind in the entire country. During the fifty-five years since the Association was organized, teeming millions have settled and are now living in prosperity on what was then uninhabited country. There are now probably 120,000 physicians, and between 1300 and 1400 regular medical societies. During this half century nearly all the material conditions of civilization, as well as the methods and needs of our profession, have undergone most radical change.

The founders of the Association very properly arranged that the American Medical Association should be a representative body and that every ten members of an auxiliary society should be entitled to send a delegate to the Association, and that only these delegates should have any voice in the business affairs of the Association. The spirit of representative government has therefore been recognized by the Association from its very inception. It was readily appreciated that by this method alone could all parts of the profession secure an equal voice in the determination of the affairs of the Association, and that in no other way would it be possible to keep the total business-doing membership down to a number small enough to expeditiously transact the affairs of the Association. Thus it was that the apportionment was fixed in 1847, and it has continued without change for fifty-four years, to the present time. In its early life the Association was small enough to transact its affairs in a businesslike manner and to devote much time to the important questions that came before it. Its business meetings were not interfered with by scientific orations, nor was there an attempt to cover such a wide field of scientific work as has since become necessary.

Looking over the methods of other organizations, such as the secret societies and churches, it is found that those which do the most effective work limit very materially the number of delegates who transact all the business of the national organization. No matter if thousands are in attendance at conclaves and synods, the actual legislative work is done by a hundred or two men chosen to represent the various state organizations. These institutions recognize that representative government is most effectual when the number of members in the actual legislative body is kept down as low as possible. The referendum is an excellent method of determining the popular will upon one definite principle, but an impossible means of conducting a profitable discussion upon questions of expediency. A small body, if truly representative in its constitution, can effectually deal with difficult problems that could not possibly be satisfactorily disposed of in a large and promiscuous gathering. It is not possible for every citizen of the United States to be heard *in extenso* by the nation when it is deciding questions of policy, nor can one citizen in ten be a member of Congress. A small well-chosen representative body is the only known means through which concentrated effort can be directed.

Why should the American Medical Association continue on the basis of an apportionment more than fifty years old? Why should the American medical profession continue in the effort to work through an antiquated organization, when it can readily secure one that is in accord with the spirit of the times, and when it stands so greatly in need of a definite corporate unity that can adequately influence state and national legislation?

### OBJECTIONS TO PRESENT CONDITIONS.

NO PRESENT RESTRICTIONS OF DELEGATE REPRESENTATION.

As the right to vote in the general sessions is limited to delegates who are presumed to represent others, this right should be carefully guarded. In all great representative bodies every precaution is taken to restrict the right of voting to those who are entitled to it. But at

the annual meetings of the ASSOCIATION this restriction has become an impossibility. Registration of all who attend as delegates is such an enormous task that its accomplishment in a satisfactory manner is out of the question if there is the slightest attempt made to scrutinize the credentials. While the right of a society to send delegates is verified, attempt to limit each society to the number to which it is entitled would be fruitless. This could be done if there were a system of reporting membership, but not otherwise. As this system exists in but few states, any attempt at scrutiny in this regard is useless.

A large majority of those who attend the annual meetings do so without any authority to represent others. Nominally, delegates are supposed to be elected; practically, certificates are granted by secretaries of societies on request of those who desire to attend the annual meeting. While this may not be true in a few instances, the exceptions are so few that the rule is as stated.

*Correct Registration of Delegates Now Practically Impossible.*—The By-Laws of the AMERICAN MEDICAL ASSOCIATION call for the preparation of the list of delegates for accuracy in calling the ayes and nays. At the last meeting over 1600 delegates were registered, and to get such a number in any uniformity for roll-call would be impossible in the time, and the calling of such a long roll as the list of delegates makes would take so long that this is now out of the question. In *viva voce* voting in the general body it is impossible to tell who are and who are not delegates.

*Difficulties Increasing Yearly.*—The above difficulties are becoming more noticeable each succeeding year. The number of affiliated societies is rapidly increasing, and with this also the number of delegates increases. In brief, the number of delegates has become so great that a verification of the credentials is impracticable, and the separation of the delegates from the few who have not the right to vote is so difficult that the question resolves itself into this: Shall the delegates be reduced in number so that they shall make a body that is manageable, or shall the pretense of delegates be done away with and allow all to vote who attend the meetings? The Committee believes that the latter would be preferable to the present conditions.

The ASSOCIATION is becoming rapidly larger and the membership is likely to increase much faster in the next year or two than it has in the past four years. During the past year (1900) over 5000 subscribers and members were added to THE JOURNAL'S list. At least three-fourths of these are eligible to membership and will probably join the ASSOCIATION within a year. This increase nearly equals the total membership of ten years ago. In other words, those added to the list last year, who have already become members (about 2000) or will probably be transferred to membership shortly, equals the total membership of 1890. It is probable that in five years, if not in less time, the membership of the AMERICAN MEDICAL ASSOCIATION will have reached 20,000.

The attendance at the annual meetings has also been rapidly increasing, and this will tend to increase much faster in the future. The general meetings have become so large that it can be stated truthfully that the ASSOCIATION is the largest body in the world which attempts to transact business in a deliberate manner.

*Attendance at General Sessions Sometimes Extremely Small.*—While the meetings are at certain times too large, exactly the opposite is sometimes true. Toward the end of a session, if it is the least tedious, the large majority have gone, and while the business may be ever so important, the number remaining to give the decisive vote is often so insignificant that it would be absurd to call it representative. The last day's session, often the most important one, is never largely attended, and often there are not present more than thirty or forty at any time on that day.

*Attendance Fortuitous.*—Under the present method of apportionment much more than half of the delegates in attendance at any gathering come from the states that lie close to the place of meeting, so that any meeting at present may be controlled by that part of the profession which lives near the meeting-place. The composition of the general meeting is fortuitous, depending almost entirely on the location. This one defect totally defeats the theory of representative government. A body to transact business for the profession of the country should be representative of the whole country and not of the particular territory adjoining the place of meeting.

### TIME NOT SUFFICIENT.

As to time, for many years members have complained that important measures are not properly considered, or are not heard at all, because of the difficulty of dealing with debate in so large a gathering. Many valuable measures have been indefinitely tabled, and others have been permanently shelved in one way or another because of the impossibility of reaching a definite conclusion in the face of interminable debate in a large body which is always anxious to get its business done quickly.

On the first day the General Session is not scheduled to begin until 11 A. M., and the opening exercises and President's Address, together with the reports, take up that day's session. The average time of the other three days will be less than 2½ hours, making a total of 7½ hours. The three orations and the time devoted to opening the meeting will take more than an hour each day. This leaves but 3½ hours to be devoted to miscellaneous business, including the necessary reports that come in day by day from the various committees appointed at the meeting. The last day's session is nearly always a short one, so that it is believed that the total time allowed for the transaction of business at each annual meeting of the ASSOCIATION does not amount to more than three hours! The fact that important business is neglected and that problems of vast import to the profession and the people are not considered, has been known and appreciated for years.[1]

1. "The desirability of having more time and deliberation given to the purely business matters of the ASSOCIATION by a properly organized council or standing committee on business, has long been recognized by all the more experienced members of the ASSOCIATION; and various plans have been suggested from time to time without leading to any definite action." (Report of the Committee on Organization, JOURNAL A. M. A., June 25, 1887.) (At this time there were 3278 members of the ASSOCIATION.)

MANY NOT INTERESTED IN MEDICOPOLITICAL QUESTIONS.

The average of those who attend the annual meetings have only a platonic interest in medical politics. They have no concern about anything in the annual meetings except that which pertains to the Sections, and the trenching on the time of these by the general business sessions is felt to be a disadvantage. These men have no interest in medicopolitical questions and would prefer to be in attendance at the Section meetings rather than at the general business sessions. The Constitution provides for the closing of the Sections during the sitting of the General Sessions. This means that the scientific work must stop at 10 o'clock each morning, and this is against the best scientific interests, as at this time the Sections have just fairly started.

*The General Executive Committee.*—The General Executive Committee was created in 1892, for the purpose of meeting the above conditions. But while this Committee has been of great service, it has not proved a satisfactory solution of the difficulties. First, it is difficult to obtain a fairly good attendance of this body. Its members are those who are interested especially in scientific work or they would not have obtained the position of chairmen of their various Sections. They are especially the ones who are not supposed to be interested in what is termed "medical politics." They are naturally interested in Section work, and will not leave this except for urgent reasons. The meetings of this General Executive Committee have been not only poorly attended, but the time it devotes to them is limited, generally between 5 and 6 o'clock in the afternoons. Further, the members of this Committee realize that their decisions on questions that are brought before them are not final. They therefore do not have nor feel that responsibility which is necessary to insure attendance and careful work. The General Session itself is likely to take up and discuss questions that the Executive Committee has considered *in extenso*. The Executive Committee therefore can not but feel that its work is largely wasted energy. So it is not to be wondered at that the attendance at its meetings is poor.

*The Nominating Committee.*—The objections urged in the past against the Nominating Committee and the method by which it is created, make it unnecessary for the Committee to do more than simply refer thereto. (See first paragraph of foot-note 2.)

In brief, the present system of conducting the business of the AMERICAN MEDICAL ASSOCIATION is most unsatisfactory, because: 1. It is not representative. 2. It detracts from the scientific value of the annual meeting, wasting the time of those who are not interested in medicopolitical subjects. 3. The time devoted to the General Sessions does not give opportunity for deliberate consideration of the living problems of the profession of our country. 4. The body as now constituted has become so large and unwieldy that it is impossible for it to transact business deliberately and calmly or take up and consider the important questions affecting the medical profession.

## RECENT ATTEMPTS AT REORGANIZATION.

In reviewing the history of recent attempts to bring the ASSOCIATION into closer touch with the profession generally, by reorganization, it is unnecessary to go back of the last fifteen years. In the earlier years of the ASSOCIATION'S life it appears to have been tacitly taken for granted that it was simply a representative body of the state societies and the medical institutions of the country, and certainly such was the idea at its organization. As time has passed, however, the ASSOCIATION has grown away from this ideal; though still nominally a delegate body, it is now in the minds of most of the profession an entirely independent organization, membership in which, while still dependent on affiliation with a state or local society, is nevertheless separate from such relations when once attained.

For many years those who have the good of the ASSOCIATION at heart have realized that a modification of its general plan was necessary to make it more efficient for the work before it. It has been yearly growing of more value as a scientific body; the Sections have increased in number, and in most of these more and better work has been done. But other and just as important functions of the ASSOCIATION have been slighted. The scientific work has encroached more and more on the time that was once devoted to considering what might be called the "material interests" of the profession, and, as a result, these have been greatly neglected. It has been realized also that the great majority of those who attended the annual meetings did so for scientific purposes, and that these had neither the time nor inclination to consider medicopolitical matters, and, as a result, important questions that required time and deliberation have been put off indefinitely or rejected without consideration.

To meet these conditions several attempts have been made, but with practically no results. Fifteen years ago (St. Louis, 1886) a committee was appointed for the purpose of presenting a plan of reorganization. This Committee had as its chairman one of the founders of the ASSOCIATION, Dr. N. S. Davis, Sr., and at the following meeting (Chicago, 1887) a voluminous report was made. This makes a splendid argument in favor of the plan, modified in minor details, which will be proposed in this report. (Foot-note 2.) It recom-

2. The following is quoted from this report. See JOURNAL A. M. A., June 25, 1887, p. 712:

"Perhaps no other part of the practical working of the Association has occasioned so much adverse criticism as the hasty and imperfect method of selecting, after the commencement of each annual meeting, of the Committee on Nominations by such little groups of delegates from each State and Territory, as could be gathered in some corner of the room in the brief recess of fifteen minutes, and on whom devolved the paramount duty of nominating all the general officers of the Association, of seven members of the Judicial Council, three members of the Board of Trustees, and the selection of the next place of annual meeting; duties that the members are required to commence discharging immediately after their names are announced from the platform as having been selected for that purpose. The committee thus hastily appointed, compelled to discharge duties of the greatest importance with equal haste, and then cease to exist, could not fail to commit some errors and to make some injudicious recommendations."

* * * "The three objects of paramount importance to be accomplished by medical organization are: *a*, the promotion of direct personal and social intercourse between physicians, by which mutual respect, personal friendship and unity of sentiment are greatly promoted; *b*, the more rapid increase and diffusion of medical knowledge, scientific and practical; and *c*, the developing, unifying, concentrating and giving efficient prac-

mended several important changes, among which was the creation of a "Council," to be composed of two members from each state and territorial society and from the medical department of the Army, Navy, and the U. S. Marine-Hospital Service, making a body of a little more than one hundred. These were to serve two years, one-half being elected at the first for one year only. Another recommendation of this Committee was the creation of "members by application," making it possible for membership to be obtained without attendance at the annual meeting. (This was the only change finally adopted among those recommended by the Committee.) It was also advised that the Committee on Nomination be done away with, its duties being imposed upon this new council.

It is interesting to note how this report was at first adopted, but how finally it was entirely rejected. When it was read at the Chicago meeting (1887), it was adopted almost unanimously. The question arising as to whether the Constitution could be changed in this manner without the amendment lying over a year, it was on motion declared that the report could be adopted and its recommendations become operative at once.

tical expression of the sentiments, wishes and policy of the profession concerning its educational, legal and sanitary welfare and the relations of the latter to the community as a whole. As the gathering of all the members of the profession, numbering many thousands, from so widely extended country as ours, into a single society for personal intercourse, is impracticable, the first of these leading objects can only be attained by organization primarily into city, town, county, and limited district societies, in which the necessary personal intercourse can be enjoyed without material expense, or being placed beyond the reach of their patients. The same object is further promoted by sending a delegation from each of these circumscribed or local societies, once or twice a year, to constitute the State Society; and still further by these State Societies sending delegates to one more protracted meeting each year, which would constitute the National organization. Thus by the constant changing of the personality of the delegations, the profession of the whole country is made to feel the genial influence of personal intercourse and mutual respect. By the more frequent meetings of the primary local bodies and the more free or informal discussion of all professional topics, a general interest for more knowledge is fostered, and the spirit thus developed is carried by their delegates to the State Societies. . . . . and these results are carried with the delegates from the State Societies to the National organization. . . . . For the accomplishment of the third important object to be attained by medical organization, *i.e.*, unity and concert of opinion, certainly no scheme has been yet devised equal in fairness and efficiency to that which gathers the active working members of the whole profession into primary local societies, from which delegates chosen on a uniform ratio of representation are made to constitute the State Society; and from these again delegates on a similar ratio of representation are sent to constitute the responsible voting part of the National Association, thus constituting a ready professional mechanism through which the views and wishes of the profession can be gathered and efficiently expressed on all questions relating to education, medical legislation and the sanitary interests of the people. And the same can be brought to bear with equal force upon the action of legislative bodies, either municipal, State or National. The organization of the whole profession we have so briefly outlined, with the great leading object it is designed to accomplish, is but the ideal representation of the actual organization of the profession in this country at the present time. The organization of this Association, commenced in 1846, and completed in 1847, is, and has been from the beginning, a representative body with the State and local medical societies in all the States for its essential constituency, or 'Branches' (if there is any particular merit in that name). It is true the fundamental representative principle was at first imperfectly or unequally applied, in consequence of the comparatively small number of either State or local societies then existing."

Later in the same session, however, the matter having been brought up again, it was decided to lay the report on the table for one year. At the next meeting (1888), the recommendation in regard to applications for membership was adopted, but a long discussion taking place the rest of the matter was laid over for another year, and finally, in 1889, three years after the Committee was appointed, the whole subject was permanently laid on the table.

At the Washington meeting in 1891, an amendment was proposed to make the state societies branches of the ASSOCIATION, which was referred to a committee to report the following year. At the next meeting (1892), at Detroit, a substitute for this was offered and adopted, constituting the present General Business or Executive Committee.

Several attempts have been made in the past to do away with the Nominating Committee. At the meeting in June, 1892, an amendment was introduced with this object in view, the duties of this Committee to be imposed upon the General Executive Committee created that year. This amendment was laid over for one year, but for some reason it was not called up for two years. At that meeting (Milwaukee, Wis., 1893) a committee which had been appointed the previous year to revise the Constitution and By-laws brought in its report and in it provided that nominations should be made by the Executive Committee. The report of this Committee was laid over until the next year. In 1894 (San Francisco meeting), after a long discussion the matter was deferred another year, and in 1895, at Baltimore, this amendment, with several others, was laid on the table. At the last meeting of the ASSOCIATION another amendment looking to the changing of the method of creating the Nominating Committee was introduced and is to be acted on this year.

Thus it will be seen that aside from creating "membership by application," which gave a chance for enlargement of the general membership, and the General Executive Committee, nothing has been done in the way of amendment to the organic law to make the ASSOCIATION what it ought to be—the representative body of American medicine. By reviewing the history of the attempts made, it will be noticed that failure resulted from slightest opposition, for the reason that this developed a discussion in the general meeting, which took time and produced impatience at the "time wasted," with one of two results, rejection or postponement to another year, and finally indefinite postponement.

### OBJECTS OF ORGANIZATION.

The objects to be gained by organization are splendidly outlined in the following paragraph taken from the report of the Committee on Reorganization, which was made to the ASSOCIATION by Dr. N. S. Davis in 1887:

"The three objects of paramount importance to be accomplished by medical organization are: *a*, the promotion of direct personal and social intercourse between physicians, by which mutual respect, personal friendship and unity of sentiment are greatly promoted; *b*, the more rapid increase and diffusion of medical knowl-

edge, scientific and practical; and *c*, the developing, unifying, concentrating and giving efficient practical expression of the sentiments, wishes and policy of the profession, concerning its educational, legal and sanitary welfare and the relations of the latter to the community as a whole."

The need of organization from a social point of view will be discussed when we consider local societies.

The scientific, as far as it relates to the American Medical Association, is satisfactory as it is, with probably one or two slight changes in regard to Section work. There is no necessity of organization for the creation of more special and general scientific bodies as such, but there is a necessity for more encouragement of scientific work in the local societies. In these it is believed that much more work could be done, if an attempt were made to carry on what might be called post-graduate instruction among local societies. There is certainly a great need that some way should be devised to reach those engaged in medical practice in small towns, villages and in isolated places. There is need of missionary work among those practitioners who have, on account of their environments or from other necessities, withdrawn from or been deprived of scientific intercourse with their fellows. By the elevation of the condition of such men the profession as a whole is benefited.

Without, however, ignoring the importance of the sociologic and scientific functions of organization, attention is called particularly to the medico-ethical and medicopolitical objects, which should be much more prominent in the minds of the members of the profession than they now are. These objects include not merely the questions of conduct of physicians toward one another and toward the public, but their views, impressions, or attitude in regard to legislation which may affect them and the medical welfare of the community.

These include medical education, the defense of the public against impostors of every kind, the regulation of medical practitioners to insure proper qualifications by enforcement of medical laws, reciprocity, etc.

### MEDICAL EDUCATION.

As is well known, the question of medical education was taken up by the Association early in its existence, and much was done to raise the standard, but in recent years little has been attempted. At the present time there are altogether too many medical colleges, and one of the greatest dangers which now threatens the medical profession in this country is found in just this fact. This is not due alone to the pouring into the profession each year thousands of illy-prepared men, with a lesser proportion, it may be, of those who are really fitted for their life-work, but in the commercialism, the strife, the petty ambitions and general demoralization which go with these, including free dispensaries, free clinics, and free hospital service. The evils are brought on by ourselves and can be corrected only by our own efforts. There is to-day, however, no way for the profession of the country to act upon this question in an organized capacity. The physicians connected with the medical colleges organized some time ago a medical college association, and this body has done much good, but it is realized by those connected with it that it has failed in some of the important measures it undertook to carry out. The question is one that can not be settled by legislation, nor by public sentiment, but by professional sentiment, and when this can be created in the right way and a solution of the question proposed, professional sentiment will carry out the plan adopted. Just what that may be is not to be considered here, but that it is a question which can be solved can not be denied if the whole profession attempts to solve it.

### MEDICAL LEGISLATION AND RECIPROCITY.

We have here a peculiar position. There are fifty different territorial subdivisions, if the District of Columbia and the territories are considered with the states, and no two of them have the same medical laws. Yet there is not a medical law on the statute books of any of the states or territories that was not put there through the efforts of physicians. Not that these laws are in any instance exactly as the profession would like to have them, possibly, but nevertheless they are there because the profession worked to have them put on the statute books.

It is not supposed that the medical profession is so powerful that its members can say to each legislature, "We want this law and nothing else," but it is powerful enough and has influence enough to get something near what it wants, if it goes after it in the right way.

It is presumed that if a few states had a law that was giving satisfaction, it would not be much trouble to get that law passed in those states which had not adopted it. It may also be presumed that if the profession asked for the same enactment in every state, and persisted in its demands, it would in time get such a law. The profession would be working for a common purpose in every state in the country, and before long the essential features of the ideal law that was agreed upon would be adopted. At present, however, there seems to be no way by which the various state societies can get together to consider such a matter.

The need of reciprocity comes from the fact that in enacting medical laws in one state, no regard has been had for what might be done in this direction in another. Under existing conditions the legislative committee of each state society in its efforts for medical practice acts moves independently, apparently not realizing that the brethren over the imaginary political line may be affected by its acts. Each state has been thinking only of its own necessities. The fact that such a variety of medical laws have been enacted, emphasizes the lack of any central co-ordinating body to harmonize the action among state societies in this regard. If there had been co-operation, the result would have been far more satisfactory and the question of reciprocity a much simpler one. This independent action is still going on. In one state one amendment is in the course of enactment, while in another this identical provision is being wiped out of the law, both at the suggestions of physicians, and the result is a confused jumble of provisions and a cry for reciprocity. The result of the miscellaneous medical legislation of the past is that a man may be legally entitled to practice in one state and yet, if he attempts to cross the border into another, he is debarred

from that right unless he passes an examination. Those who have been in practice for a number of years, and have forgotten the elementary principles which they were taught when in college, find this condition a disagreeable one. These as well as the majority of physicians ask for a remedy, but there is no organized body that can in a representative way take up the discussion of this question and recommend a solution of it.

ENFORCEMENT OF LAWS.

The enforcement of medical law lies with the profession which created these laws. While this may not be accepted as a fact, and in theory it is not true, yet practically it is true and is so recognized by those who have anything to do with the enforcement of medical practice acts.

The enforcement of medical laws is of as much importance as their enactments, and too much emphasis can not be laid upon the necessity of general organization of the members of the medical profession in order to secure their enforcement. There is hardly a state in which the profession has, as an organized body, recognized this as a part of its function. While this is the duty of each state society in its own territory, it needs also the united action of the bordering states, as has been realized by those who have made attempts to enforce medical laws. If an attempt were made to enforce the laws all over the country, it would be a very easy matter for each individual state to enforce its laws, because adjoining states would not then offer a hindrance by their laxness, i. e., there would be no opportunity for evaders of one state's law to take refuge in an adjoining state.

OTHER OBJECTS OF ORGANIZATION.

There are other evils to be met besides those enumerated, such as that which our confrères in England are meeting under what they call the "battle of the clubs." Lodge and club practice is only just beginning to be felt here and the only way in which to meet these is by counter-organization. Most of the quackery and fraud in its protean aspects against the people and much of the evils with which the profession of this country is afflicted are the result of apathy and lack of organization. Organization will give confidence to make effort, and with this confidence apathy will vanish.

There are medicosocial questions that may be worthy of consideration in a national representative body of medical men. Among these is the advisability of creating a department of insurance for the superannuated, for the establishment of a home for those among us who, through misfortune, have become incapacitated, for mutual protection in malpractice suits, etc. Medicoethical questions are continually arising, such as that now prominently before the profession, namely, the giving of commissions. Such questions as these should be met fairly and squarely by a representative body qualified to consider them.

THE AMERICAN MEDICAL ASSOCIATION'S ANNUAL MEETING.

The annual meeting, under the proposed reorganization, will consist of General Sessions, meetings of the House of Delegates, and meetings of the various Sections. The House of Delegates will meet at the same hours as the Sections, and in effect the House of Delegates will be the legislative and business Section of the ASSOCIATION.

THE SCIENTIFIC.

The functions of the General Sessions will be practically the same as in the past minus the part which may be called legislative or business. Under the new régime the general session, to be known as the "General Session of the AMERICAN MEDICAL ASSOCIATION," will be held at such a time that it will not interfere with the work of the Sections. It is proposed that the opening session shall be as at present at 11 A. M. and be called the General Opening Session. This will be devoted to the formal opening exercises, addresses of welcome, etc., and the President's Address. The other General Sessions will be held each evening at 7:30, except that of the fourth day, which probably will be held at noon and will be the closing session and for installation of the new officers. By changing the time of meeting from morning to the evening, there will be no interference with the morning sessions of the Sections. As these general sessions will probably last about an hour, there will be ample time afterward for the Section dinners on Tuesday, and for the other social gatherings on the following evenings. At these meetings will be delivered the three orations, one each night. No general business will be transacted, except that which pertains to the Sections, and to the scientific work of the ASSOCIATION, although action advisory to the House of Delegates may be taken. The General Sessions will be composed of both delegates and members.

THE LEGISLATIVE BODY.

It is to the plan of organization of this division of the ASSOCIATION that the Committee has given the greatest consideration. While it may seem to be the creation of a new body and the making of radical changes in the organic laws of the ASSOCIATION, the facts of the ASSOCIATION'S foundation and history do not warrant this conclusion. When the ASSOCIATION was organized, it was intended that a small number should be delegated to attend to the legislative matters—business, medicopolitical, etc.—of the ASSOCIATION, while the larger number were engaged in scientific work.

NAME.

At the present time the General Session is composed of members and delegates; its functions are scientific and legislative. The separation of the functions necessitates a distinctive name for the legislative body, and the Committee suggests that it be known as

## THE HOUSE OF DELEGATES.

SIZE.

One of the greatest problems to solve was that in regard to how many should constitute the House of Delegates. In deciding this question, the Committee primarily recognized that the body must be large enough to be representative, but not so large that it would be unwieldy. In attempting to find an example in the affairs of life, it was found that a comparison might be made to the national bodies of the secret orders. These

generally consist of less than 150, more often less than 100. Probably a better example and one more appropriate is that found in the political legislative bodies of the states. Taking ten of the largest in population, we find the number in the lower House of the following states to be: New York, 150; Pennsylvania, 204; Illinois, 153; Ohio, 130; Missouri, 140; Indiana, 100; Massachusetts, 240; Michigan, 100; Kentucky, 100; Iowa, 100. The national House of Representatives has 357, but from the fact that much of its business is done by committees, the objections to its unwieldiness is eliminated. It is, however, only by rigid rules that it can be governed. A body that meets, organizes, transacts its business and adjourns in four days must be composed of a less number than this branch of our national legislature. The Committee recommends that the House of Delegates shall be composed of not more than 150, the apportionment being made in accordance with this principle. It is unnecessary to present further arguments to show that this number is as large as is necessary to make it representative, if it is created in the right manner.

HOW CREATED.

How shall this body be created, and what societies shall have the privilege of sending representatives to it? To go below the state societies is considered unadvisable, for the reason that if such were done, it would be necessary to give delegates to all affiliated with the state societies, as is done now. This, of course, is out of the question. Certain large societies—for instance, the Chicago Medical Society with a membership of over 1000, and the Philadelphia County Medical Society with a membership of over 750—it might be thought should be represented, but if representation were given to these, others would ask the same privilege. If the Philadelphia County Medical Society should be given representation, the Allegheny County Medical Society, in the same State, which has over 350 members, might also demand that privelege. It is therefore impossible to go below the state societies in any definite form of representation. It is, however, not desired that this should be done. The great object before us is the federation of the state societies, and this can only be accomplished through a central national body created by them.

APPORTIONMENT OF DELEGATES.

The Committee, in the first draft of its report, proposed to apportion one delegate at large to each state society, this delegate to be the retiring president of the state society. After consultation with others in regard to this proposition, by correspondence and otherwise, it was found that great objection was raised to it. Therefore, this was finally rejected. Another proposition rejected after a thorough canvass of the question was the representative from the Sections. At first it was decided that the representatives from the Sections should be ex-officio, as now, and that the retiring Chairman of the Section should go into the House of Delegates for one year. This was objected to for various reasons, and the Committee therefore now recommends that instead of the retiring Chairman, each Section shall elect a delegate to represent it in the House of Delegates.

In brief, the House of Delegates will, therefore, consist of representatives from the affiliated state societies in proportion of one delegate for each 500 members or fraction of that number; one representative from each of the Sections, to be elected at the time the Section officers are elected; and one representative each from the U. S. Army, U. S. Navy, and U. S. Marine-Hospital Service.

Regarding apportionment, the Committee had to consider that, as organized at the present time, no equitable representation could be given to all the state associations. Some of these bodies—Alabama, Connecticut, Indiana, New York and Pennsylvania—make membership in the county organization constitute membership in the state. These will have an advantage until a uniform plan of organization is adopted. Before deciding to recommend the membership of the state society as a basis for representation, the Committee considered the following propositions:

1. Base representation on membership in the state society. (Adopted.)

2. Base representation on the total number of regular physicians in the state, without regard to membership in any society. (This was rejected as it would in no way encourage the building up of societies, would not aid in federating the state societies, and would not be representative.)

3. Base representation on combined membership of the state and its affiliated societies. (This was not accepted because it is too cumbersome, and because there is no way of knowing the number of members of local societies in the great majority of states, under present conditions.[3])

4. On the number of members of the AMERICAN MEDICAL ASSOCIATION in a state. (This was rejected as being unfair, not representative, and not recognizing the state society as part of the plan.)

The reasons for adopting the first plan mentioned will be further considered when the plan of organization of the county and state societies is discussed.

INCREASED REPRESENTATION UNDER NEW PLAN.

If the state societies adopt the plan recommended by the Committee, viz., making membership: *a*, in the county or district constitute membership in the state society, the majority of these will be entitled to many more delegates than at present. For instance, from the statistice that we have been able to gather, California will add about 900 members from the county societies to her present membership, which will give the state four delegates. Colorado will be entitled to at least three, if not four, when membership in a county society takes in membership in the state society. Iowa will add at least 2000 to her state society list, increasing her rep-

3. The Committee attempted to get statistics in reference to the number of societies in each state and the number of members in each society, one object being to consider the advisability of adopting this principle of representation for the present. But in spite of every endeavor and much correspondence, the results, except in a few states, were very discouraging. Blanks were sent to all known societies, but not more than half of them were returned, and many of these were only partially filled out. This in spite of the fact that in all but a few instances the Committee had the assistance of the secretaries of the state societies. Nothing has so impressed the Committee with the need of some system of organization as has this failure to get in touch, even for statistical purposes, with the local societies of the country.

resentation to probably seven. Minnesota will add probably 700 from her county societies, which will give her four delegates. Missouri will add about 2000, which will give her six or seven representatives. Texas will add at least 1000, which will entitle that state to four or five delegates. Michigan will add at least 1000, which will entitle that state to five. Ohio will add at least 3000, which will entitle her to nine delegates. Illinois has recently published a list of the members of all the societies in the state, and from this list it is found that if this state adopts the plan recommended, it will have a total membership of 3800, entitling it to nine representatives.

The above figures are based on information obtained from reports gathered by the Committee and are not reliable, but the estimate is made low in each case. It may therefore be seen that if the results of the efforts of your Committee are at all satisfactory, the apportionment of one to every five hundred will result in too large a number, and hence very shortly a higher basis of representation will have to be made.

### FUNCTIONS OF THE HOUSE OF DELEGATES.

The House of Delegates, to all intents and purposes, will be the legislative and executive body of the ASSOCIATION and will take the place of the delegate body as it now exists. The only change from present conditions will be that the delegate body will be reduced in number and its members elected by the state societies only. It will elect all the officers; it will have control of all the affairs of the ASSOCIATION; it will be the mouth-piece to give expression to the desires of the profession of the country in regard to business and legislative affairs; and it will consider other problems affecting the profession from time to time as they arise. It will be a confederation of the state societies of the country, which in turn must be a confederation of the local societies in the state. Being created by the state societies, it must be responsible to them for its actions.

In the revised Constitution, the Committee recommends that the following be incorporated:

No member of the House of Delegates shall be eligible to any office in the ASSOCIATION.

By adopting this proposition, it is believed that "medical politics" will be reduced to a minimum.

The Board of Trustees shall have control of the finances of the AMERICAN MEDICAL ASSOCIATION as at present, and be considered officers of the ASSOCIATION, and therefore can not be elected from among the delegates.

The object of this is that there may be thrown around all financial matters as much protection as possible. While the Board of Trustees will be created by the House of Delegates, its term of office will extend as now for three years, one-third going out each year. Two-thirds of the Board of Trustees will always be independent of the existing House of Delegates and will be in a position to act independently as a protection should that body any year recommend some extravagant expenditure. As now the Board of Trustees could expend no money unless so ordered by the House of Delegates, except in the management of THE JOURNAL.

The officers shall be: President, First Vice-president, Second Vice-president, Secretary, who may and should be editor of THE JOURNAL, Treasurer, and nine Trustees. All officers shall be elected for one year, except the Trustees, who shall be elected for three years each, three going out each year. The Editor, who should also be, but not necessarily must be, Secretary of the ASSOCIATION, shall be elected by the Board of Trustees. (While it is better under present conditions for several reasons that the Editor and Secretary be one, the time may come, in the development of the work of the ASSOCIATION, that the duties should be separated, and hence it is thought best to incorporate the matter in the Constitution as above.) All the officers shall be ex-officio members of the House of Delegates, but none of them should have the right to vote, except the President, and he only in case of a tie.

All the standing committees now provided for will be continued, except the Committee on Nominations, the Committee on Necrology, and the General Executive Committee. It is presumed that the House of Delegates will create other committees than the ones now existing, if necessity requires.

*Membership:* There will be three classes of members, to be known as members, honorary members, and associate members. Membership will be obtained as now provided for under "Membership by Application." Honorary members will be limited to distinguished foreigners, who must be elected by the unanimous vote of the General Session of the AMERICAN MEDICAL ASSOCIATION. It must be a distinguished honor. Representative gentlemen not Doctors of Medicine, working in the allied sciences, may become Associate Members by a unanimous vote of any Section. Honorary and Associate Members will have all the rights of membership, except that of voting in the Sections and in the General Sessions and the right to hold office. They shall not be assessed for dues nor be entitled to THE JOURNAL free. No one shall be eligible to membership in the House of Delegates unless he has been a member of the ASSOCIATION for at least two years, except delegates at large and representatives of the U. S. Army, Navy, and Marine-Hospital Service.

## THE SUBORDINATE SOCIETIES.

The foregoing pertains directly to the AMERICAN MEDICAL ASSOCIATION and indirectly to the state and local societies. That which follows relates directly to miscellaneous state and local societies, but only indirectly to the AMERICAN MEDICAL ASSOCIATION. The latter does not wish to dictate to these societies, but only to advise. A committee consisting of one from each affiliated state society, provided for by a resolution adopted at the Atlantic City meeting, will meet at St. Paul on Monday, June 3. The following must be considered as suggestive and advisory to this Committee.

### THE STATE SOCIETIES.

As mentioned at the beginning of this report, the larger Committee on Organization is created by the various state societies, the object being to discuss the problem of organization as it affects the state and its affiliated societies. It is presumed that the members of this Committee will be able to intelligently consider the sub-

ject from the point of view of all parts of the country and as it relates to the different conditions existing in the various states, and thus come to an agreement which will be acceptable to all these bodies. That which follows is intended especially to suggest to this Committee the conditions that exist and to advise what, in the Committee's opinion, is considered to be the best plan of organization.

Before discussing the plan of organization of state and other societies, the Committee thinks it advisable to refer briefly to present conditions.

TOO MANY MISCELLANEOUS SOCIETIES.

One of the great obstacles to systematic organization is the large number of existing medical societies. Of these there are between 1300 and 1400, although with new ones continually starting and with many in that condition of innocuous desuetude which makes it hard to decide whether they are alive or dead, it is impossible to even pretend to any correctness as to the number. For the reason that most of these are organized without any common plan and without relationship one to the other, they are a source of weakness, and an obstacle to systematic organization.

The societies referred to may be classified as: *a*, Special; *b*, District; and *c*, Seminational. Special societies are necessarily organized for specific scientific work with membership limited to those who are interested in the particular work which these societies are organized to encourage. They are purely scientific, with no other pretense. They do not interfere with a systematic organization, although there is probably a tendency to a too great multiplicity of these. If these could be induced to insist on membership in the county society as a qualification for membership, it would assist very materially in general organization.

District societies are of various sizes, generally covering an indefinite territory in a state. These, as a rule, are organized with no regard to any plan, and with no relationship to the state or to local societies that may be already in existence in the same territory. Such bodies are particularly a source of weakness for the reason that they are antagonistic to strong local organizations in affiliation with state societies. Their membership is drawn from struggling local bodies, preventing these most desirable institutions from becoming strong and active, and often resulting in their complete disruption. In a systematic scheme there may be an excuse for district societies, in fact that they will be a necessity in some instances, but to be useful in uniting the profession for the general good they must occupy a definite place in the plan of organization.

Seminational societies are subject to the same criticisms. Such organizations as the Medical Society of the Missouri Valley, the Mississippi Valley Medical Association,[4] and other like bodies which cover an indefinite territory could be made a power if they were given a definite territory and admitted none to membership who were not supporters of their own local and state societies.

The various tristate societies as at present constituted, are, with one or two exceptions, a detriment. An investigation into one of these revealed the fact that more than half its members are not supporters of their own state society, but are encouraging an organization outside of their own state and much inferior in numbers and in scientific worth. The combination of three or more state societies for the common good of all, the meetings being held at a time not to conflict with the meeting of the state bodies, might certainly be desirable if the object were to supplement and not to antagonize the work of the state society. If this is the object, however, membership in one's own state society must be a requisite for membership. Otherwise they will continue to be a source of weakness and will tend to disorganization.

UNIFORMITY IN ORGANIZATION NECESSARY TO FEDERATION.

No successful organization of the profession is possible without the mutual co-operation of the national and state societies; it is presumed here that the AMERICAN MEDICAL ASSOCIATION is ready to do its part; what remains is for the state organizations to do their share in the accomplishment of the purpose. It is not necessary to use arguments to prove that there is at present no close relationship among the state societies; that each is acting as an independent body, recognizing no other; that no concert of action among them regarding measures that are of mutual importance is possible under present circumstances, and that a federation of the state societies is desirable and absolutely necessary for the accomplishment of their full measure of usefulness.[5]

A COMMON PLAN FOR EACH STATE.

It will also be accepted as an axiom that before such a federation can become an established fact a common plan of organization must be adopted by all.

To successfully accomplish this and have such a common plan accepted by each state society, it will be necessary that each of these bodies shall be willing to sacrifice for the common good certain minor details in their present plan of organization, certain preconceived ideas as to what are the objects of the state medical society, and existing methods of procedure of minor importance. For without a willingness on the part of all to make some minor sacrifices, there can be no successful issue to the undertaking, and present chaotic conditions with their resulting weakness will continue to prevail.

OBJECTS OF STATE SOCIETIES.

Before discussing the plan upon which the Committee believes the state societies should be asked to agree, it will be well to consider what are the objects for which a state society is created. Judging from a few of these, it would

4. The Committee contemplated the advisability of creating seminational branches, taking the Mississippi Valley Medical Association, modified and enlarged as to scope and territory, as an example. The idea was to create say five grand branches, as for instance, the New England Branch, taking in the New England States, New York, and possibly Pennsylvania; the South Atlantic Branch, including the Atlantic Coast States, Alabama and West Virginia; the Mississippi Valley Branch, including the Northern States West of and inclusive of Ohio, to and including Colorado, and possibly Tennessee and Kentucky; the Southern Branch, including the Southern States from Mississippi West to and including New Mexico; The Pacific Branch, including Montana, Wyoming, Utah, Oregon and all West. This grouping is suggestive only. It was thought that our country is so large that these semi-national societies could be of advantage from a scientific point of view. The plan provided for an annual meeting of these branches at such time of year each thought best, but not within three months of the meeting of the AMERICAN MEDICAL ASSOCIATION, the latter to meet with these branches in rotation, the branch omitting its annual meeting when it entertained the national body. The general idea was considered worthy of consideration in the future but not at the present time.

seem that the object is simply to gather together annually a select few of the members of the profession in the state for the purpose of reading and discussing scientific papers. Such societies, however, do not appreciate their functions. The whole duty of a state society consists in doing all in its power to better the conditions of every individual member of the medical profession in its territory. A body whose sole aim and object is to benefit only those who attend its annual meetings should cease to exist, or else change its name and claims so that a state society could be organized that would appreciate its full duty and do it.

The state society, by building up local societies and by encouraging them in every way, should make every effort to reach and keep in touch with those who have from their own accord or from the exigencies of their location separated themselves from professional association with their fellows.

The state society, representing the profession of the state, should have cognizance of all medicopolitical,[6] social and financial measures affecting the profession, as well as sanitary affairs that affect the well-being of the people. It should be ready at all times to oppose measures and undertakings, whether originating in or out of the profession, that have a tendency to degrade it and lower its standard as a scientific body of men, or that would affect the profession disadvantageously in any way.

In addition to the above, but not more important, is its function as the great scientific medical body of the state.

Hence, as in the organization of the AMERICAN MEDICAL ASSOCIATION, there should be two distinct branches, the scientific and legislative.

## MEMBERSHIP IN STATE SOCIETIES.

### SHALL MEMBERSHIP IN A LOCAL SOCIETY CARRY MEMBERSHIP IN A STATE SOCIETY?

The Committee concludes that this question should be unhesitatingly answered in the affirmative, believing that every man who belongs to a local society should be eligible to attend the scientific gatherings of the state body without further formality or additional expense.

The object of the scientific branch of the state society is the diffusion of medical knowledge among its members. The primary purpose of the annual gathering is educational and for the mutual improvement of those who attend; the secondary is social and fraternal. There is no reason why every reputable physician should not be welcome at such a meeting, especially when he is considered by his fellow practitioners, who know him best, as a desirable member of their local society. There can not be, unless the members of the state society desire that that body shall be considered select and exclusive, an idea which is as far from their wishes as it would be repugnant were it a fact. To make higher professional attainments a qualification for membership in certain exclusive societies devoted to special work may be right and proper, but not in a body which is supposed to be democratic. All state societies gladly welcome to membership every reputable regular physician, hence there can be no objection on the point of professional qualification.

As far as excluding from the state society those who are not reputable nor ethical, it would seem that limiting membership to those who belong to their local societies is more likely to prevent the admission of such men than the present method of admission. Why membership should not be obtainable except through membership in the county society will be considered under "County Societies."

*Benefits Resulting from Enlarged Scope of Membership.*—It may be asked, by those societies which do not now recognize membership in a local society, what advantage will accrue to them if they change to the method recommended.

It would increase the membership, and so the influence, of the state society. For the purpose of illustration, we take certain states concerning the membership of whose county societies the Committee has secured fairly correct information. In the following table is shown the number of members of the state societies in the first column, and in the second the number of members these will have if the present membership of the local societies is included:

| | No. of Members Now. | No. of Members if Co. Soc. Members are taken in. |
|---|---|---|
| California | 262 | 1162 |
| Illinois | 800 | 3800 |
| Iowa | 734 | 2734 |
| Ohio | 940 | 3940 |

Thus without the slightest effort there will be an enormous increase in membership and influence in these societies, and it is believed that similar gains will be made in a large majority of the states. This membership is the result of no extra effort, so it can be readily seen what a membership many of these state societies will have if the efforts that will be recommended later are adopted.

### FINANCIAL REASONS.

As will be seen, the most important result of enlarging the scope of the state society will be the increased revenue. This is an important consideration, as now the lack of money prevents the execution of important measures. Only a few now contribute to the expenses, whereas these should be divided among the many, for all are benefited.

Referring again to the four states above, we find that the annual dues of the California State Society are $5.00, and that with the present membership this brings in $1310. With the county society members added, with dues $1, this would amount to $1162, not as much as at present, of course, but how much easier these dol-

5. "A unification of the State Medical Societies as integral parts of the AMERICAN MEDICAL ASSOCIATION would go far toward making easy the solution of many questions of concert of action, and I would respectfully suggest that measures be at once instituted for the development of a much closer relationship between the State and National Societies." (Dr. Henry O. Marcy's Presidential Address delivered at Detroit, Mich., June 7, 1892, and published in THE JOURNAL of June 11, p. 727.)

6. One of the great needs in every state is the enforcement of medical laws. "What is everybody's business is nobody's business" is especially true in this regard. Quackery in all its forms is plying its nefarious schemes, with no one to say "nay," in spite of the fact that in most of the states much of this quackery could be put down if there was some central body to take hold of the matter and enforce existing laws. This is very evident in individual localities in many states. All that is needed is organized action on the part of the profession itself. In a few instances better laws are necessary, but in nearly all of the states the laws that now exist if enforced, would make radical changes.

lars would be paid, compared to the $5.00 now.[7] Illinois claims a membership of about 800, and the annual dues are $3, making a total income of $2400.[8] If the members of the county societies should be included, and a per capita assessment of $1 were made, there would be an income to the state society of $3800, and yet the assessment on each member would be so small that certainly no one could object to it. The annual dues of Iowa are $2, which nets that body $1468 annually, whereas a $1 assessment on the members when membership of the county societies is admitted, will bring in $2734. In Ohio the claimed membership is 940, the annual dues are $2, making the total income to the state society $1880. Admit the members of the county societies and make the assessment $1, and the state society will have an income of $3940.

It might not be amiss here to refer to another phase of this question. The annual transactions of many of the state societies record the fact that the most discouraging feature is the collection of dues. In many societies this is an annual and a very vexed question. It is not an uncommon thing for a physician to join a state society, pay his annual fee, and then through non-attendance let his dues lapse for one, two or three years. These will then amount to such a sum that it has a great tendency to keep him away from the annual meeting and from becoming an active member again. Many societies adopt resolutions every few years remitting past dues, for the purpose of getting such men to come in and renew their membership.

The transactions of many state societies show that anywhere from 25 per cent. to 50 per cent. of the members are in arrears. In a circular now before us is an announcement by the secretary of one society to the effect that, while the membership is given as about 725, only 420 have paid their dues and are entitled to the transactions for the year. Under the proposed method, the county societies will collect the annual dues, adding to the sum necessary for local expenses $1 for the state society, and this will be paid direct to the state by the county society, as is done by other bodies.

### THE INCREASED VALUE AND REDUCTION IN COST OF TRANSACTIONS.

The added expense for increased membership is very small, consequently the larger the society, the less the per capita expense. The publication of the annual transactions is always the greatest item of expense. It is well known that the first number of a book is the greatest expense, and the greater the number, the less the cost for each book, the added numbers costing practically but little more than the cost of the white paper. As an illustration, the transactions for 1899 cost one society $1.37 for each book printed, whereas if there had been a sufficient number of these books gotten out to supply the added membership under the new arrangement, these books would have cost less than 50 cents each. If we take Illinois, which is one of the few states that publish their transactions in journal form, the *Illinois Medical Journal* would have over 3800 subscribers, whereas today it has about 800. The cost of getting out 4000 copies of that journal would be but little more than getting out 1000 copies, the added expense being simply the cost of the white paper, an infinitesimal item for extra press work and the extra mailing. The good resulting from reaching such an increased number at but a slight increase in expense, both as it applies to annual transactions in book form and in journal form, is very great. The *Illinois Medical Journal* would then have a larger circulation than probably have three-fourths of the monthly medical journals of the country. Before leaving this financial phase of our subject, let it be said that the reason so comparatively few physicians associate themselves with a state society is a financial one. Unless attendance at the meetings every year is possible, one asks, "What do I get for the $2—to $5—that I pay annually?" The reply is, a volume of the annual transactions, which contains papers that, if they are valuable, are published in the medical journals, and which should not in any event cost over 50 or 75 cents, a feeling that one is helping a good cause, and the honor of membership. To secure and retain membership, give value received for the annual dues, and make these as low as is consistent with the work done. Physicians are business men in some things.

### LEGISLATIVE BRANCH OF THE STATE SOCIETY.

It seems hardly necessary to call attention to the necessity for an active working branch in every state to consider measures affecting the profession in the same way that the House of Delegates will consider measures of national importance. Every reason that was brought forward to show the necessity for subdivision of the work in the American Medical Association applies to the state societies. Questions are coming up continually in each state that should be met by a deliberative body created in such a way as to be representative of the profession of the whole state. A few of the state societies already have such a branch, but, as a rule, their delegate bodies are too large. In one state, for instance, the various county societies are entitled to send 323 delegates, each county sending one delegate for every five of its members. The Committee thinks it is a mistake to have such large bodies, and that if possible their membership should not exceed 75; 50 would be much better. The great trouble, however, comes from the fact that many states have more counties than this, and it is believed that every county society should have at least one delegate. But the number should be as low as is consistent with the number of bodies that are to be represented. No state has a larger proportionate representation than one from every ten members, but most of them have one for every five members.

The same principle should pertain to the apportionment of delegates in the state society as applies in the creation of the House of Delegates. It should be impossible for any two or three counties that happen to have a large population to be able to dominate the legislative

7. For argument's sake the annual dues are $1, which will make a sum amply sufficient with the increased membership in all states, and more than will be necessary in many instances.

8. An illustration from a county society is worthy of mention. According to the report of the Secretary of the Illinois State Medical Society, as published in the *Illinois Medical Journal*, the Chicago Medical Society has a total membership of 1078, whereas there are only 187 members of this society who belong to the state body. These 187 pay into the treasury annually $561, whereas if all the members of the Chicago Medical Society could become members of the state society, the amount received from this, making the dues $1, would be $1078. The addition of the membership of this society would increase the membership of the state society, therefore, from 800 to 1691.

body. The Committee believes that a high apportionment, even as high as 50 or 100, would be much better than a low apportionment. This would give the small societies one representative, whereas the larger societies would be limited.

However, the Committee wishes it understood that it does not consider this fundamental. It is simply a suggestion that the smaller body is more valuable for work than the larger body. There can be just as fair representation, if it is rightly apportioned, in a small as in a large number.

DELEGATES ELECTED FOR TWO YEARS.

The Committee suggests, for the purpose of having more permanency in these delegate bodies, that all delegates be elected for two years, one-half to be elected the first year for one year only. There is need of more continuous action, and this can only be brought about by a more or less continued membership in the legislative body. It is also believed that there should be created in each state legislative body a small executive council which should have cognizance of affairs pertaining to the profession throughout the year, and hold quarterly or other meetings, as may be necessary. Also, it is believed that there should be more executive work done by the secretary or the president of the state society. While at present it may not seem that there is a necessity for this, it is believed that such an active executive committee or officer would be valuable in various ways to the individual members of the profession of the state. Above all, however, this continued activity must apply to keeping in touch with the county societies—in fact, it is to this work that the Committee desires to especially call attention.

The necessity of imitating the secret orders, churches, trades unions, and other similar organizations, has been mentioned before. These bodies continually keep in touch with the subordinate bodies. There must be mutual interest shown between the state and county societies, and the latter must always be considered as the protegé of the state society, to be encouraged, built up, and kept active. This can only be done by having an executive officer continually at work, presumably the secretary of the state society.

*Responsibility of the State in the Organization of County Societies.*—The most important work that now faces us is the organization of county societies, and its accomplishment rests absolutely and solely with the state society. The Committee would like to make this proposition as emphatic as possible, for it must be appreciated before any definite results in this regard can be had. Most of the state societies occasionally show an appreciation of this responsibility, but it is always in a spasmodic and half-hearted manner. There is never anything like a business method adopted. The attempts to get physicians to associate themselves with an organization without employing the same methods as adopted successfully in building up other organizations is not business-like. A physician is no better and no worse than the ordinary man, and is influenced by like arguments.

The successful organization of medical men will depend on the personal work of paid organizers. The sending of circulars inviting physicians to organize or join a medical society does no harm, but it seldom does good. Once in awhile a gospel tract may convert a sinner, but if so the tract is either extremely convincing or the individual is easily influenced. The personal magnetism of the preacher is generally more efficacious. We must take things as they are, not as we would have them. Those who are not members of the medical societies are not because, for some reason, they do not want to be. It will require personal effort and argument to convince some of these to the contrary.

THE PRINCIPAL DIFFICULTY A FINANCIAL ONE.

The employment of salaried organizers will pay, and the resulting increase of membership will be an increased permanent income. The primary difficulty, and one that will be the hardest to meet, is that of raising funds to pay an organizer at the beginning. Few, if any, societies have funds for such a purpose. It is this that will block any action unless extraordinary measures are taken to meet the difficulty.

The Committee can only suggest that at the beginning the necessary funds will have to be raised by voluntary contributions from the members, these to be given outright or in the form of a loan. If the latter, a slight emergency assessment on the increased membership would soon make up the amount. The right man will in most instances make his salary from the dues of new members.

The time necessary to complete an organization in detail, as will be suggested under "County Societies," will depend on the man and on the number of physicians in a state. In most states a year will be necessary, in a few less time, and in others two years. The secretary of the state society, other things being equal, would be the man for the work. When the work is completed, a paid secretary must keep it up. Continuous personal work, but to a less extent, will be required. If a society becomes dormant, the reason should be ascertained, and if a member drops out, it should be known why. Personal jealousies, resulting in petty quarrels, can nearly always be inquired into with good results by the right man from another neighborhood, and a better feeling will result among all concerned. All this takes money, but it will pay.

## THE COUNTY SOCIETIES.

It will be conceded by all who have given earnest thought to the subject that until a medical society exists in every county in the country, organization will have fallen far short of its opportunities for usefulness and of the real purpose of its existence. Such societies would furnish to every physician the opportunity of membership with the professional, social and material stimulus and betterment incident thereto. Such consumation is worthy of our most consistent and persistent efforts as individuals and as a profession, but it is left to this generation of medical men, or to some future one if we are not equal to the duty. To accomplish it will require some uniform plan, so broad in its conception and so perfect in its details that in time it can be made to reach and influence the rank and file of the profession, and especially that large class which, owing mainly to a faulty system, at present seems to be separated from progressive medicine.

In such a plan, that part which relates to the organization and maintenance of county societies, or an aggregation of counties in some sparsely settled districts, will be at once the most important and the most difficult. For obvious reasons it has always been easy enough to have leading men attend and keep up the interest in the state societies and in the Association, but the difficulties are greatly increased when we come to face the problem of making the frequent meetings of local organizations sufficiently harmonious and interesting to maintain the requisite attendance month after month and year after year. Yet this is done, with most excellent results in a few states, and in a few counties in all the states, and it is possible everywhere. The difficulties are on the surface and should be frankly considered.

### EXISTING CONDITIONS AND THE YOUNG PRACTITIONER.

Outside of certain states and sections the condition of the average physician in this country is neither an enviable nor an inspiring one, and this is as true of a large element of those living outside of the organizations in the cities as of those in the towns and country districts. Consider the influence these conditions exert on the recent graduate, make the application general, and we fairly epitomize the evil which is as widely prevalent as it is discouraging. As a rule, the young graduate has left his alma mater none too well trained for his high calling, but ambitious to learn and craving for fellowship and the knowledge which comes from experience. His location chosen, he is fortunate if he is not met at the threshold, the most impressionable period of his medical life, with ill-concealed sneers or complete ostracism by those already established in practice, which will grow with his success, or soon entirely disappear if he is a failure. With time he is likely to find that many of his professional neighbors practically laid down their books at graduation, that they receive no journals except the free-copy advertising periodicals, that they have little or no equipment for even the emergency surgery that they must do, and that so much of their time is taken up with petty professional bickerings as to destroy all desire for advancement. Although physicians need advice and help from one another as no other men do, the young doctor often finds that where there are but two doctors in a community this spirit of envy and contention, pitched upon the lowest possible plane, so divides them and so infects the community as to be utterly destructive of that public respect and confidence to which both are perhaps equally entitled. He will find that they quarrel about patients who would not pay either of them if they could, or about provisions of the Code which neither of them have read, that one is afraid to collect his just fees for fear the other will get some of his offended patrons, that ambition for excellence in surgery or other special work is hindered by the fact that one will send for consultation, or send his patients to a distant town or city rather than ask the assistance of his neighbor; in a word, that this curse, which clings to our profession with such tenacity and blights all to which it clings, bars all advancement and destroys his ideals of life. With such environment the horizon of the graduate, probably never large, but certainly susceptible of enlargement, grows smaller and smaller with the years, until he drops out of the race and is likely to become the unkempt and self-satisfied medical degenerate only too frequently to be found without search.

It is mainly this condition which causes so much poverty in the profession, interfering with it in every business aspect, just as the loss of public respect and confidence directly traceable to it accounts for most of our difficulties in securing needed medical and health legislation, and in the enforcement of such laws as have been enacted. The picture here presented is not a pleasant one, but the Committee, believing that these glaring evils are the results of faults in our system which are remediable, paints what it finds, in the hope that future workers in the same field may be able to find what it would like to paint.

### THE REMEDY FOR THE ABOVE CONDITIONS.

The only remedy for these evils is a systematic, all-pervasive organization, beginning with the county society as the broad foundation, and extending through the state societies to the American Medical Association, conferring, so far as may be possible, equal privileges and blessings on the members in New York and Chicago, and on those located in the remote hamlets of Maine and California. With such organization all things reasonably desired become possible to us, and through us to the people, for whom, as regards all protective sanitary and medical legislation, our profession must think and labor. What the Committee suggests will require time, much patient effort and no little expense.

### ORGANIZATION OF COUNTY SOCIETIES.

*County Medical Societies.*—"It requires but a moment of reflection to perceive that a state society composed of delegates chosen annually by the professional organization of each county or district, could not fail to represent correctly the social, scientific, and legal interests of the profession of that state; and that a national society composed of delegates similarly chosen annually by each of the state societies would be equally the true representative of all the interests of the profession of the nation. It is equally apparent that such a complete national professional organization would offer the greatest possible facilities for collecting and concentrating the influence of the profession for any great or important object, whether relating to the educational and scientific advancement of the profession itself, or the promotion of the sanitary interests of the whole people; and equally efficient for radiating the spirit of investigating, mutual respect, and generous emulation developed by the annual contact of the most active and enlightened minds in the national meetings, back through the state organizations to the remotest county and parish in our great republic. It is hardly necessary to remind our readers that a representative national organization capable of efficient work in the various directions here indicated has for its foundation the primary organizations in each county or district. On the degree to which these can be made to include every active and intelligent regular member of the profession, and the activity with which their regular meetings are sustained,

will depend, in a very great degree, both the permanency and value of the state and national associations. It is here, in the incompleteness of the primary local organization of the profession in many parts of our country, that we trace nearly all the important defects in the practical working of our present state and national associations." (Editorial, JOURNAL AMERICAN MEDICAL ASSOCIATION, Jan. 15, 1887.)

It is through the local society that the individual must be reached, and that the individual effort of the profession for political purposes must be made. It is through the county society that the individual must register his views in regard to questions and measures which affect him.[9] The local society produces harmony, promotes good fellowship, removes petty jealousies, has an elevating influence on its members, and aids them in educational and scientific advancement.

On the success of the county organization depends all above it; it is the foundation of the whole superstructure. The old motto, "Take care of the pence and the pounds will take care of themselves," is true if paraphrased into, "Take care of the county organizations and the state and national bodies will take care of themselves." Hence, everything that will tend to build up these local societies should be encouraged.

### HOW TO ENCOURAGE MEMBERSHIP IN COUNTY SOCIETIES.

How can this be done? The first proposition, and the most important of all, is that no one shall be allowed to belong to any higher society until he is a member and supporter of his own county society, and this membership in the lower must be continued. This is one reason why the state societies are asked to adopt this as their first principle in organization. It should be made impossible for one to get into the higher body unless he is a member of the lower one. This principle is recognized in all organizations, secret orders, churches, etc. If the various special district and seminational bodies will adopt the same principle, then there will be no doubt as to successful organization of the county societies in the future.

As the organization of county societies depends on the state society, the first and most difficult problem is how to arouse these to a realization of their responsibilities in the premises. It is feared that some of these bodies may resent any suggestion from the outside, no matter what the motive that prompts the suggestion. This difficulty overcome, the rest will be comparatively easy. The adoption of a modified plan by which secret insurance orders, trades unions, and similar bodies are built up, as previously suggested, will be necessary. This means a paid organizer. While the right man for this work may not easily be found, a little effort will find one. He need not necessarily be a physician, although it is best that he should be. It would be well if he were the secretary of the state society, as then he would not only get in close personal touch with the individual members of the profession of the state, but this close relationship would be continuous through his office after the organization is completed.

### SYSTEM OF BLANKS AND BOOKS NEEDED.

Preliminary to any attempt at organization, a system of books and blanks should be adopted. This should be done by a small committee representing all the states. These could be printed and supplied by the National Association at a nominal cost, the work being done by THE JOURNAL plant. The county books and blanks should be devised for recording the name, address, qualifications, etc., of every physician in the county legally entitled to practice, with special designation for those who are members of the recognized society. The blanks should be gotten up for the purpose of conveying by the secretary of the county society this information, but in less detail, to the secretary of the state society, who would have a book arranged for recording it annually. The county secretary will report to the state, the removals, the accretions, the additions, deaths or withdrawals from the society, whence they came and, when possible, where they go; this information to include also all legally qualified physicians who are not eligible to membership.[10]

9. "By making membership in a local society a necessary qualification for membership in the state and national societies, the strongest possible inducement is presented for organizing and maintaining these primary and essential bodies by all intelligent members of the profession. By providing for delegates from the local and state societies on a uniform ratio of representation, and placing the whole business management of the Association in the hands of such delegates by restricting to them the right of voting, the most reliable check is put upon the tendency to centralization or local control, or any form of class supremacy, while the door to permanent membership is opened to all who are willing to support the interests of the profession in their own districts." (Report of Committee on Organization 1887, JOURNAL AMERICAN MEDICAL ASSOCIATION, June 25, 1887.)

10. The question may be asked, why go to the trouble of registering all licensed physicians including those who may not be considered eligible to membership in the society? A system of registration as above outlined gives the organization information of all who are legally practicing medicine and their qualifications. It puts a label on each one. When all the states are organized, it will be a simple matter to follow each individual, no matter how often he may change his location. By a system of cards, members will be transferred from one county society to another without expense or trouble. Those who are anxious to be classed as reputable will not object or hesitate to transfer their membership when relocating. Others for reasons will not co-operate, but rather resist such registering of information regarding themselves. In such cases the information desired may be difficult to obtain, but it can and must be had no matter at what cost. Thus the record of each will be known no matter where he may be. When a little thought is given to this proposition, it will not be found to be as difficult as at first might be supposed. The local registration of physicians, as provided by law in most of the states, will be a great assistance in keeping up such a system. A "card index" system of identification of the legal practitioners of the United States is practical, of easy accomplishment, and will do more to put down quackery and expose pretenses than anything else that can be done. It gives an answer to the questions, "Who is he?" "Where is he from?" "What are his qualifications?" "What is his reputation?"

Another thing greatly needed is a reliable physicians' directory or register. Business houses are publishing what are called medical directories, but without exception all are unreliable. The best of them contain the names of pretenders, patent-medicine vendors, horse doctors, *et id genus omne*. The qualifications may be given correctly, if the necessary information can be gotten easily, otherwise not. The profession in this, as in many other ways, is used by commercial houses as a means for money-making, and if there is money in publishing a directory, and there most certainly is, the profession should have it and at the same time control it. The profession in Great Britain to a great extent at least controls the Medical Register. We should control it here. With such a system of registration as recommended, all information necessary for issuing a directory will always be ready without extra expense; it will insure a reliable book and one that will mean something. It will not be necessary to go outside of the profession for anything. The printing establishment now owned by the AMERICAN MEDICAL ASSOCIATION, with a little addition, can get out the book. State directories can be printed, and the same material, without any change, can be used in making the national directory. There will be no duplication of work. The national directories can be issued bi or triennially, and a supplement annually, and also the state, when called for, separately and annually. The matter when once set up can be left standing, and corrections made as necessary. The Committee believes that the publication of an official, reliable directory is worthy of earnest consideration on the part of every physician. The registration of all licensed physicians by the profession itself, as advised, will make it possible to tell how many

The task allotted to the state organizer is: 1, to secure the name, address, and medical history of every physician in the county; 2, to organize a regular society, unless one already exists; 3, to use every effort, including personal solicitation when necessary, to get all reputable regular physicians to affiliate themselves with the society.

Two difficulties should be considered, both as to the primary organizing and as to keeping up the detailed information required; one of these pertains to the large cities, those in which there are say more than 200 physicians; the other to the thinly-populated parts of the country. In both instances the difficulties will be found more imaginary than real. In the large cities the trades unions keep in direct touch with each of the members of their calling. Political parties know the name of every voter and his party affiliation, if he has any, and also if not, that is known. These do it by subdivision of territory. We must do the same. The large city must be subdivided into wards or precincts, with a ward or precinct secretary, if necessary, whose duty will be to keep the secretary of the county society informed of newcomers, etc. The organizer will be able to cover a large city, as well as a small one, but it will take longer time

In thinly-settled territory it will be impossible to do the personal work, but with correspondence and the aid of physicians in the territory in sympathy with the work, exact data of every physician can be had. It must not be forgotten that a practicing physician is a well-known personage in the thinly-settled places, and none will be so obscurely situated as to be omitted. In the crowded portions of our largest cities, the sign of the doctor will prevent his remaining out of the record. Many of these will not readily connect themselves with societies at first, but when they realize that they are not forgotten by their fellows, and that advantages are to be had at small cost to themselves, they will not continue in their isolation.

Membership in a county society must be a right that can be demanded by every reputable regular physician, and if this right is refused on account of local feeling, then recourse should be had to a higher body, and if on trial it can be shown that the applicant is worthy of membership, it should be accorded him.

Each state society must insist (1) that there must be a society in every county where there are ten regular physicians; (2) that physicians must belong to their own county society, (an exception should be made where one lives much nearer to the place of meeting of an adjoining county society than to his own. In such cases his own society should have the privilege of granting him the right to associate with the other); (3) that where the population is scattered and physicians few, two or more counties may unite and form a district society.

Some of the recommendations in this report are not applicable to certain thinly-settled parts of our country. For instance, Arizona has only about 125 regular physicians, with about 62 members of the state society. Idaho has probably 190 regular physicians in the Territory and only about 48 are members of the state society. Montana has probably 275 regular physicians and probably 90 are members of the state society. Nevada has probably 55 regular physicians and about 25 are members of the state society. New Mexico has probably 130 regular physicians and about 30 are members of the state society. North Dakota has probably 275 regular physicians and about 125 are members of the state society. Utah has probably 275 regular physicians and about 84 are members of the state society. Wyoming has less than 100 regular physicians and about 33 are members of the state society. It will, of course, be impossible to organize county societies in much of this territory, but the information for a complete enrollment of the whole profession of this country can be had in this territory with very little expense on the part of the representative bodies in them. These should be asked to co-operate to make our plan complete, although they should not be asked to go into the details as suggested, neither is it possible for them to do so. There may be other states not mentioned in which the same difficulty will arise. The Committee only suggests the above where it is applicable.

In conclusion, the Committee believes that the recommendations above made are in no way Utopian or impractical, but that they are such as can be carried out in every part of our great country and that they will result in a scientific, social, and material benefit to the individual and to the profession as a whole, as well as to the well-being of the people.

physicians there are in any county or state or in the country. At present we guess about 120,000 in the latter; it may be 10,000 more or 10,000 less, for there is no reliable information on the matter.

In such a directory reliable information should be published in regard to medical colleges, hospitals, etc., in each state, those not recognized being kept out of such a record, but liberal construction must be placed on these as it relates to sectarian colleges, etc.

# Original Articles.

## THE PATHOLOGY OF ACTIVE TUBERCULOSIS OF THE PERICARDIUM.

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A number of cases of tuberculosis of the pericardium having been observed in the autopsies studied in the pathological laboratory of Rush Medical College, during the past six years, at the suggesion of Professor Hektoen I have collected the reports and specimens for study, including among them the cases observed at autopsy at the Cook County Hospital during the past 3½ years. Altogether the material has been drawn from 1048 autopsies on the bodies of adults. Tuberculosis may produce in the pericardium distinctly tuberculous processes, with miliary tubercles or caseous masses, which may be shown by microscopic and bacteriologic investigation to be positively tuberculous; again it produces simply a fibroplastic process in which the adhesions and the pericardial membranes contain no anatomical evidences of tuberculosis. This latter form is often difficult to distinguish from any fibrous pericardial synechia of other origin, and will not come into consideration in this paper, which will deal only with cases in which the anatomical evidences leave no question that the process is tuberculous. Of such cases there are ten among the 1048 autopsies; two cases of tuberculosis of the pericardium of the dog have also

been studied and reported from Professor Hektoen's laboratory, and these will be considered in comparison with human tuberculosis. The anatomical reports of the cases are as follows:

Case 1.—A colored man, 29 years old, presented during life the complete picture of pericarditis with effusion, and from which he died through heart failure, despite repeated aspirations. At autopsy the origin of the trouble was found to be tuberculosis, which fact had not been ascertained during life, repeated microscopic examinations of the aspirated fluid always having failed to show tubercle bacilli. All the intrathoracic and intra-abdominal lymph glands were tuberculous, those of the anterior mediastinum being firmly imbedded in the pericardial adhesions. In the lungs there was no tuberculosis, except possibly its remains, as a scar in the right apex. Both pleural cavities were completely obliterated by fibrous adhesions and in the right pleura were many firm miliary tubercles. The external surface of the pericardium was firmly adherent to the lungs on both sides, more on the right than on the left. Between the upper part of the pericardium and the pleura were imbedded many caseous and anthracotic glands. On opening the sac it was found enormously distended with a clear, dark, straw-colored exudate, and lined with a layer of fibrin which covered a thick layer of newly-formed connective tissue. Over the base of the heart, especially over the right auricle, the layers were adherent. The parietal layer was greatly thickened, and scattered over its external surface were numerous whitish and greyish tubercles; they were especially numrous over the right auricle where the layers were adherent; they could also be felt between the parietal layer and the diaphragm at the line of their attachment. The heart was much hypertrophied, its weight, 700 grams, without valvular, arterial or renal lesions to account for it; both ventricles were considerably dilated. Inoculation of the pericardial fluid on ordinary media resulted in no growth, but a guinea-pig which received an intraperitoneal injection of the fluid developed tuberculosis. Histologically the ordinary changes of tuberculosis were found. This case occurred in the service of Dr. Frank Billings, who will consider the clinical features at greater length.

Case 2.—A man, 49 years of age, was found dead and nothing known of his previous history. The pericardium was distended with a large quantity of bloody serous fluid, about 1½ pints altogether. Both layers were covered with a shaggy fibrinous layer which in the posterior part bound the opposed surfaces firmly to each other. Both lungs were extensively involved by a tuberculous process, and the pleuræ were everywhere firmly united by fibrous bands. Over the pericardium the lung was firmly adherent, and in the wall of the pericardium and of the pleura were numerous yellowish nodules, the largest on the pleural surface. The peribronchial lymph glands were caseous and calcareous. An old right coxitis, tuberculous, was present. Unfortunately the size of the heart is not mentioned in this report, but it is stated that the liver was the seat of a marked passive congestion.

Case 3.—A male, 30 years old, died from general miliary tuberculosis. The pericardium was firmly adherent to the chest wall; lying on its anterior surface, and firmly adherent to it, was a caseous nodule the size of a hickory-nut. The internal surface of the visceral pericardium was rough and granular and the cavity contained a large amount of bloody fluid. The surface of the heart was entirely covered by a shaggy fibrinous layer. Enlargement of the peribronchial, mediastinal and mesenteric glands was marked. There were numerous tuberculous ulcers of the intestine, and a plastic tuberculous peritonitis. Miliary tubercles were abundant throughout the viscera, and the lungs showed, in addition to the recent crop, many old fibrous tubercles, but there were no active caseating or ulcerated areas. Firm fibrous adhesions obliterated both pleural cavities. The heart itself was not affected in any way. In this case, therefore, the oldest active process, and the presumable source of the miliary lesions, was either in the enlarged glands or the intestinal ulcerations; the oldest process found was the healed miliary tuberculosis of the lungs.

Case 4.—This was a man 38 years old, in whom the chief findings during life were those of a right sided serofibrinous pleuritis. This was found at autopsy; on the left side, in addition to a general fibrous synechia, was found a small area of purulent and caseous matter lying directly upon the pericardium. The pericardium itself at this point, that is, the parietal layer, was thickened and contained many yellowish broken-down caseous areas; the sac contained a small amount of turbid, bloody fluid, and directly beneath the caseous portions the pericardium had lost its glistening aspect. Otherwise there were no changes in the sac. There was a general tuberculosis of the lungs and abdominal viscera.

Case 5.—A colored man, 21 years of age, died from generalized tuberculosis. Both layers of the pericardium were found obliterated by firm adhesions, no spaces being left anywhere. At the line of union of the surfaces the connective tissue was bluish, and in this tissue were scattered numerous greyish areas of varying size, but all small. In every organ were found tubercles, one near the lower end of the spinal cord having produced during life the symptoms of a conus lesion. The pleuræ were also the seat of fibrous adhesions and miliary tubercles; the peribronchial glands were enlarged, caseous and calcareous. Old and recent caseous foci, with some cavities, were present in the lungs. On section, the increase in fibrous tissue was found not to involve the myocardium, and the tubercles were all between the pericardial layers. Smears from the tubercles in different parts of the body showed tubercle bacilli. Those in the pericardium were not specially examined. The size of the heart and of its cavities was not affected and there was no interference with the circulation.

Case 6.—A man, 70 years of age, died with signs and symptoms indicating dilatation and incompetence of the left heart, which condition was attributed to a chronic interstitial nephritis and the accompanying arteriosclerosis and fibrous myocarditis. These conditions were all found as diagnosed, but in addition the pericardial sac was found completely obliterated by firm fibrous adhesions. Externally the pericardium was firmly adherent to the lungs and to the diaphragm; beneath the pleura on the right side were many pin-point whitish nodules. In addition to the dilatation of the heart and the fibrous myocarditis there was considerable hypertrophy, chiefly of the left but somewhat of the right ventricle, the total weight of the opened heart being 575 grams. Adhesions similar to those in the pericardium obliterated both pleural cavities, and on the right side firm miliary nodules were numerous. A large puckering scar in the left apex, with a few small fibrous nodules beneath it perhaps indicated the source of the caseous masses which enlarged the peribronchial lymph glands. A considerable degree of passive congestion of the liver was the only evidence of cardiac incompetence.

Case 7.—A male, aged 50 years, died with evidences of a basilar meningitis. The pericardial cavity was found obliterated by fibrous adhesions; when the layers of the heart were separated the surface of the heart was found studded with small, firm, yellowish bodies, which were very numerous. No hypertrophy of the heart existed, the weight being but grams, but the ventricular cavities were noticeably dilated and the myocardium showed marked fatty changes. Both lungs showed advanced tuberculosis with cavity formation; miliary tubercles were present in the spleen and kidneys, and there was also a tuberculous leptomeningitis. Both pleural cavities were obliterated by firm fibrous adhesions.

Case 8.—A male, 61 years of age, died of chronic nephritis with uremic manifestations. On removing the sternum both lungs were seen to adhere to the pericardium to the extent that they overlayed it, and they were firmly adherent to parts of the chest wall elsewhere, except where separated by a recent serofibrinous exudate. The cavity of the pericardium was entirely obliterated, chiefly by fibrous tissue, and where this was lacking by thick caseous material which in places invaded the heart walls. The right auricle was in one place invaded by such a caseous mass, and this, where in contact with the blood, was capped by fibrin, forming a rounded, oblong thrombus. No tuberculosis, either recent or old, could be found in the lungs. The peribronchial and mesenteric glands were enlarged and caseous; those about the pericardium were imbedded in fibrous

adhesions which firmly united them to its external surface. In the right lung was a hemorrhagic infarct of recent origin. A smear from the caseous material in the pericardium did not show tubercle bacilli, but a guinea-pig inoculated with a portion of it developed tuberculosis. Histologically the usual features of a caseous and miliary tuberculosis were found, except that giant cells were not seen in the sections examined.

Case 9.—This was the body of an unknown colored man, aged 23 years, examined by the coroner's physician, Dr. L. J. Mitchell, and nothing could be learned about the conditions existing before death. The heart with its adherent pericardium weighed 625 grams. The pericardial cavity was found obliterated completely, for the most part by firm fibrous tissue in which were spaces filled with caseous material, especially along the line of cleavage of the two layers. On the external surface of the parietal pericardium were many nodules, the largest the size of small peas. In some areas the interpericardial caseous masses extended into the myocardium, especially over the auricles. The adjacent peribronchial lymph glands were converted into large caseous masses. Nowhere else in the body could other caseous foci be found. On microscopic examination caseation, round and epithelioid cells were found, but no giant cells; tubercle bacilli were also found, although not numerous. This specimen was exhibited to the Chicago Pathological Society by Dr. D. D. Bishop, Jan. 13, 1896.

Case 10.—A man, 35 years of age, died with a general miliary tuberculosis of the large serous cavities. The oldest of these tuberculous processes was apparently that in the pericardium; this was, like Case 9, obliterated by firm fibrous adhesions, with the caseous masses numerous along the line of union of the two layers. Miliary tubercles were also present in the pleural and peritoneal cavities, with extensive organized exudate. More miliary tubercles were found in the liver. Caseous peribronchial glands were present and seemed to be the source of the pericardial infection. Histologically the usual features of a caseous process were found, and tubercle bacilli were demonstrated.

In 1893 Osler[1] reported 17 cases of tuberculous pericarditis, and in a characteristically compact and complete article discussed the subject. It can not be said that the progress of time permits much to be added to what Osler reported. The subject has been well covered prior to Osler's report, by Hayem and Tissier[2] in 1889, and synchronous with Osler, Jaccoud,[3] in a clinical lecture, has given a most interesting discussion. Since that time no extensive consideration seems to have been given in the available literature. The general opinion seems still to be, despite the above papers and the very numerous reports of individual cases, that tuberculous pericarditis is a rare lesion, which is indeed contrary to fact, occurring in nearly 1 per cent. of our autopsies, and these figures are not far different from those of other institutions. Osler states that in 1000 autopsies, the majority of which were made at the Montreal General Hospital, there were 7 cases. In our 1048 autopsies 364 presented distinct tuberculous lesions elsewhere than in the pericardium, of which 208 were active. Of these 26 were instances of acute miliary tuberculosis, in 2 of which the pericardium was involved; 58 presented more chronic lesions in many parts of the body, generalized caseous and ulcerative tuberculosis, with 2 cases of pericarditis. The remaining cases of pericarditis owed their origin to more direct extension, which will be discussed fully later. In all the bodies with active tuberculosis, therefore, about 5 per cent. presented active tuberculous lesions in the pericardium.

Evidently tuberculous pericarditis is far from a rarity. In relation to other pericardial lesions it comprises a considerable proportion. Among the entire number of autopsies the pericardium was found affected in some way in 128. This includes everything in the nature of a pericarditis, from the simple apical adhesions up; of these the 10 cases of tuberculous pericarditis form nearly 8 per cent.; 51 of the 128 were healed processes, represented by various degress of adhesion by simple fibrous tissue. Of the remaining 77 in which the process was still active, although in many cases very slight, including even those instances of pericarditis in which the lesion consists of simply a small area of fibrinous exudation, the 10 cases of tuberculosis form 17 per cent. Breitung,[4] among the records of the Charité in Berlin, from 1866 to 1876, found 419 affections of the pericardium, of which 45 were considered tuberculous, nearly 11 per cent. Osler states that "tuberculosis follows hard upon rheumatic fever as a cause of pericarditis." This applies only to the chronic forms, however. Of course rheumatic pericarditis rarely comes to autopsy in the acute stage—one of the above cases—and not frequently in proportion to its actual occurrence in the later stages—8 cases among the 55 instances of healed processes. But tuberculous pericarditis, which when acute is very likely to reach the autopsy table, is found here to be much less frequent than the pericarditis following pneumonia, which has a similar prospect of autopsy and occurred in 28.

It is very likely to occur in the young, and many cases have been reported even in infants (Sequira,[5] Duckworth,[6] Rolleston,[7] Baginsky[8]). Baginsky found that in 4500 autopsies on infants pericarditis occurred 66 times, 20 of them being in the first year. Of these 24 accompanied polyarthritis, tuberculosis coming next with 15 cases, of which 4 were purulent. H. McC. Johnson[9] has reported a case in which the tuberculosis seemed probably of antenatal origin. This was a child who died at the age of 3 months. The mother had been sick with tuberculous cystitis, bacilli being found in the urine. The placenta was adherent and contained inflammatory masses which were structurally like miliary tubercles, although tubercle bacilli were not found in the sections. The child died of pulmonary hemorrhage, and in addition to obliteration the pericardium was adherent to the lungs, which contained cavities. The mesenteric glands were enlarged.

### ANATOMY.

The forms of tuberculosis seen in the pericardium differ not at all from those seen elsewhere. It may produce an acute miliary eruption on the pericardium, generally on the parietal layer, with an extravasation of serous or bloody fluid mixed with fibrin, as seen in Cases 1, 2, and 3; again it is miliary, but of a more chronic type, accompanied not by effusion but by fibrous synechia, as in Cases 5, 6, and 7; caseous masses are also found, as represented by Cases 8, 9, and 10. Sometimes the pericardial wall is involved by the tuberculous process, extending from without, and producing an acute inflammation without tuberculous lesions properly in the pericardium, as in Case 4; such a case is hardly one of tuberculous pericarditis from the anatomical standpoint, although the pericardial inflammation is due to the tuberculous toxin and would undoubtedly present characteristic lesion in course of time had death not stopped its progress. Acute pericarditis that is not tuberculous may also occur in tuberculosis, as Osler has stated. It may be the result of an acute non-tuberculous pleurisy; more often it is a terminal phenomenon in chronic tuberculosis, when it is one of the manifestations of terminal bacteremia. This was the explanation of three cases of acute pericardial inflammation in our series, in all the changes

consisting only of a small amount of turbid fluid with a few patches of fibrinous exudate on otherwise normal pericardial surfaces.

Healed tuberculosis of the pericardium is not under discussion in this paper, but it may be stated that it often exists and is then represented simply by firm fibrous adhesions. Calcification of the caseous material may possibly occur, but this seems to be extremely rare. In the literature of this subject it is impossible to find a case in which there is sufficient evidence to state positively that the calcification occurred in tuberculous lesions. In fact tuberculosis in the lungs, glands, or elsewhere is somewhat rare in cases with calcified pericardium. Fritz Diemer[10] has collected 12 cases of extensive calcification of the pericardium in only one of which were any tuberculous lesions found in the body, and here but a few nodules in the lungs. C. Bacaloglue[11] has reported a case of calcified pericardial exudate in an individual with caseous infiltration in the pulmonary parenchyma, but establishes no relation between these two conditions. Four examples of calcification of the pericardium were observed in the autopsies under discussion, and in none of them did any tuberculosis coexist. It is more probable that calcification is a sequel of inspissation of purulent exudates, most often of pneumococcus origin. However, it is not to be denied that it is possible for caseous pericarditis to heal and become calcified. Püschmann[12] has reported a case in which caseous tuberculosis of the myocardium itself became partly calcified. In other words, tuberculosis assumes the same forms in the pericardium as elsewhere. Even the fibroplastic, "perl-sucht" form has been observed in man; Meltzer[13] has reported such a case, encountered unexpectedly in an insane patient. Rolleston[7] has reported an interesting case occurring in an infant 9 months old, in which the parietal pericardium alone was affected, but thickened diffusely to such an extent that it retained its shape and did not collapse when separated from the heart. The two cases of canine pericardial tuberculosis reported from our laboratory were marked by the large size and fibrous nature of the nodules. In Sheldon's[14] case the pericardial sac was distended with fluid and both layers of the pericardium were covered with yellow and grey nodules. In Professor Hektoen's[15] case the layers were adherent and the nodules, firm and fleshy, were from 0.5 to 2.5 cm. in diameter, invading the muscle for some distance.

According to most writers the fibrous type with small tubercles, often only microscopic, is the most common. Osler, however, found in 15 cases, 9 accompanied by exudation. The exudation, when present, may be simply serofibrinous, as in Case 1, but is more often decidedly hemorrhagic, as in Cases 2 and 3. Tuberculous pericarditis is notoriously hemorrhagic, sharing this with carcinoma, but Sears[16] calls attention to the fact that other diseases may lead to a similar condition. From the literature he has collected 11 cases which recovered after aspiration had yielded a hemorrhagic fluid, and questions somewhat Osler's statement that the presence of a bloody fluid on aspiration is decidedly in favor of tuberculosis. But as six of Sears's cases occurred in scurvy and 3 in rheumatism the obtaining of a bloody fluid would hardly have caused any question of tuberculosis in the diagnosis. In this fluid tubercle bacilli may be found occasionally. In Case 1 this was accomplished by inoculation of a guinea-pig, although repeated microscopic examination of the fluid removed by aspiration during life failed to reveal them. Considering the acute nature that exudative tuberculous pericarditis often assumes they should be found at least as often here as in the tuberculous pleuritis. Eichhorst[17] has demonstrated them in 8 of 27 cases of pericarditis arising spontaneously, by inoculating guinea-pigs with 15 c.c. of the fluid.

The fibrous forms present no special features. As a rule the adhesions are of a peculiar, translucent, greyish-blue if young, white and hard if older, but either of these appearances may be presented by other forms of pericarditis. The tubercles may exist in the exudate itself or in the walls of the pericardium. Sometimes they are limited to one wall, in which case it is most often the external wall that is affected, and it is often accompanied by a crop of tubercles on the pleura opposite. If caseous, the caseous material is most often found separating the pericardial layers by some little distance, and is especially found surrounding the base of the heart, over the auricles and about the great vessels. If the adhesions are soft and easily separated they are generally found to be firmest over the base of the heart. Occasionally the adhesion is but partial, and accumulations of fluid are found, isolated by the fibrous tissue, but this is infrequent in tuberculosis, more common in the rheumatic. When the exudate is serous, however, it is quite frequently found that the layers over the auricles and the great vessels are adherent (see Case 1).

The myocardium may be involved either secondarily or primarily, of which the former is the more common. In miliary tuberculosis they may occur simultaneously. Secondary involvement of the myocardium in the miliary form is of little importance, as it extends but little into the heart. The caseous masses, however, may extend far into the heart muscle and produce considerable effects. Penetration of the ventricles is usually of less significance than penetration of the auricles, whose thinner walls render complete perforation possible and by no means rare, as in Case 8 in which the caseous mass entering the auricle was capped by a thrombus. In Case 9 the myocardium was invaded to a less extent, especially over the auricles. The results of this myocardial invasion will be considered later on.

## ETIOLOGY.

While Virchow and some others have reported in time past a primary tuberculosis of the pericardium, with our present understanding of the process it is difficult to imagine such a thing. The pericardium, being a completely closed sac, must receive the tubercle bacilli from some other source which is probably the seat of some lesion, however insignificant. Since the tuberculous nature of pleural scars and calcified glands has been known primary tuberculosis of the pericardium has not been reported. The possible methods of infection of the pericardium are as follows:

1. Hematogenous: generally in the course of a miliary tuberculosis.

2. Lymphogenous: the bacilli coming through the lymph vessels either in the normal direction or with a reversed current.

3. Extension: in about the order of frequency, from mediastinal glands, pleura, myocardium, vertebræ.

Hematogenous tuberculosis of the pericardium is very frequent, but this localization is nevertheless the least common of any of the large serous surfaces, including the meninges. It occurred in but 3 of 84 cases of general miliary or coarser tuberculosis. The resulting lesions are generally acute, and may be of the ex-

udative form as in Case 3, or fibroplastic as in Cases 5 and 7. As a rule the process in the pericardium is hidden during life by the severe symptoms from the other sources, and is rarely diagnosed. While the isolated caseous form may be of vascular origin this must be extremely rare, for the pericardium is by no means a seat of predeliction for circulating bacilli. It is quite remarkable how rarely the pericardium is infected in animals inoculated experimentally. In some 30 guinea-pigs recently inoculated in our laboratory, in which the pericardium has been examined with especial care, it has never been found affected; this despite the fact that the lungs, the pleura and the glands of the mediastinum were always involved.

Infection of the pericardium from the lymph stream is much more common. It may be due to passage of the bacilli from a tuberculous pleura or peritoneum via the anastomosing lymph channels of these sacs, and form a part of a general tuberculous serositis. However, it would seem that it is much more often a matter of passage of bacilli from the lymph glands of the mediastinum to the pericardium. This implies a reversal of the normal direction of flow, which v. Recklinghausen[18] has shown occurs, and which has been observed not infrequently in the dissemination of malignant tumors, as by Witte.[19] The obstruction of the spaces in the lymph glands by the tuberculous proliferation would favor, and undoubtedly often produce, such a reversed flow, so that the discharged lymph, carrying in it tubercle bacilli, would pass into the pericardial lymph channels. As to the source of infection of the glands it must be remembered that the cardiac glands—also called the superior mediastinal—lying on the base of the pericardium, and the posterior mediastinal glands, which together receive most of the lymphatics from the pericardium, both receive branches from the bronchial nodes which receive the lymph from the lungs and pleura. The cardiac glands also communicate directly with the deep cervical nodes (Gerrish[20]). From either of these communications, therefore, the glands draining the pericardium, and in turn the pericardium itself, are able to become infected. Testut[21] describes the distribution of the lymphatics within the pericardium as follows: The lymphatics form a network in the connective tissue layer of the serosa, as much under the visceral as under the parietal, a network more or less rich, which lies nearer the endothelium than does the network of blood-vessels. The fibrous sac possesses also some lymphatics which belong to it alone. These all empty, like the lymphatics of the heart, into the subpericardial network, and from there to the ganglia which are located below the bifurcation of the trachea.[11] On account of the free anastomosis which exists between the lymphatics of each side of the diaphragm, a tuberculosis of the peritoneum occasionally seems to extend to the pleura and involve it; less often it reaches the pericardium in this way. Vierordt.[22] while writing on general tuberculosis of the serous membranes, mentions that in 24 cases of tuberculosis of the several serous cavities combined, the pericardium was involved four times, and in none of these from the peritoneum; it seemed to originate always from the pleura, especially the left. Writing at that time, 1888, he says: "For the occasional occurrence of simultaneous processes in the pericardium is the same transference (as from pleura to peritoneum) assumed, although not exactly demonstrated." It seems now that tuberculosis passes from the pleura to the pericardium often by the indirect route, via the mediastinal glands, or by direct extension through the pleuro-pericardial wall. Occasionally the larger sacs owe their tuberculosis to the pericardium, as seen in Case 10. Here the neighboring peribronchial glands seem to have given rise to a caseous pericarditis, which in turn led to infection of the pleura and peritoneum, both of which were more recent than that in the pericardium.

Direct extension of the tuberculous process from the glands lying on the outer surface of the pericardium has been assumed by many writers, but seldom demonstrated. Kast[23] and Mickle[24] have observed direct rupture of caseous peribronchial glands into the pericardial sac, but no other instances of such extension have been mentioned by other writers. Because of the close relation of the glands to the pericardium, often with adhesion, the direct extension has been assumed. Yet it is difficult to establish such an extension. In two cases in which the glands were evidently the source of the pericardial tuberculosis, I have made a careful examination of the relationship of the glands to the pericardium by examining microscopically the tissues intervening. Nowhere could any evidences of direct extension of tuberculosis from a tuberculous gland to the pericardium be found; always the intervening fibrous tissue, although evidently new-formed, was free from tuberculous lesions, which seemed never to extend through the gland capsule. Hence it seems probable that the infection of the pericardium is more often via the lymphatics than directly, even when the glands and the pericardium are united by fibrous adhesions. Tuberculosis of lymphatic origin is generally most marked on the parietal pericardium; that of hematogenous origin affects most often the epicardium. Of the glands that are most likely to be the source of a direct extension it would seem, after reading reports of many cases, that the small glands lying anterior to the pericardium, behind the sternum, are the most important. Attention was first called to this source by Weigert.[25]

Very frequently it is found that the pericardium and the mediastinal glands exist together as the only active tuberculosis in the body. If the pericardium is tuberculous the glands become so, even if not the primary seat. This glandular and pericardial tuberculosis exists together, with or without pleural tuberculosis, independent of active pulmonary lesions, in a strikingly large proportion of the cases. Simmons[26] has called attention to the occurrence of this condition in the aged. In our series it existed in Cases 1, 6, 8 and 9. In Case 10 the lungs were free, but the process had become quite widely spread, apparently the glands infecting the pericardium and the tuberculosis becoming active here had then become widespread. It would seem that the pericardium is most likely to be infected when the glandular process is chronic in character, for when they are actively affected, as accompanying pulmonary tuberculosis, the pericardium seems to be seldom tuberculous.

From the pleura direct extension may occur, as well as by the lymphatics. The very earliest stage of this transmission is well shown by Case 4, in which a small caseous abscess lying between the left pleura and pericardium had caused an acute inflammation in the serous surface of the pericardium directly beneath, after causing caseation of its outer layers. Here effusion into the sac had only just begun. Case 2 is also probably an example of direct extension. However, it is probable that direct extension from the pleura, as from the lymph glands, is not as common as lymphatic transmission. Extension from the myocardium is necessarily rare,

although nearly all cases of tuberculosis are accompanied by pericardial inflammation; much more often is the myocardial tuberculosis secondary to that of the pericardium. Even more rare than tuberculosis of the myocardium is tuberculosis of the aorta, and of the 10 cases collected by George Blumer,[27] in none is any mention made of involvement of the pericardium. Henoch[28] has reported a case of tuberculous pericarditis resulting from extension from tuberculous vertebræ, but this likewise is a rare occurrence. No instances of direct extension of a tuberculous process through the diaphragm from the péritoneum into the pericardium have been observed, although transmission via the large lymph channels of the diaphragm has been seen.

RESULTS.

That tuberculosis of the pericardium may heal entirely is quite certain, but that the examples such as have been described in this series often heal I am much inclined to doubt. Tuberculosis of the serous membranes may be accompanied either by definite lesions of tuberculosis, as in our cases, or, as A. N. Peron[29] has shown for the pleura, may present only evidences of inflammation without any anatomical characteristics. This latter type may be due to the presence of the tubercle bacillus, but more often, it seems to me, to the gradual diffusion of the sclerogenic toxins of the tubercle bacilli produced in the adjacent lesions of the lymph glands or pleura. Such a process is quite analogous to the sclerosis of the connective tissue, devoid of tuberculous lesions, such as we often find about tuberculous glands in the neck and elsewhere. Those cases in which a fibroplastic process is found extending from the base of the heart downward, always firmer at the base over which tuberculous glands are found, are illustrations of this point. That the caseous form sometimes undergoes calcification and heals seems possible, but is an extremely rare occurrence, as mentioned previously, no such instances being found in the literature.

Most important of the results are those due to effect on the heart. In the acute form with massive exudation into the sac, dyspnea and other evidences of pressure upon the heart may appear. Such a case is No. 1, which presented all the evidences of a pericarditis with effusion. Here the exudate was serous, and no suspicion of its tuberculous nature was entertained during life. The heart was found greatly hypertrophied, weighing 700 grams, without valvular, renal or arterial lesions outside the pericardial effusion to account for it. Adhesion of the layers seems much less likely to cause serious disturbance when due to tuberculosis than when due to rheumatism, although occasionally a fatal incompetence is found at autopsy to show no other ground for its occurrence than an adherent pericardium, which is usually adherent to structures outside. In only one of the cases in our series (No. 9) could heart atrophy be considered as due to the pericardial adhesions, and the report is so meager that this is not certain. The duration of the synechia before the fatal result in cases of incompetence is not long; in a case carefully observed from the day of onset, by Jaccoud,[3] it was 3½ months, and the same in one reported by Samson Gemmell.[30] Hayem and Tissier[2] say it is usually four to eight months. The reasons for the lesser malignancy of tuberculous synechia are many: it is much less often accompanied by valvular lesions; the onset is slow and without profound toxic effects on the myocardium, such as are often seen in the "carditis" of rheumatism; the dilatation in rheumatism occurs either during the acute attack, when the valves and the muscle are both inflamed, or later, when the serous effusion is being absorbed, the pericardium fails to follow because of external adhesions, and deprived of its support the heart yields to the internal pressure and dilates; and further, relatively few cases of tuberculous pericarditis reach a chronic stage.

H. Marfan[31] considers the difference between the effects on the heart of tuberculous and rheumatic pericardium synechia to be sufficient to permit of a differential diagnosis to be made on the physical findings referable to the circulatory system in many cases, independent of the history and other features. These differences he says are as follows:

| *Rheumatic Symphysis.* | *Tuberculous Symphysis.* |
|---|---|
| Heart always very large. | Size normal. |
| Dyspnea more or less marked. | Little or no dyspnea. |
| Cardiac palpitation. | Little or no palpitation. |
| Strong apex impulse. | Apex impulse difficult to perceive. |
| Sounds irregular and strong. | Regular, feeble fetal rhythm. |
| Functional murmurs frequent. | Functional murmurs absent. |

Adherent pericardium is frequently accompanied by the clinical picture to which the name of "pericarditic pseudocirrhosis of the liver" was given by Pick.[32] He ascribed the condition of ascites occurring in these cases, often giving rise to the diagnosis of atrophic cirrhosis or tuberculous peritonitis, to connective tissue increase in the liver, the result of prolonged passive congestion. V. Eisenmenger,[33] pointing out that such increase is in the center of the lobule and does not cause the changes of an ordinary cirrhosis as the liver vessels are widened and not narrowed, states his opinion that the obstruction is either in the inferior vena cava after it has entered the pericardium, or through connective tissue proliferation in the fissure of the liver affecting the portal circulation. In a large proportion of the cases of this condition in the literature the pericarditis was tuberculous. However, in none of the cases of tuberculous pericarditis in my series, nor among the 17 reported by Osler,[1] was such a symptom-complex present.

The myocardium may be affected in two ways: by a fibrous interstitial process, or by direct growth of the tubercles into the heart walls. The interstitial myocarditis arising in this way is of little moment, especially when compared with that occurring in rheumatism, being limited to the subepicardial tissue; often it is accompanied by a slight fatty infiltration which cuts out the superficial muscle, but rarely extends deeply. The tuberculosis of the myocardium itself, extending inward from the pericardium, is of much more importance. In the miliary form the tuberculous process is superficial, or may be accompanied by nodules developing elsewhere in the heart, especially beneath the endocardium. Often in vascular tuberculous pericarditis the first development is in or beneath the epicardium, much more often than in the parietal layer. In miliary tuberculosis the myocardial tubercles produce no evident effect, and even more completely than the accompanying pericarditis are not demonstrable clinically. When the caseous form, however, invades the myocardium, more extensive and important results may follow. Eisenmenger[34] has observed two cases clinically and at autopsy, and thinks there is a possibility of this condition being diagnosed *intra vitam*, although this has not as yet been done. He suggests as points the occurrence in an individual, especially in one in whom tuberculous pericarditis has been diagnosed, of a severe,

rapid, and progressive collapsed condition; secondly the finding of endocardial murmurs, weak in phase and variable in intensity. While the right ventricle is most affected, according to Eisenmenger, the much thinner walls of the auricles render their perforation possible. However, the low blood-pressure within them seems incapable of causing a rupture; in none of the cases of tuberculous myocarditis recorded has this accident been noted. In the writer's series in one case, No. 8, caseation had extended through the wall of the right auricle and the caseous mass was capped by a thrombus. A recent hemorrhagic infarct was present in the right lung, showing microscopically no evidences of tuberculosis; nor for that matter were any tuberculous lesions at all found in the lungs, indicating that probably no dissemination of tubercle bacilli from this thrombus had occurred. Quite different was the result in the similar case reported by Püschmann;[12] here the lungs were the seat of a general miliary tuberculosis, which seemed to have come from a thrombus containing many tubercle bacilli that extended from a calcified and caseous mass penetrating the wall of the auricle. In this way a tuberculous pericarditis may be the starting-point of a miliary tuberculosis. Thrombi arising from tuberculous lesions are always rich in tubercle bacilli, as Benda[35] has shown in his studies of miliary tuberculosis, and as was observed in Püschmann's case. Myocardial tuberculosis is a rare lesion, occurring but once in 1000 tuberculous bodies, according to Valentin.[38] Charles Thiry[36] was able, in 1899, to collect but 63 cases from the literature. In addition to infection by extension and through the blood-vessels, Labbé[37] thinks it may come through the lymphatic vessels of the myocardium from the mediastinal lymph glands, much as it reaches the pericardium. However, it is to be considered that the cardiac lymph vessels differ from those of the pericardium in not anastomosing with other systems, so it is difficult to see how a retrograde flow of lymph from the tuberculous glands can occur. This agrees with the fact that in tuberculous pericarditis of hematogenous origin the tubercles are most abundant beneath and in the epicardium, while in the lymphatic form they are most abundant in the parietal layer.

Myocardial tuberculosis may occur in several forms: 1, miliary granulations, generally in miliary tuberculosis; 2, large tubercles, volume may reach the size of a hen's egg, usually multiple; 3, diffuse tuberculosis, extending through a considerable part of the myocardium, chiefly as fibrous tissue intermingled with nodular and caseous tuberculosis, very rare; 4, interstitial myocarditis, with occasional tubercles scattered about in the fibrous tissue without caseation, also rare. The endocardium is not usually affected except in the miliary form and in perforation of the auricle; on the other hand the pericardium is usually involved although not invariably. Labbé[37] states that it is frequent in the young, 15 in a series of 27 being under 15 years of age. As before mentioned, even a myocardial tuberculosis may heal. Rosenstein[39] has reported a case of aneurysm beginning in a fibrous scar at the apex of the left ventricle, in a tuberculous subject; although the microscopic examination gave no anatomically recognizable tuberculosis Rosenstein thinks, basing his opinion on the ground of an observation by Orth in a similar case, that the scar had developed through absorption of necrotic masses of tuberculous origin.

The tuberculous process may of course invade the first part of the large vessels, within the pericardium. This does not seem to have been observed in the human being, but in Professor Hektoen's case[15] of tuberculous perimyocarditis in the dog this had happened, with the formation of a beginning aneurysm of the aorta.

*Cardiotuberculous Cirrhosis.*—This is an interesting condition, from the anatomical standpoint especially. It comprises the coexistence of tuberculous lesions with chronic passive congestion of the liver. The lesions consist generally of a diffuse fibrous increase plus miliary or small nodular tubercles, but sometimes only diffuse sclerotic changes or fatty cirrhosis without tubercles. It is due primarily to passive congestion, whether of valvular, myocardial or pericardial origin; tuberculosis may add the lesions of fibrous increase or fatty degeneration. Soullard[40] says that if the bacilli attack the liver early sclerosis predominates; if late, the fibrous change is slight or absent and only the tubercles are found besides the congestion. It is accompanied by a marked and permanent hypertrophy of the liver with recurring ascites, cyanosis of the face and extremities, dyspnea and edema, with cardiac insufficiency; in other words, the clinical picture is not dissimilar to that of the so-called pericarditic pseudocirrhosis. Like the latter its duration is considerable, even two to three years, with death either from asystole or generalized tuberculosis. Cousin[41] divides the cases into three classes: 1, pure cardiotuberculous cirrhosis; 2, cardiotuberculous cirrhosis with specific lesions; 3, fatty cardiotuberculous liver. Tuberculous pericarditis offers all the essential requirements for the production of this condition, and not infrequently the combination of tuberculosis of the pericardium and cardiotuberculous liver has been observed. Hutinel,[42] in 1893, reported several such cases occurring in children, and considers the matter extensively. Since that time a number of isolated cases have been reported, especially by the French writers.

TERMINATIONS.

It is quite possible for tuberculosis of the pericardium to heal, but healing generally does not follow the forms that do not have any acute stage. It occurs almost exclusively in the form that is chronic from the outset, and is, therefore, generally seen in pericarditis arising from lymphatic invasion, either from the lymph glands or pleura. The healed pericarditis may present evidences of its tuberculous origin either in the shape of fibroid nodules in the exudate or in the pericardial walls, or as firm, dry or calcified or caseous material, but this is extremely rare. More frequently the adhesions show macroscopically and microscopically only fibrous tissue without a single trace of anything resembling the anatomical picture of tuberculosis. The writer is inclined to the belief that this form of tuberculous pericarditis is from the start simply fibroplastic, and at no time has contained tubercles or caseous material. It may be recognized only by its relation to tuberculous mediastinal glands or pleuritis, and the exclusion of any other etiologic factor by the history. As before mentioned, while calcification of a caseous exudate is possible, it is impossible to find a well-authenticated case in which this calcification has been shown to originate on a basis of tuberculosis, hence it is probably rare. Adhesions that result in the non-fatal forms are not necessarily permanent; the incessant tugging by the heart leads to their gradual disappearance, especially when they do not entirely obliterate the sac, but this must be rare in tuberculous adhesions.

The most usual termination is in death. This may be due to interference with the heart in the stage of

effusion, or later to its firm union to the chest wall, lungs and diaphragm, as the result of a combined internal and external pericarditis. More rarely the heart may be weakened by invasion of its walls by the tuberculous process, or a miliary tuberculosis may arise by the perforation of the auricle and dissemination of the bacilli by the blood stream, as in Püschmann's[12] case. Simple embolism, as in Case 8, might also cause death. Hence it is possible that death may occur in an indirect way from tuberculosis of the lungs by infection of the mediastinal glands and thence of the pericardium, even after the original focus in the lungs is healed, through its effect on the heart. However, the cause of death in tuberculous pericarditis is most often not related to the heart at all, but results from the tuberculosis with which it is associated. Tuberculous pericarditis is generally unaccompanied by any symptoms referable to the heart, and is almost always an autopsy finding.

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## TUBERCULOSIS OF FASCIA.

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MINNEAPOLIS, MINN.

Under this heading I include all cases of primary tubercular infection of the fascia and those cases of fascial tuberculosis secondary to adjacent tuberculosis, in which the fascial involvement is of such an extent as to overshadow the original trouble. There is little to be found on this subject in the surgical text-books, the article in Senn's "Principles of Surgery" having the most extensive consideration. Current medical literature is equally silent, the only noteworthy article which I have seen being that by Dr. J. E. Moore,[1] which treats the subject most satisfactorily from a clinical standpoint.

### CLASSES OF LESIONS.

In general there are two typical classes of lesions resulting from tubercular infections; these differ widely, and between these extremes there are various gradations. The cold-abscess type resulting from a rather acute infection by the tubercle bacillus, followed by cheesy degeneration, liquefaction, and the formation of an abscess cavity filled with liquid detritus, stands at one extreme. At the other is that class of lesions where, with a more chronic onset, and possibly a smaller dosage, the implantation and growth of the tubercle bacillus results in irritative changes shown by the formation of more or less dense connective tissue overgrowth with or without cheesy foci. It has been too much the custom of surgeons to overlook this latter type, and the non-recognition of the tubercular character of such tissue has caused many operative failures.

In no other form of tuberculosis are the two types above mentioned more perfectly demonstrable clinically than in tuberculosis of fascia. And in no other lesion is the recognition of the form characterized by connective tissue overgrowth more important both as to diagnosis and for proper treatment. Dr. Moore, in the article cited, recognizes the two classes of fascial tuberculosis, but his division into superficial and deep cases does not to my mind exactly define the existing difference.

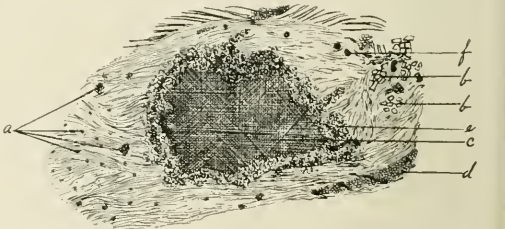


Fig 1.—*a*, Miliary tubercles: *b*, muscle fibers: *c*, cheesy center; *d*, fat; *e*, tubercle tissue; *f*, blood vessel.

From a pathologic standpoint, I shall divide these cases into two divisions: Class A, acute primary cases with extensive cheesy degeneration as their most marked feature; Class B, chronic, mostly secondary cases, characterized by overgrowth of connective tissue with disseminated areas of caseation. The clinical symptoms of both classes of cases are about the same except that those of the first class give a more acute onset and rapid course. Both come on insidiously with more or less swelling of the affected part and local temperature, and after a time red or bluish discoloration of the skin. Some patients suffer marked pain, and nearly all have a slight afternoon elevation of temperature. After more or less delay the process reaches the surface, and characteristic sinuses are formed giving vent to thin tubercular pseudo-pus. Usually there soon arises pyogenic infection with more marked fever and wasting, and this may occur before the sinuses have opened, causing a clinical picture closely simulating acute phlegmon.

### DIAGNOSIS.

Diagnosis must be made by exclusion, aided in many cases by operation, and causative lesions in the neighboring bones and joints must be carefully searched for.

1. Jour. Am. Med. Assn., Aug 12, 1899.

especially in Class B, where they can almost always be found. In Class A we find, on operation, the familiar cold-abscess between the layers of some extensive fascia, and when, after careful search, no contiguous tubercular lesion can be found in bones, joints, pleuræ and lymph-nodes, our diagnosis becomes established. In such cases the layer of tubercular tissue lining the cavity lies upon a firm connective tissue membrane, and can be scraped therefrom by the sharp spoon, leaving a healthy smooth surface. To illustrate:

Case 1.—A Swedish street-car conductor, aged 25, came into my service at Asbury Hospital in 1894, with a sinus in the middle of his right calf, discharging bloody puriform fluid. His history was misleading, as he said that he had been well until within a few days, when his leg began to pain him and became swollen. A physician saw him at this time and made an incision, evacuating a large amount of bloody fluid and diagnosing a hematoma. I saw him one week later, at which time there was a sinus with flabby granulations admitting a probe which passed freely to the vicinity of both knee and heel. He had also greatly enlarged lymph-nodes in the neck and right axilla.

Under anesthesia the large cavity was opened up by

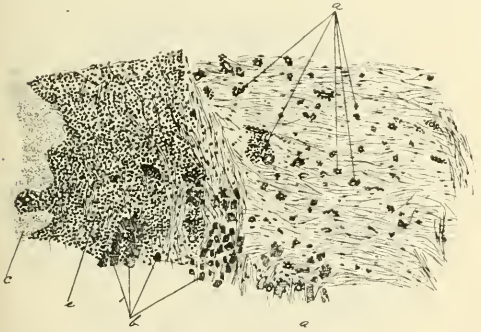

Fig. 2.—*a*, Small tubercles (mostly perivascular); *b*, degenerate muscle fibers; *c*, cheesy center; *c*, tubercle tissue.

a median incision reaching from the middle of the popliteal space nearly to the heel. The extensive flaps and the walls of the cavity were then scraped thoroughly with a sharp spoon, until a smooth surface was reached, removing a double handful of tubercular granulations, and revealing an eroded vein as the cause of the previous hemorrhage. The long incision was sutured over iodoform gauze packing, which was removed after forty-eight hours and pressure applied. The large wound healed solidly in ten days, after which I removed the tubercular lymph-nodes in the neck and axilla. He made a good recovery and is now (1900) alive and well.

The tissue removed was examined microscopically and showed typical, rapidly formed tubercle tissue with many giant cells and a few tubercle bacilli. There was considerable caseous degeneration, and there seemed to be nowhere any attempt to form fibrous tissue.

I have observed this form of fascial tuberculosis only in the calf, thigh, and the muscles of the back, as a primary lesion, or at least without any discoverable adjacent tubercular lesions.

Class B differs greatly both in its gross and microscopic lesions, and the history is much more chronic, and I believe that the majority of these cases coming under this class are secondary to other tubercular lesions.

The important distinguishing feature of these cases is the production of large amounts of fibrous tissue, and the occurrence of the cheesy tubercular material, not in one large cavity limited by a firm fibrous layer, but in multiple small foci which are scattered widely throughout the new-formed fibrous tissue. Such cases can only be relieved by operation with the knife and scissors, instead of the sharp spoon, as every portion of the new fibrous tissue must be removed to insure non-recurrence. Case 4, cited in Dr. Moore's article, is the only primary fascial case of this type which I have seen operated on, while the great majority have proved to have other tubercular lesions adjacent as their point of origin.

As I have the gross and microscopic specimens from this case, I will reproduce here the history as given by Dr. Moore in the article cited:

Case 4.—F. F., aged 48 years, a Mexican coffee planter, came to me in January, 1896, suffering from hydrops articuli of the right knee. The disease, although chronic, was quite mild in character and yielded promptly to the treatment, which consisted of tapping, followed by irrigation with a biehlorid solution and rest in a plaster cast. Twenty months later, in September, 1897, he returned with a beginning tuberculosis of the fascia of the lower third of the left thigh. There were two sinuses and the disease seemed to be superficial. The part was laid open, freely scraped, and packed with gauze. On Jan. 10,

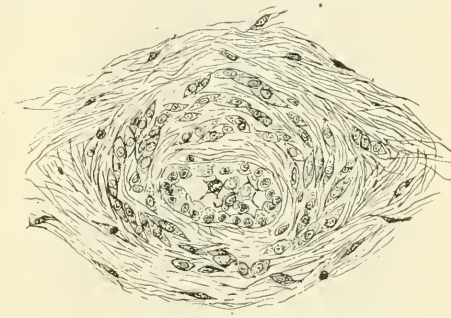

Fig. 3.—Small perivascular tubercle.

1898, I operated a second time, removing all the diseased tissue I could find. On January 29, I realized that the last operation was a failure, and determined to operate again and be as radical as possible. There were at this time several sinuses and a mixed infection and the patient was rapidly failing. I made an incision from just above the knee-joint to the tip of the greater trochanter. At the lower third of the thigh a strip of integument two inches wide and eight inches long, which was perforated by the sinus, was removed. A large portion of the fascia lata was removed, because it was diseased beyond all hope of recovery. The disease was found dipping down into the vastus externus muscle to such an extent that it was necessary to remove the whole of that muscle. It should be noted that this disease was in the left thigh, while the hydrops articuli had been on his right side. The left knee was healthy, but its synovial membrane was being attacked from the outside, and in my efforts to remove all the diseased tissue I opened into the upper pouch of the knee. A piece of synovial membrane two inches long and one inch wide was removed, and the opening into the joint immediately closed with a running catgut suture, and although the patient was suffering from a mixed infection at the time of operation, no joint symptoms followed. This enormous wound was closed; and with the exception of a small spot at the lower end, where there was a small slough, it healed by first intention.

The slough soon separated, and the wound granulated over without return of tuberculosis. The patient left the hospital in less than three weeks, and very soon after returned to his Mexican home. Before he left he walked into my office with a cane, and the function of his limb was remarkably good considering the amount of tissue removed.

In May, 1899, I received a report that his leg was giving him no trouble, but that his general health was failing and that he had a cough.

Please note that while this case was primary in the fascia, it was only after recurrence that it took on this more disseminated form.

CASE 2.—A robust looking Swedish farmer, aged 30, was admitted to my Asbury Hospital service, with a clear case of caries sicca of the right shoulder, of some months' duration. In addition there were several sinuses about the joint, not leading to bone, or to the joint. On operation there was found a diffuse tuberculosis of the fascia about the shoulder, including the intermuscular septa between the muscles of the post-scapular group. All the new tissue was removed by an extensive dissection, and the wound soon healed except a sinus which now for the first time led to bare bone near the joint. At a later date this was followed to the head of the humerus, which was excised, after which the sinus closed. He recovered with a useful arm and has remained well up to the present time, five years after the beginning of his tuberculosis.

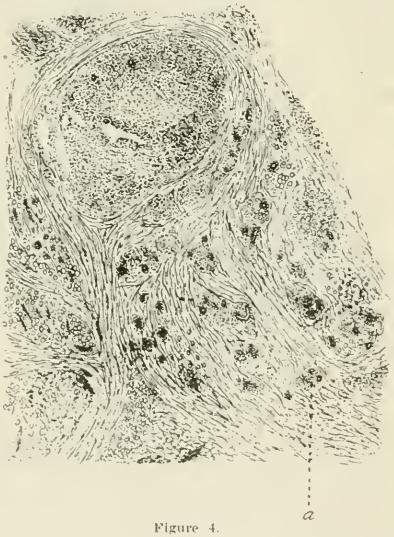


Figure 4.

CASE 3.—A more recent case illustrates well the early stages of this interesting process. A woman of 30, after a general septicemia due to an abortion, developed an osteomyelitis of rather mild type which resulted in an enlargement of the lower third of the femur, without sequestra or sinuses. She had little trouble for four years, when she came in with what she called a boil on her thigh over the enlarged bone. This was incised and a small sequestrum, a mere splinter, taken out; there was then noted an induration about the sinus, and extending a short distance down the thigh. Two weeks later she was operated on under anesthesia, and on incision a mass of tissue as large as a goose-egg was found surrounding the sinus and extending some distance along the fascial planes. The small sinus led through this mass into the femur where there was a tubercular deposit one-half inch in diameter, situated in the new osteomyelitic bone. This was chiseled out so as to form a smooth-walled cavity of conical form, packed with gauze, and the patient made a slow but uneventful recovery.

On section of the removed tissue, it was found to consist of quite cellular new connective tissue containing numerous small cavities filled with gelatinous-looking tubercle tissue which had not as yet undergone cheesy degeneration.

CASE 5.—Through the kindness of my colleague in the university, Dr. S. M. White, I am able to show the microscopic findings in a still more recent case than any reported. While making an autopsy on a tubercular subject, Dr. White infected the middle finger of his left hand, at the site of a small wart on the palmar surface. About two weeks after infection there formed a small abscess which contained staphylococcus pyogenes aureus. The abscess healed, but after a few weeks a swelling appeared on the back of the finger and gradually increased in size until, in February, 1900, there was a diffuse enlargement of the finger, mainly along dorsum.

Figure 5.

Various methods of treatment were used without avail until March 3, 1900. At this time I operated under cocain, and dissected away a saddle-shaped piece of fibrous tissue about three-sixteenths of an inch thick at the center. It was grayish, and succulent, but gave no macroscopic signs of tuberculosis. This tissue had to be dissected away very carefully from the capsule of the joint and the sheath of the extensor tendons, and had so involved the latter that in one or two places small openings were made into the lumen of the sheath. The wound was sutured and healed per primam. There has been no recurrence up to date.

Sections of this tissue show new connective tissue rich in cells, with many aggregations of round and polyhedral cells, but no cheesy degeneration. A piece of this tissue was emulsified with sterile broth and injected into the peritoneal cavity of a guinea-pig. It died tubercular and tubercle bacilli were demonstrated in the lesions found at autopsy.

This second form of fascial tuberculosis is vastly more serious than the first, as it regularly involves the intermuscular septa, and the sheaths of tendons and muscles, and passes easily to adjacent joints.

A successful operation against these cases must often be most extensive, and a neglected case will occasionally demand an amputation when an extremity is affected, or prove irremediable when upon the trunk. Neglected cases of the first type may pass into the second, but when operated on promptly and thoroughly, they heal rapidly and do not relapse.

A case seen two years ago, in the service of Dr. F.A. Dunsmore, illustrates how a fascial tuberculosis springing from an insignificant bone lesion, undiagnosed and untreated, may baffle conservative surgery. The case was a woman of 40, from outside the city. The history was fairly acute, and gave no indication of the bone lesion. The lesions present were a general tuberculosis of the fasciæ of the forearm, including intermuscular septa, tendon sheaths and even the interosseous membrane, all of which arose from a small chronic tubercular focus in the lower end of the radius. The arm was swollen to three times its natural size, and gave me the impression of a rapidly-growing sarcoma, but on incision there was only found a gelatinous connective tissue everywhere, with only an occasional cheesy focus.

Any operation here, to be successful, would have necessitated the removal of all the fascia, together with all the connective tissue covering the muscles, vessels, etc., and was plainly impossible, so the arm was amputated.

I am inclined to believe, after a careful study of a number of these cases, that those of the first class are caused by a rapid and simultaneous infection of the wide fascial planes by the tubercle bacilli, as the lesions appear to be all of one age and are without the connective proliferation characteristic of the more chronic tuberculoses. The lesions correspond quite closely to those seen when a joint is infected by the rupture into its cavity of a cheesy bone focus, with the rapid spread over the synovial surface of a large amount of tuberculous material. Those of the second class, on the contrary, resemble primary joint tuberculosis, where the infection has arisen at one point and spread gradually over the joint tissues. Here we have lesions of various ages, but always the characteristic fibrous tissue, containing more or less widely scattered cheesy foci, or in more recent cases non-cheesy tubercular tissue.

The proportion of the connective tissue to the cheesy foci varies according to the chronicity of the process, there being cases (Case 5, cited) where the naked eye shows no indication of the tuberculosis, but merely great overgrowth of connective tissue, but where the microscope and animal inoculation prove the presence of tuberculosis. In other cases the cheesy foci predominate and attain fairly large size, but they never, I think, in this form reach a size entitling them to be called cold abscesses.

Through the courtesy of Dr. and Mrs. Nickerson, my colleagues in the medical department of the University of Minnesota, I am able to illustrate this article with drawings which quite satisfactorily fill the place of the sections shown when the paper was originally read. Cuts 1, 2 and 3 are from Dr. Moore's Case No. 4. Cut 1 is a somewhat schematic, low-power drawing, showing a large cheesy focus, surrounded by tubercle tissue, the whole being enclosed in dense fibrous tissue containing scattered tubercles. Cut 2 is from the same section under higher power, and shows the details of the tubercular zone about the cheesy center, and also very well the scattered tubercles in the dense connective tissue area.

Cut 3 shows a beginning perivascular tubercle like any of those marked "a" in Cut 2; the obliterating tubercular endarteritis, and the concentric arrangement of the epithelioid cells about the artery are well shown in this tubercle.

Cuts 4 and 5 are made from a section of the tissue removed from Dr. White's finger. Cut 4 shows the lower power appearance of what seemed to the naked eye to be normal fibrous tissue. A large tubercle is shown in which cheesy degeneration is just beginning, and numerous smaller tubercles.

Cut 5 shows the details of the small tubercle "a" of Cut 4. There is here merely a massing of oval epithelioid cells and leukocytes, without the regular arrangement seen in the more slowly formed tubercles of Cut 2. The vessels seem to be taking a part in the process, as shown by the swollen and proliferating endothelial cells, but there are no well-formed perivascular tubercles.

SUMMARY.

1. Tuberculosis of the fascia occurs with sufficient frequency to entitle it to more attention than it has received in the past. 2. It occurs in two well-marked forms. 3. The recognition of these forms is essential to its proper surgical treatment. 4. Fibrous tissue associated with, and resulting from tubercular infection is to be viewed as tubercular tissue, and treated accordingly. 5. Such fibrous tissue may in some cases need the test of animal inoculation to absolutely prove its tubercular character.

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## SARCOMA OF THE PANCREAS.*

(From the Laboratory of Pathology of the Chicago Policlinic.)

GEORGE A. BOYD, M.D.

BALDWIN, KAN.

Litten[1] was the first to report a primary sarcoma of the pancreas in which the microscopic findings were recorded. His case occurred in a boy 4 years old. The tumor weighed fifteen pounds. Virchow made the microscopic examination and found a small round-celled sarcoma. This was in 1889.

Senn,[2] in 1886, reported two cases of sarcoma of the pancreas; one from Mayo's "Outlines of Human Pathology," published in 1836. As this was probably the first case of primary sarcoma of the pancreas it will be given with some detail. Quoting[3] from the original work:

Malignant disease rarely attacks the pancreas alone but involves in common with it either the stomach or liver or both.

A gentleman, aged 35, died after an illness of about eighteen months duration in which it was to the last impossible to say what organ was the seat of the disease. His complaint began with a febrile attack which left him weak and from that time he was liable to dyspeptic symptoms with variable appetite and an undefined uneasiness in the epigastric region. He gradually lost strength and flesh and when he consulted Dr. Newbegging in January, 1822, he was found thin and weak; but Mr. N. was particularly struck with his remarkable paleness, even his lips and the inner surface of his mouth was entirely without color. About this time he had some vomiting and was feverish for a day or two. . . . When I saw him in April he was reduced to the last degree of paleness and debility but his pulse was full, strong, and regular. . . . He died at the end of April without any change of symptoms except that his pulse became frequent a few days before his death.

* Read before the Chicago Pathological Society.

*Inspection.*—All of the internal parts were found remarkably pale and void of blood; the heart was sound but remarkably empty. The pylorus was thickened and firmer than natural and had contracted an adhesion to the pancreas. The pancreas was considerably enlarged and of nearly cartilaginous hardness except some spots which were soft with the appearance of the medullary sarcoma. No other disease could be detected in any other part of the body.

The histologic character of this tumor must remain unknown. Its history does not exclude carcinoma.

Senn reports a case of Lepine and Cornil[4] which occurred in 1874.

In 1880 Bartley[5] reported a case of spindle tumor of the pancreas, to the New York Anatomical and Surgical Society. The tumor occurred in a farmer 22 years old. The tumor began, it was supposed, six years before his death, at which time he suffered from epigastric pain at the time ascribed to a strain. Two years later the pain returned and occurred with constantly shortening intervals until the pain became continuous. One year and a half before his death he

Fig. 1.—Sarcoma of the pancreas. The lower part of the photograph shows the colon adherent to the tumor.

consulted a physician and was treated for gastralgia, cardialgia and dyspepsia. In the fall of 1879 he came to Chicago to seek medical aid. He died one month later and the necropsy showed tumor of pancreas adherent to the stomach, splenic vein, hepatic and gastroduodenal arteries. The lymph nodes along the aorta were enlarged. The head of the pancreas was the "size of the fist" and the tail the "size of the wrist." The tumor was firm in consistence and microscopically was a spindle-celled growth. The reporter, while recognizing it as probably sarcoma, reports it as carcinoma. The age of the patient supports the diagnosis of sarcoma, which no doubt it was.

In 1892, Mansilla[6] reported a case occurring in a man 51 years old. Microscopic examination showed "embryonic sarcoma" of the pancreas, with metastatic deposits of the same character in the liver.

Primary sarcoma of the tail of the pancreas in a man 74 years old, with metastases in the liver and peritoneum, was reported by Blind[7] in 1894.

Ehrmann,[8] in 1896, reported a case of primary sarcoma of the tail of the pancreas in a woman 56 years old, with metastases in the liver and pleura.

Picola[9] is generally credited with two cases, a distinction he did not claim. He states that in one the primary growth was in the liver and the pancreas was involved secondarily. The case he reports as primary sarcoma of the pancreas occurred in a man 54 years old. There were three small tumors in the head of the pancreas, the largest one the size of a walnut and the others the size of peas, their surface smooth and pink in color. On section, the color was gray. There were adhesions with the hilus of the liver, with the intestines and metastases in the abdominal lymph nodes. The bile-ducts were dilated and the alveolar epithelium necrotic.

Churton[10] reported a round-celled sarcoma of the pancreas. The connective tissue of the pancreas was infiltrated with small round cells, and the lobules invaded. There were metastatic deposits in the liver and adhesions between the pancreas, left kidney and the spleen. In this case there was glycosuria.

Neve[11] met with a case in a man 64 years old. The growth involved the pancreas and pylorus. It was firm, yellow and on section glistening and fibrous with small areas of darker color. It looked like a scirrhous carcinoma. The microscope showed it to consist of "highly nucleated" spindle cells interlacing at all angles. There were no epithelial cells.

Schueler,[12] in 1894, reported a case in a man 38 years old. The patient was an alcoholic. He vomited and suffered pain in the cardiac and costal regions. There was pain on pressure over the xiphoid process. Eating caused the pain to grow worse. Palpation showed a tumor the size of an egg in the left part of the liver. Exploratory puncture showed a reddish-brown fluid. Autopsy showed a large cystic tumor of the pancreas containing 2 liters of brown fluid. In part of the pancreas, not cystic, there was a large spindle-celled sarcoma. Metastases were found in both pleuræ and the third and fifth dorsal vertebræ. In this case there was no free hydrochloric acid found in the stomach.

The Spanish have another case, reported by Machado[13] in 1883.

Aldor,[14] in 1895, reported a "medullary sarcoma" of the pancreas in a man 45 years old. The tumor was the size of a man's fist and had perforated into the stomach and was adherent to the spleen and duodenum.

Frohwein[15] reported a case in 1897, of a spindle-celled sarcoma of the pancreas.

Ehrmann[16] described a case of primary sarcoma of the tail of the pancreas with metastases in the liver and pleuræ. Both the primary neoplasm and the metastases were of the small round-celled type.

Italia[17] reports the most recent case found recorded. The tumor occurred in a man 70 years old. The first symptoms were noticed in February, 1899, and death occurred in September following. The tumor was about the size of an orange and painful on pressure. Diagnosis was made in this case during life. The autopsy showed a large amount of peritoneal effusion. The tumor of the pancreas was round but distinctly limited. Metastatic nodules were found in the liver. The tumor in the pancreas was a small round-celled sarcoma, while the deposits in the liver were of the large-celled variety.

The pancreatic tumor was considered the primary growth.

In the seventeen cases summarized, three may be questioned, two of them, Mayo's and Bartley's, because the evidence of sarcoma is not complete and one reported by Schueler might have been secondary to the tumor growth in the vertebræ. They have been included in the list of primary sarcomas because it is more probable that they belong there than in the seriously questioned list.

There are tumors reported as primary sarcoma of the pancreas where the evidence is incomplete.

Paulick's[18] case, generally included among the recorded cases of primary sarcoma of the pancreas, occurred in a young man who died of pulmonary and intestinal tuberculosis. The tumor gave rise to no symptoms, yet it is reported as a round-celled sarcoma. The question as to whether this was a tuberculous pancreas does not appear to have occurred to the reporter.

Briggs[19] reported a case in 1890 occurring in a woman 45 years old. The tumor was a cyst filled with two liters of grumous dark fluid in which were found the hooklets of the echinococcus. The tumor was removed, and the patient recovered and remained well at the time the report was made. The period elapsed since the operation was not given. The tumor was reported as "sarcomatous," with no microscopic detail.

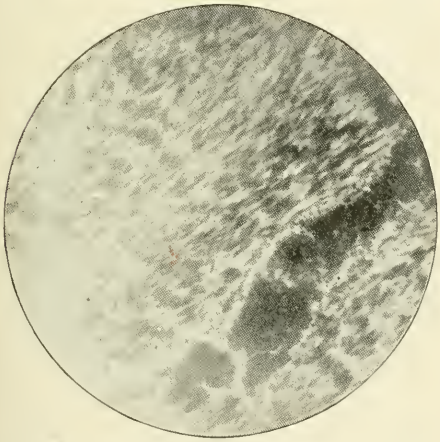

Fig. 2. Sarcoma of the pancreas. Photomicrograph (x 150). Showing the proliferating spindle-shaped tumor cells, taking their origin from the adventitia of a blood vessel.

Billroth and Bozeman are both credited with a case of sarcoma of the pancreas, but the conditions found were cysts, not sarcomas. Ehrmann included in his list a case reported by Bruen[20] in 1883. He describes a colloid tumor of the head of the pancreas, but gives no microscopic report.

Chiari[21] reports a metastatic growth in the pancreas occurring secondary to a sarcoma in the eye. This case has been included in reports, but should be excluded from the cases of primary sarcoma. Some cases not reported as sarcoma of the pancreas are worth reviewing because they lead to the conviction that they were sarcoma. If sarcoma has not been recognized in these cases it may not be its absence so much as a failure to properly diagnose the tumors of the pancreas that has made it so rare that Ziegler states that "they are extraordinarily rare." Orth that "they are almost unheard of." Hamilton is silent and so is Delafield and Prudden, while Stengel gives the subject three lines in his latest work.

Pepper,[22] in 1871, reported a case of tumor of the head of the pancreas in a man 45 years old. Necropsy showed a cyst the size of a walnut, filled with blood, the cyst cavity trabeculated with fibrous bands and lined with smooth mucous membrane. The cyst communicated with the duodenum. The microscope showed the acini of the glands diminished in size and the "epithelium in state of granular degeneration" with an abundance of oil globules. "After the fat was dissolved out with sulphuric ether and acetic acid was added, an immense number of elongated nuclei attested its vigorous nutrition and growth." The fact that the growth was not in the epithelial structures, and that the nuclei were elongated is very suggestive of sarcoma.

Dieterich,[23] in a report of 145 cases of melanotic tumors, in 1887, mentioned a case of sarcoma in a child 2 years old. There is no report of a microscopic examination.

## REPORT OF CASE.

The case which is here added to the list of primary sarcoma of the pancreas, occurred in the practice of Dr. M. L. Harris. The patient entered the Policlinic Hospital, Nov. 16, 1898.

*History.*—N. B., aged 47, a male, was a driver of a coal wagon. His father died at the age of 60, the cause unknown, his mother at 64, the cause unknown. Two brothers were living and well, also one sister. The patient used alcohol lightly, but no tobacco. His health was good until June, 1898, when pain appeared to the left of the median line a little below the umbilicus. He felt a lump the size of a large apple and rather firm which increased in size. His bowels were regular. There was no history of an injury. At the time of entering the hospital he vomited two or three times a week. The vomit was sour at times. His weight had fallen from 165 to 140 and he had lost much in strength, and then had a tendency to constipation. His pulse was 70, temperature 99 F.; respirations 20. At the time of admittance the urine was of straw color, aromatic in odor, with an acid reaction, a sp. gr. of 1028, no albumin, no sugar, no casts. His abdominal measurements were as follows: Maximum circumference, 95.3 cm.; circumference at umbilicus, 94.6 cm.; circumference at crest, 91 cm.; from maximum circumference to ensiform cart., 11.7 cm.; from umbilicus to ensiform cart., 16 cm.; from maximum circumference to symphysis, 20.5 cm.; from umbilicus to symphysis, 16.5 cm.; from umbilicus to ant. s.s. proc. (l.) 22.7 cm.; from umbilicus to ant. s.s. proc. (r.), 22.3 cm.; from max. circum. to ant. s.s. proc. (r), 24 cm.; from max. circum. to ant. s.s. proc. (r), 24.5 cm.

On November 23, an exploratory laparotomy was made by Dr. Harris, and an inoperable large tumor of the pancreas found. The patient gradually lost, his pulse and respirations gradually increasing in rapidity, while the temperature was many times subnormal up to a short time before death, when it ran up to 103 F. The autopsy made by Dr. Herzog was from necessity very incomplete, no regular autopsy being permitted; the body had to be shipped immediately.

The tumor, after having been removed from the abdominal cavity, was irregularly quadrilateral in shape and measured 17 cm. transversely, 20 cm. anteroposteriorly, and 24 cm. in the vertical diameter. Its vertical circumference was 72 cm., the transverse 71 cm. Its walls were firm, pale, slate-colored, mottled and irregularly lobulated. The whole tumor was covered with thickened peritoneum, except when stripped off by attachments to the stomach, spleen and liver, and where it was applied to the transverse colon between the layers of the transverse mesocolon. Posteriorly it was not adherent to any of the large blood-vessels or to the kidney. There was a depression on the upper right posterior surface of the tumor, as if made by the liver. The posterior layer of the lesser omentum

was folded over the tumor, giving it the complete peritoneal covering. At no point was the tumor fused with the structures to which it was attached by peritoneal adhesions. The transverse colon was attached along the entire anterior inferior border of the tumor, but the gut walls were nowhere invaded by the tumor growth. When the tumor was cut open it was found to contain in its interior a cavity 13 by 11 by 10 cm. The cavity was subdivided into two compartments by a septum formed by the tumor tissue. The roof of the lower compartment and the internal surface toward the left side were perfectly smooth. Most of the right internal surface and most of the floor were uneven and covered with a ragged grumous mass. Here the tumor tissue had broken into the smooth internal lining of the cyst. The upper compartment of the tumor cavity had evidently not originated as a true cyst, like the lower compartment. It was an irregular pyramidal cavity with a very ragged and irregular internal surface. The cavity was partly filled with broken-down tumor tissue. The tumor wall surrounding the central cavity in varied thickness from 5 to 10 cm. The tumor tissue on section appeared divided by connective tissue trabeculæ into roundish and oval nodules varying in size from a fraction to several centimeters in diameter. Near the outer surface the tumor tissue was grayish-white and quite solid; more toward the interior it assumed a light dirty brown, was spongy and honeycombed. The transverse colon, as stated before, was firmly attached to the anterior lower aspect of the tumor. When cut open the gut showed an intact mucous membrane, the tumor not having involved the walls of the gut.

*The microscopic examination* showed that when the tumor had not undergone any retrograde or degenerative changes it consisted of large spindle cells. These cells took their origin from the adventitia of vessels. The cell nuclei were generally fusiform, some decidedly rod-shaped, others oval and even round. They generally contained one or two nucleoli and a moderate amount of finely granular chromatin. The cell protoplasm was quite abundant and stained deeply with eosin.

The tumor cells formed bundles and masses which interlaced each other freely in every direction. Thin-walled blood-vessels were abundant. At some distance from the surface the tissue exhibited a tendency to retrograde changes. Here the cells showed coagulation necrosis, and the nucleus became indistinct, likewise the cell body. Deeper still the nuclei disappeared and a rarefied tissue was formed which looked like myxoid tissue. In such necrotic places extravasated blood was found free between the degenerating tumor tissue.

The grumous material found in the interior of the tumor consisted of necrotic cells mixed with free decomposing blood, fibrin and hematoidin granules. In some places the necrotic tissues showed numerous polynuclear leucocytes, some exhibiting nuclear fragmentation. One of the pieces of tumor examined showed where the tumor had been attached to the wall of the stomach. The viscus wall was thin and atrophic.

The capsule of the tumor consisted of coarse connective tissue fibers with slender, fusiform, deeply-staining nuclei. No endothelial cells were seen on the capsule.

The kidney showed marked congestion of all the vessels. The epithelium lining the uriniferous tubules showed cloudy swelling. Many of the tubules were filled with a granular material and some contained hyaline casts. The interlobular connective tissue of the liver was moderately increased. The peripheral cells of the lobule were fairly normal, but in the central zone they were densely filled with bile-coloring matter. Both in the peripheral and central zone a number of liver cells showed cloudy swelling. The spleen pulp was densely crowded with erythrocytes. In such places hemosiderin was found in large amounts. In other places the pulp cells showed a tendency to become fusiform. The myocardium was normal.

From the microscopic examination it was evident that we were dealing with a malignant connective tissue tumor—a sarcoma. The neoplasm, as appears from the history, grew rapidly, and speedily led to a profound cachexia. While the tumor formed adhesions to several of the neighboring organs it had not broken through any of them, nor had it given rise to metastases. The absorption of the ptomains had produced a chronic splenitis and changes in the liver, partly parenchymatous, and partly indicative of early interstitial cirrhotic changes.

I here express my gratitude to Dr. Herzog for his assistance in preparing this report.

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## A CASE OF EPITHELIOMA DEVELOPED ON THE BASIS OF A HEALED LUPUS VULGARIS TREATED BY X-RAYS.*

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The patient, a tradesman, a native of Poland, is 53 years old, and does not remember ever having been afflicted with any disease, with the exception of that herein described. His parents, who are dead, enjoyed good health, and neither they nor any other of his relatives were subject to skin affections. He has eight children, and two grandchildren, all enjoying good health. At the age of about 2 years there developed behind his left ear a growth which soon exulcerated, and in the course of a few years his face, especially the nose and mouth, became affected. The skin thus diseased repeatedly broke down and rehealed. The mouth gradually became so closed that he could only insert his little finger.

At this stage the nose, which meantime had repeatedly broken and healed, began to break down until its tip was destroyed at about the age of 12 years. He was then brought to the University Clinic of Koenigsberg. There the ulcerating surfaces were regularly treated with the thermocautery under chloroform anesthesia. The ulcers healed, but the mouth grew smaller by cicatrization, and the nose was closed up. During his stay of a year in Koenigsberg he took cod-liver oil, a tablespoonful three times daily. He was then sent to the clinic in Berlin, where he underwent an operation consisting of wide incisions at the angles of the mouth and transplantation of mucous membrane from the cheeks upon the wound surfaces. The residue of the nose, which had healed up during the treatment in Koenigsberg, had no opening, and inasmuch as the patient did not consent to the formation of a new nose, it was decided to render it possible for him to breathe through the organ. To this end there were made two

* Presented to the Chicago Medical Society, Jan. 2, 1901.

symmetrical openings into which were placed silver tubes fastened with bandages. But the septum soon sloughed, and a single opening resulted, which remained permeable and permitted him to breathe freely. He stayed in Berlin about two years, and during that time continued the use of cod-liver oil, a tablespoonful three times a day. He considered himself cured, and soon after immigrated to Chicago, some thirty-eight years ago. Until about a year ago his condition gave him no concern. He then felt a painful nodule behind his left ear. About eight months ago a wart the size of a bean developed on the left side of the lower jaw, and slowly enlarged. It was itchy and soon showed openings out of which exuded whitish, worm-like masses on pressure. The tumor continued to increase in size, and during the last eight weeks developed more rapidly to its present condition. Pain is felt at times, and then on the lower border of the tumor only. He is of strong build, and of good health. On the neck just behind the left ear a scar is visible at the seat of the first affection of the skin. On the left side of the forehead is another scar. On the cheeks and chin, especially around the

nose and mouth, there are extensive scars. The tip of the nose is absent, and on its site there is cicatricial tissue, with a hole in the center. The red border of the lips is uneven, owing to cicatricial contraction, and for the same reason we find deep fissures at the angles of the mouth and on the mucosa of the cheeks. Over the left zygoma we see infiltrated skin, with a red, glossy, somewhat scaly surface. The patient states that he noticed it since he wore a bandage for the fixation of the silver tubes. On the left side of the face and neck we see a bluish-red, lobulated, cauliflower-like tumor, raised about half an inch above the level of the surrounding surface. Around the upper margins of its base scars are visible. It has the shape of a triangle, with its apex in the middle of the cheek, and its base about 1½ inches beneath and parallel to the margin of the lower jaw. It is movable with the skin, has a soft consistence, and overlaps its base. At the junction of the tumor with the seemingly healthy surrounding tissue, deep fissures are to be seen. On its surface, a grayish-white, ill-smelling exudate is visible, which increases in quantity by pressure. At times there is pain in the lower and posterior part. At the level of the posterior angle of the left lower jaw is found a bean-sized, round, hard, retromaxillary gland. I have to add that the respiration through the nose, as well as the sense of smell, is unimpaired.

Judging from the history, and more especially from the sequelæ of the skin disease which he acquired in early childhood, there remains but little doubt that it was a case of lupus vulgaris. The tumor on his face is clinically an epithelioma, which opinion is confirmed by the microscopic examination.

In regard to the prognosis, it is a well-established fact that epithelioma developed on a scar of lupus vulgaris gives but little prospect.

Drs. Anthony and Harris, who saw the case with me, suggested the application of the x-ray, and Dr. Haiselden of the x-ray department of the Chicago Policlinic commenced the exposures.

Since the presentation of this case, the treatment has been continued. Beginning December 26, the exposures

were made twice a week. After the third exposure January 7, the skin in the vicinity of the tumor reddened, whereupon they were discontinued for one week, and after the disappearance of the irritation were repeated twice a week during January and February, during the first three weeks of March every other day and during the last week of March and first of April, every day except Sundays. Since then no exposures have been made. The primary current used for the induction of the secondary was between 8 and 12 volts and 1½ amperes; interruptions averaged 800 per minute, the distance from the exposed surface varied from 6 to 3 inches, and the time of exposure from ten to twenty-five minutes.

After the third exposure there was noticeable diminution of the secretion and at times the tumor appeared perfectly dry. It had also flattened to a slight degree, but had spread downward and toward the chin about an inch. Seeing that the growth had not been checked, the use of the x-ray will be discontinued. I believe

that in incipient cases good results may be obtained by the x-ray. I would refer here to cases thus treated and cured by Drs. W. Johnson and W. H. Merrill.[1]

S. Steenbeck reported at the International Medical Congress, Paris, August 1900, two cases of cancer of the nose, one of which had developed upon lupus vulgaris, both cured by the x-ray. All these cases were of very small size.

In conclusion, I take great pleasure in expressing my gratitude to Dr. H. J. Haiselden for his painstaking application of the x-ray.

103 State Street.

## URETERAL IMPLANTATION INTO THE BOWEL FOR DIVERSION OF THE URINE.*

### AN EXPERIMENTAL RESEARCH.

JACOB FRANK, M.D.

Surgeon to the German Hospital; Consulting Surgeon to St. Elizabeth's Hospital and Jewish Orphans' Home; Member of the American Medical Association; Fellow of the Chicago Academy of Medicine, Etc.

CHICAGO.

I fear that I have chosen for my paper a subject which may seem old and of comparatively little interest to some, and have consulted therein rather my own tastes and inclinations. The diversity of surgical conditions, brought about in the course of some pelvic or abdominal operation, to the ureters is sufficiently large and the number of cases met with great enough to make the subject of interest to every surgeon.

Again, the numerous pathologic conditions to which the urinary bladder is heir, which must sooner or later terminate fatally unless some means of relief can be afforded, have been sufficient incentive for experimenting in search of some surgical means that would furnish relief to those unfortunate sufferers.

The establishment of an artificial communication between the ureters and the intestines by means of surgical procedure should not be one of choice, but of necessity. It is applicable only in those cases where other means for the preservation of the kidneys are impossible or contraindicated. In cases of ureterovaginal fistula the operations of Schede, Simon, Landau, Bandl and Pozzi should first be tried. If these attempts fail, intestinal implantation is much preferable to nephrectomy, which should only be done as a last resort. In carcinoma of the bladder, where the outlets of the ureters are encroached upon and entire resection of the bladder is indicated, ureteral implantation is all that can be done. The same holds true in severe cases of tuberculosis, but the renal lesions which are so apt to exist at the same time render permanent benefit unlikely. Unilateral anastomosis is indicated in those cases where the ureter is wounded higher up, as may happen during the course of an intra-abdominal operation, or where trauma or morbid processes have brought about the same result. Loss of substance of the ureter, if the ureteral wall is in such a condition that it can not be united, as after the removal of a calculus, may be treated by intestinal implantation. In exstrophy of the bladder I believe that vesico-rectal anastomosis will give the best results for urinary diversion. Much has already been done in this field of surgery, and I will give a little semi-history of ureteral implantation into the intestine. The union of the ureters with the intestinal tract may be accomplished by means of a mechanical device or suture, in three ways, viz.: 1. The severed ureters may be anastomosed in the region of the rectum, with some portion of the ascending or descending colon, or even into the small intestine. 2. An anastomosis may be accomplished by implanting the vesical trigone in the intestine. 3. A permanent fistula may be established between the bladder and the rectum.

The first efforts made to direct the course of the urine into the intestine were in cases of exstrophy of the bladder. Simon first attempted this after the suggestion by Roux in 1851, upon a human patient, by passing a loop of thread through the walls of both the ureter and rectum, and tying them tightly together.

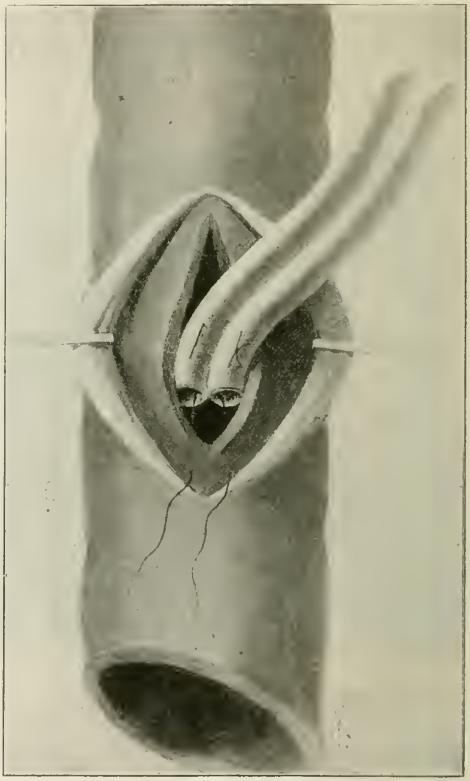

Figure 1.

Necrosis occurred at the point of ligation, and a fistula resulted. The patient died of pyelonephritis. Thomas Smith, in 1879, sutured successively the two ureters into the colon, but death quickly followed the second operation. The autopsy showed that on the left side, the first one subjected to operation, the point of exit of the ureter was obliterated, causing hydronephrosis. On the right side pyelonephritis and inflammation of the ureter were found. These fruitless attempts found few imitators, and the question seems to have been held in abeyance for a few years. In 1881 Glücke and Zoller published their unsuccessful attempts at implantation of the ureters into the rectum, and empha-

1. "The X-ray in the Treatment of Carcinoma." Philadelphia Medical Journal, Dec. 8 and 15, 1901.

* Read before the Chicago Academy of Medicine, Jan. 11, 1901.

sized the importance of stricture formation with hydronephrosis. About the same time Bardenheuer sutured a single ureter into the gut, but, while the animals recovered from the operation, autopsy revealed contraction of the ureter and hydronephrosis in each case.

Novaro reported to the Italian Surgical Society, in 1887, that he had produced an anastomosis of both ureters with the intestine in three dogs. Two of the animals died; the third recovered and was killed thirty days after the operation, but no bacteriologic examination of the pelves of the kidneys or of the ureters was recorded.

The work of such experimenters as Tuffier, Van Hook, Chaput, Martin, Paoli and Busuchi, Harvey Reed, and others who have studied the feasibility of ureteral implantation into the bowel many times, and in a great variety of ways, has met with only a limited and qualified success. Their results being no better than those of their predecessors, the animals dying from either peritonitis, pyelonephritis or hydronephrosis. In this somewhat hasty review, I must not pass over the recent work of Peterson and Connell, Fellows of this Society.

Knowing what a dismal failure bilateral ureteral implantation was, I nevertheless tried similar experiments, which I report to-night, and although unsuccessful led me to commence anew with the purpose of preserving the trigonum, which resulted in the operation of vesicorectal anastomosis.

The method I have employed experimentally is as follows: After shaving and cleansing the abdomen, it is opened in the usual way. (Fig. 1.) The part of bowel to receive the ureters is picked up and isolated, and a longitudinal incision about an inch and a half or two inches is made through the peritoneal coat, which is then loosened up and retracted. Through the remaining coats an incision is now made, about three-quarters of an inch in length, three-eighths of an inch on each side of the center of the mid-line. The cystic ends of the ureters are severed and then held together by a silk suture. A needle armed with fine silk is passed from without inward through all the coats of the intestine, with the exception of the peritoneal, about a quarter of an inch below the lower angle of the incision, and then emerges through the opening. Now pass the needle through the cut ends of the ureters, and then cause it to pass out through the intestinal wall, the same distance from the incision that it entered. The ureters are now grasped in the loop of silk and the ends are tied tightly together, drawing the ureters into position and holding them there permanently. (Fig. 2.) The intestinal wound in the muscularis and mucosa is now sutured transversely, care being taken not to compress the ureters. (Fig. 3.) The operation is completed by closing the peritoneal incision. In this way sutures which have entered the lumen of the bowel are covered over by peritoneum and the great risk of infec-

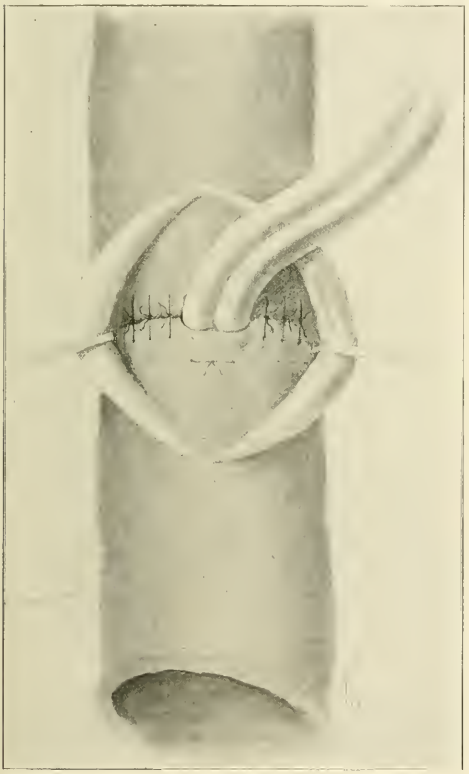

Figure 2.

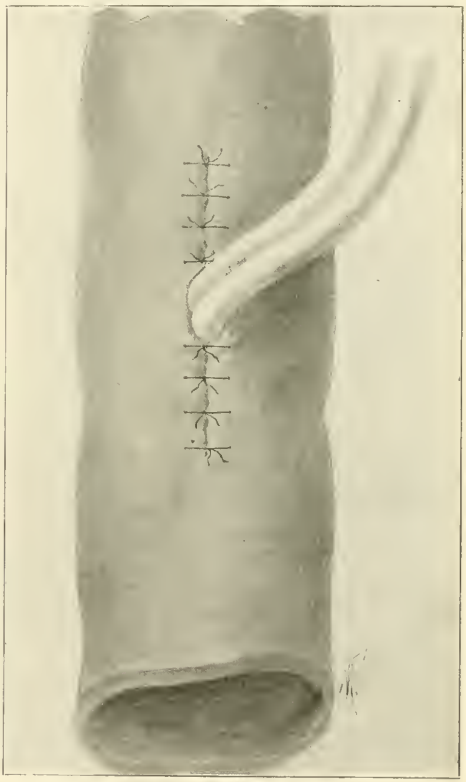

Figure 3.

tion of this structure obviated. Again, the two rows of sutures do not overlie one another, and thus give more security and prevent leakage.

The series consisted of ten experiments; in four, both ureters were implanted in the rectum, simultaneously, and in two, a single ureteral implantation done, while in the remaining four a single ureter was implanted and subsequently the other. As it is not necessary to detail each experiment, I have taken one case from each series, which I believe will be sufficient to demonstrate the procedure. Of four dogs in which both ureters were implanted in the rectum simultaneously, all died. Death took place within three days from a localized peritonitis, and nephritis.[3] The following is a detailed account of one case:

EXPERIMENT No. 2.—A bitch, weighing 55 pounds, was operated on Sept. 1, 1898, and found dead September 3. The method, as already described, was carried out for both ureters, with the usual antiseptic precautions. At the postmortem the following technique was conducted and carried out, and in the same manner for all the experiments: The kidneys were freed from the surrounding connective tissue, and a heated platinum loop introduced into the pelvis, and cultures made. The ureters were then dissected free, and the kidneys, ureters and that part of the bowel used for implantation removed *en masse*. The tissues taken for microscopic examination were embedded in paraffin, and sections stained with hematoxylin and eosin, by Gram's method, and with alkaline methyl-blue, followed by washing in acetic acid water.

The sections from the different kidneys were made after the latter had been in Kayserling's preserving fluid No. 3 or in a modification of it for a little over two years. It appears that the nuclear staining properties of the tissues had not been affected materially, while on the other hand some of the recent inflammatory foci show only a very few bacteria. From this fact, there is a suspicion that the bacteria had suffered in their staining properties, and so all do not appear on examination.

At the autopsy the omentum was found adherent to the site of incision, to the surrounding bowel, and to the site of operation. The right ureter was congested at the lower one-fourth of its extent, and midway between the implanted end and the kidney a narrow band was found constricting it. The implanted end of the ureter was found projecting into the lumen of the intestine, but the incised peritoneum of bowel was not united and showed a collection of offensive pus. The right kidney was slightly enlarged, and on cut section showed an active venous congestion. The cortical markings were distinct and the pelvis filled with pus and urine.

The left ureter appeared normal, but the implanted end was not firmly adherent to the bowel. The kidney was normal in all particulars. Microscopic examination showed a congestion of vessels in the right kidney, with slight parenchymatous changes, consisting of cloudy swelling of the epithelium lining the tubules, and Bowman's capsule. There were found a few small interstitial foci of round cell infiltration. The kidney was invaded by quite a number of cocci and bacilli. The changes found in the left kidney were identical with those of the right, but the bacterial invasion was very mild.

Of two dogs in which a single ureter was implanted in the rectum, both lived. One dog was allowed to live sixteen days before being killed; the other thirty-six. The latter case is briefly reported in the following:

EXPERIMENT No. 6.—A young bitch was operated on Sept. 21, 1898, and killed November 27, the right ureter having been implanted in the rectum. The animal was well nourished, in perfect health, and very playful and lively before the chloroform killing. At the postmortem the omentum was slightly adherent to the line of incision. The right kidney was contracted to about one-fifth the size of the left. The right ureter was of the same size as that of the left. The left kidney was enlarged to five times that of left, but otherwise appeared normal. The left ureter was normal in all particulars. The patency of the ureteral canal was demonstrated by injecting it with water from a syringe. The rectum was laid open and the mucous membrane was found paler than normal, and the union between the rectum and ureter so perfect that it was impossible to tell at a glance where the ureter ended and mucous membrane of bowel commenced. Microscopic examination of the right kidney showed marked interstitial changes. There was found thickening of Bowman's capsule by newly-formed interstitial connective tissue, and atrophy of the uriniferous tubules, while some contained hyaline material. In some areas there were evidences of acute inflammatory foci of round cell infiltration. Bacterial invasion by cocci and bacilli was demonstrable. The left kidney showed slight parenchymatous changes and dilatation of Bowman's capsule. There was very little, if any, evidence of bacterial invasion. The test-tubes inoculated from the pelvis of the right kidney developed a growth consisting of a coccus, probably the staphylococcus pyogenes albus.

In the last series of dogs operated on, which includes, first, a unilateral ureteral implantation, followed in forty-two and three days respectively by bilateral implantation, both dogs died, the first within five days, and the second within thirteen days. This last series is illustrated in the following case:

EXPERIMENTS NOS. 1 AND 7.—A bitch, weight 50 pounds, was operated on Aug. 17, 1898, and the left ureter implanted in the rectum. On September 28, the right ureter was implanted and the dog died on October 3. The autopsy revealed the following: A few stitch-hole abscesses in the abdominal parietes and omentum adherent to the old scar, and to a loop of intestine. The left kidney was much engorged and somewhat enlarged. The capsule stripped easily, and on cut section the pelvis contained about four drams of pus. The ureter was curled upon itself like the letter "S," and greatly enlarged. The distance from the pelvis to the seat of implantation before loosening the adhesions was about two inches, which, however, measures seven inches after freeing the ureter. The union at the site of implantation was perfect, and the mucous membrane of bowel on cut section showed it to be smooth and the rugæ absent. The orifice of the ureter appeared as a dimple. The ureteral canal was found patent by injecting water into it from a syringe.

The right kidney was slightly enlarged and congested, and its capsule somewhat adherent. The ureter was in a straight line, but dilated. About thirty drops of pus were found in the pelvis. At the site of implantation the sutures were still *in situ*, and no leakage demonstrated under hydraulic pressure. The ureter was loose in the bowel, and the orifice dilated. There was a marked congestion of the blood-vessels and a moderate degree of parenchymatous change in the left kidney upon microscopic examination. Extensive areas showed cloudy swelling of the epithelium lining the uriniferous tubules, and the lumen of many tubules contained granular debris. In various places were found interstitial foci of inflammatory round cell infiltration. These were demonstrable mostly in the neighborhood of the pelvis, but some were found also in the cortex and extending as far as the region of the capsule. Cocci and bacilli in a moderate degree were seen.

Both the parenchymatous and interstitial changes were perhaps more marked in the right than in the left kidney. Particularly was this true of the interstitial changes, which in some places had led to the formation of tracts of connective tissue, and a resulting atrophy of the tubules. These changes were so marked that they gave the impression of having existed some time before the first operation was performed. The bacterial invasion was more marked than that of the left kidney.

From a consideration of the above experiments, we can conclude that: 1, the technique is all that can be wished for; 2, bilateral implantation into the rectum simultaneously is primarily and remotely an extremely dangerous procedure, and can have no favorite place in human surgery; 3, while no single permanent implantation of the ureter into the rectum has demonstrated an absence of inflammatory reaction on the part of the kidneys, nevertheless I am of the opinion that it must be regarded as justifiable where other means fail, and has a limited place in pelvic surgery; 4, while stricture did not take place, we can not say with confidence that scar contraction at the opening into the rectum will not in months or years produce one; 5, that the rectum will tolerate the presence of urine can not be doubted by any one, and has been proved by many experimenters.

In order to overcome the difficulties of stricturing and ascending infection, Tuffier and Maydl, each claiming priority, proposed and carried out the implantation

of the ureter by preserving the valve-like folds of cystic mucous membrane at the mouths of the ureters, and so protecting the kidney against infection. As long as the ureter is permeable and its sphincter functionating, so long is the kidney protected. This fact was proved to my satisfaction in the experimental work on vesico-rectal anastomosis.

## AN OVERLOOKED NASAL FACTOR IN EAR DISEASE.

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In a considerable research of the literature bearing on nasal conditions causative of ear diseases, the writer failed to find mention of what seemed to him a condition ranking second only to stenosis as a factor; and in a discussion of the indications for intranasal treatment of ear diseases by members of the Section of Laryngology and Otology of the British Medical Association last year, no mention was made of it, though the subject was fully discussed by the leading nose and throat surgeons of Great Britain. The condition referred to will be comprehended by a glance at the diagrams. It consists in the often observed hypertrophic thickenings on, usually, both sides of the vomer near the posterior free margin, which deflect the inrushing blast of dust-laden, dry, cold air against the Eustachian eminences, resulting in perpetual irritation of the mucous membrane in the vicinity of the tube mouths. This action is entirely independent of any harm such hypertrophies may do in increasing stenosis. These growths are usually soft, though only slightly erectile. They have been present in 25 per cent. of the writer's private ear cases, and in 11 per cent. of dispensary nose and throat cases. Like the anterior spurs—which, however, are soft only at first—they are produced by the vascular stasis resulting from pressure against the membrane covering the vomer by the hypertrophied, relaxed or swollen turbinals, usually the inferior. The anterior edge of the hypertrophies is moulded to the shape of the turbinal and thins down to the level of the membrane anteriorly. This tell-tale shape fixes the blame on many an innocent-looking turbinal which, at the time of rhinoscopy, is little more than normal size, though during sleep, when on the pillow side, it can fill and press to an unsuspected extent. Once these vomerine hypertrophies are started they are doubtless helped along by the irritation due to the part they take in bearing the brunt of the blast. Normally the inspired air deposits suspended particles in three places before it reaches the larynx. First, on entering the nose the current passes upward and strikes against the anterior inferior portion of the septum and the anterior end of the middle turbinal. To the moist surface of these a portion of the dust adheres. Thence the air-current is deflected and strikes the posterior pharyngeal wall. These three situations are sites of especial irritation, and in a city like Pittsburg, where dust is black and sooty, patients, especially those whose secretions are thick and perverted, or who lack abundant serous secretion, will come in with these sites painted black. Where the air strikes the lower anterior surface of the septum the continual irritation of the not yet filtered, warmed or moistened air produces crusts, ulceration and perforation, being perhaps aided by the finger-nail with which the crusts are removed. Nature has placed the Eustachian eminence behind the turbinal projection, out of the way of the blast of inspiratory air; but when abnormal conditions raise up these air-deflecting hypertrophies, the blast strikes in a place not normally intended so to serve, i. e., the vicinity of the tube mouths instead of the posterior pharyngeal wall. Even this normal location, like those in the anterior portion of the nose, can not always withstand the irritation. In the dust-laden atmosphere of modern civilization almost every one with nasal breathing has an irritated posterior pharyngeal wall. It is not surprising then that the vicinity of the tube mouths should be congested when the vomerine hypertrophies deflect the air-current against them. To prove experimentally that thickenings in this situation do so deflect the air-current, the head of a cadaver was sawn through vertically in transverse section, passing downward close to the posterior pharyngeal wall. The membrane was dissected from the free edge of the vomer forward about three-eighths of an inch, stuffed underneath with cotton and sewed up, moulding the parts to imitate the shape of the well-known thickenings we often see in this situation. The head was brought together again and the saw cut in the nasopharyngeal region pressed together so as not to leak air, with the finger passed through the mouth, after which the lips were sewn together. Powdered magnesium carbonate was then sifted down in the front of the nose while air was drawn in through the nose by a large veterinary syringe fitted

to the trachea. On opening the head again large deposits of the white powder were found all over the tubal eminences and their vicinity, the heaviest coating being on the anterior aspect of the Eustachian eminence, at a point not usually visible by posterior rhinoscopy in the living subject.

It is not claimed that these thickenings are present in all cases of ear disease, nor is it claimed that ear or tubal troubles are present in every case with these thickenings. Not every case of nasal stenosis has ear trouble, nor does every case of adenoids. Every morbid etiologic factor has its inoperative instances. What is urged, however, is that where ear diseases coexist with the vomerine hypertrophies, the latter, however small, should be completely removed. It is also urged that the slightest thickening on the vomer be reduced when not associated with ear trouble, lest the latter follow. It is urged also that it is worse than useless to remove posterior inferior turbinal enlargements and leave thickenings on the vomer, even though there be full and free nasal respiration. In one case, a mill-hand, posterior enlargements had been removed from both inferior turbinals, completely, relieving nasal stenosis, yet the attacks of tubo-tympanic catarrh grew more severe and more frequent. The vicinity of the tube mouths was seen to be spattered with soot, dust and foreign particles. Large white, soft, vomerine hypertrophies were visible on posterior rhinoscopy as well as on inspection through the anterior nares. These were removed with Bryan's ethmoid curette and complete cure of the tubal and aural trouble resulted without any other treatment whatsoever. Nearly two years have elapsed and, though

exposed to the same dusty occupation, there has been no trouble with ear or tube. This case is typical of a number, all of which were made worse by removing posterior hypertrophies on the turbinals while leaving those on the vomer to deflect the irritating blast of inspiratory air all the more readily for the turbinal being out of the way. It is useless to cover pages with details and tables, hearing distance before and after, etc.

A résumé follows: Of the ear cases associated with these vomerine hypertrophies 42 per cent. were sclerotic, 38 per cent. moist catarrhal, 20 per cent suppurative. In only thirty-four cases was the effect of all other treatment excluded. Of these, 50 per cent. of the sclerotic, 71 per cent. of the moist, and 13 per cent. of the suppurative cases were benefited by the removal of the growths.

As to treatment, there can be but one indication: Take off the air-deflecting projection and let the inspiratory blast go back and strike against the posterior pharyngeal wall as Nature intended. Afterward—not before—take off enough of the posterior turbinal hypertrophy to relieve stenosis and prevent reproduction of vomerine growths, but not enough to expose the Eustachian eminence to the direct blast of the inspiratory current. It might be supposed that, as these growths result from turbinal pressure, after the removal of the turbinal hypertrophies those on the vomer would disappear themselves. Such is not the case because of the irritation kept up by the striking against them of the blast which they deflect. As to method of removing these vomerine soft growths, the writer[1] at first used the galvanocautery either through the anterior nares or through the mouth with a curved electrode; but in later years he has abandoned the galvanocautery for this and every other purpose except angioma. Either Bryan's ethmoid curette, or Seiss's curette, or a long-shanked probe-pointed tenotome will do the work better. A bony spur near the posterior edge of the vomer, that seemed to be acting in the way described, was removed with the saw, resulting in a cessation of recurrent "gatherings" in a post-suppurative case.

## COMPOUND FRACTURE OF OLECRANON WITH DISLOCATION OF BOTH BONES OF FOREARM.

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The patient was a well developed, muscular laboring man, 59 years of age, weighing 180 pounds. The dislocation was well marked; the heads of both bones were resting on the anterior surface of the humerus above the condyles, and the lower extremity with the olecranon in position was very prominent. This compound injury was produced by throwing the arm up, to shield the face from the kick of a horse, and while in this position—flexed at right angles, and the muscles taut—the full force of the blow was received on the ulna, about 2 or 2½ inches from the tip of the olecranon, producing a compound, oblique fracture, including about one-third of the articular surface of the head of the ulna, and the line of fracture extending to a point about 2 inches forward on the posterior surface. Reduction was accomplished by holding the arm at a right angle, while traction was made by means of a towel around the forearm, as near the joint as possible. After cleaning the wound carefully, and dressing it antiseptically, the arm was placed in a right-angle posterior splint, with a pad over the anterior and upper portion of the forearm, with the hope the fragments could be retained in their proper position. But the strong, excited brachialis anticus with its attachment to the coronoid process, having a direct tendency to displacement forward, and the insertion of the powerful triceps to the point of the olecranon with the leverage supplied by the trochlear surface, carrying the lower point backward, made it impossible to keep them in proper relation (as is well shown in Skiagraph 1, which was taken the next day, while the arm was still in the first dressing.)

The surgical recommendation for restoring the fragments in these cases is to extend the arm to such a degree that the force of the contracting muscles will be against the articular surfaces of the joint. In this case, however, extension did not accomplish the purpose; and I believe its failure was due to the line of fracture

Figure 1.

through the articular surface of the ulna being anterior to the center of the trochlear surface when in an extended position, thus permitting it to slip forward. As the treatment thus far had not proved satisfactory, the patient was placed under an anesthetic, and the opening into the soft parts enlarged. A common wood screw was secured, 1½ inches long, over which a ferrule was slipped, the ferrule being too small to let the head through, and about ½ inch long (in order to keep the head of the screw outside of the soft parts). A hole was drilled through the upper fragment, large enough to allow the screw to slip through, and not the ferrule, a smaller hole being drilled into the lower fragment so that the screw-threads would catch. By tightening the screw, the fragments were drawn together as represented by Skiagraph 2, which was taken two days after the operation. No. 3 shows the condition twenty-eight days afterward, at the time the screw came out. It was suggested, at the time of operation, that a conical screw, which could be tightened as it became loose, would be an improvement over the one used. But my opinion is

1. N. Y. Med Jour., Nov. 12, 1892.

that if the fragments have been in apposition for twenty-eight days, we have accomplished all that could be expected in the majority of cases. By referring again to Skiagraph 3 it will be seen that the union has taken place through the larger portion of the original separation, and a small point of the upper fragment has broken down. For the first three weeks there was a profuse discharge of serum from the joint cavity. The arm and, especially, the tissues around the elbow were badly swollen, and the least motion in the joint very painful. Both, after this time, gradually grew better. The joint proper did not become infected, notwithstanding that there was slight infection of the external wound toward the last of the treatment. Skiagraph 4 represents the condition found two weeks ago, and four months after the injury.

It will be seen by the accompanying photographs, that he can flex the arm a little more than to a right angle, and extend it to almost a normal position; and,

Figure 2.

I believe, by constant use it will still improve, so it will be a very useful arm, if not functionally perfect.

Dr. Stimson, in his late treatise on fractures and dislocations, says: "In the last one hundred years there has been less than twenty-five reported cases of anterior dislocation of the forearm on the humerus, including seven cases of compound dislocations. Of the seven compound dislocations, six were complicated by fractures of the olecranon. Three recovered; two underwent amputation after the joint had suppurated; one died three hours after the accident (which was a fall from a height of 48 feet); and in one the result is unknown. Of the three recoveries, the joint suppurated in two, the process ending in anchylosis in one of them; in the remaining, the patient recovered, apparently without suppuration—the fracture of the olecranon united by a fibrous band one centimeter long; and two and a half months after the accident the hand could be brought to the mouth and the elbow extended to an angle of 150 degrees."

From this report and the brief and unsatisfactory history of these cases, let us turn our attention to the study and consideration of the prominent features that are characteristic of this injury. Why are they attended with such a large percentage of amputations if not fatalities? Why does the loss of the elbow-joint by anchylosis follow in so many of the few cases reported?

The extensive laceration of all of the tissues involved, and open joint and especially an infected wound, with statistics compiled before the days of antiseptic surgery, all combine to make a bad showing for the treatment of these important cases.

Why is this injury so infrequent? It is the result of mechanical forces and should be considered from a mechanical standpoint only. And there must be a favorable combination as regards time of action, the amount of force and the position occupied. There must be a direct and an external violence of sufficient force to fracture the olecranon at its thickest and strongest point, in order to free the articular head of the ulna, and to rupture or tear from their attachments the strong

Fig. 3.—Twenty-eight days after operation.

ligaments which support one of the strongest joints of the body. And it must be a continuous force that will crowd the heads of both bones above the condyles to the point of separation. The arm must be at, or very near, a right angle with the shaft of the humerus, the force in a direct line from the point of contact to the head of the humerus, and the application of the force on the ulna must be within a certain radius, starting from a point corresponding to the anterior surface of the condyles, and extending down the ulna only, to the point where the leverage of the hand and arm would be as great, or greater than the resistance of the joint tissues. If below this point, the amount of violence would fracture the bones; if the applied force be above this radius, there would be a compound, or a compound comminuted fracture of the olecranon, and possibly an injury of the condyles, or by transmission to the frail bones covering the shoulder-joint; but in neither case would there be luxation of the elbow-joint. Therefore, in the opinion of the writer, the infrequency of this accident is due entirely to the fact that there must be the position, the requisite amount of force, and the resistance, and they

must bear a certain relation one to the other, and at the same time, in order to produce the result, and such a combination would seldom happen.

The failure to reduce the fragments by the means recommended, illustrates a fact which every progressive surgeon should remember, that, generally speaking,

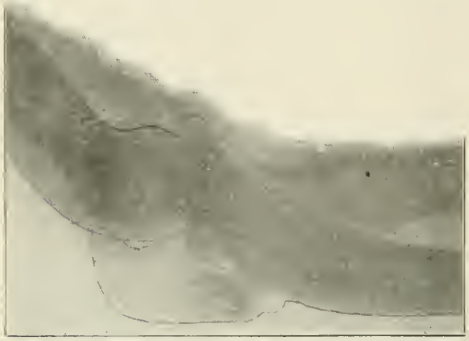

Fig. 4. Four months after injury.

every case has its peculiarities, and can not always be treated according to the rules laid down in surgery. It would be unreasonable, and often poor, surgery to treat all cases as the one reported; the means best adapted are those which accomplish the desired results.

For the skiagraphs illustrating this case, I am under obligations to Dr. Sampson.

## TUBERCULAR DISEASE OF THE KNEE-JOINT AND HIP-JOINT IN CHILDREN. DIAGNOSIS AND TREATMENT.*

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The importance to the practitioner of a practical knowledge of joint diseases in children is becoming generally recognized. A sign-post of the times is the making of the orthopedic course obligatory to the medical students of Harvard University. The majority of orthopedic cases, and the most important ones, are met with in children. In recent years it is rare to see incurable cases that formerly were common, the cases that exemplify the terrible pathologic conditions that can be produced by tubercular joints, untreated or badly treated. And this is so because these diseases are recognized in their incipiency, and in every large city there are ways and means established that bring the proper treatment of such cases within the reach of the poor. This general leavening of the profession, as it may be termed, with orthopedic knowledge, is the work, in our country, of Henry G. Davis, Lewis A. Sayre, Virgil P. Gibney, Edward H. Bradford, and others.

To John Hilton of England is the English-speaking world indebted for the earliest authoritative instruction in the curability of tubercular diseases of the joints. His work[1] on "The Therapeutic Influence of Rest, and the Diagnostic Value of Pain," will remain a monument to the achievements of that brilliant practitioner. There is no better book than it to serve as a general introduction to practical orthopedics, or that part of the science which is really necessary for the general practitioner.

The general practitioner should be able to diagnose a case of tuberculosis of the spine, of the hip, or of the knee. Tuberculosis of these parts are by far the most important and frequent of tubercular joint cases. In children, if each case is examined systematically, the diagnosis is easy, in the majority of cases. While few will controvert the assertion that the general practitioner ought to be qualified to make a diagnosis in these tubercular joint cases, probably many will think that the treatment of such cases belongs rather to the specialist. This opinion, erroneous I believe, has a justification in the vast array of apparatus devised by specialists to treat similar conditions—apparatus sometimes of such complexity that the construction and application are only understood by the inventors. But are any better results attained to-day with the use of these complexities than John Hilton got twenty-five years ago with his simple means and sound sense? In the science of orthopedics there are the principles and there is the art. The principles change but little; they are the rules of practice based upon the large experience of the masters. The art is ever changing. The art is the use and application of materials to put the principles of the science into practice. For example, one of the principles in the science of surgery is to give rest to an injured joint. The use and application of materials to attain this end, rest for the joint, exemplifies the art. There are many ways of giving a joint rest. For a concrete example take the knee-joint. Reclining in bed will sometimes give rest to the joint. When inflammation is present it is entirely inadequate. Then some sort of mechanical appliance is necessary. One surgeon will employ an old-fashioned ham-splint, padded, and consider that it produces sufficient fixation to give rest to the joint. Another will apply a silicate bandage—over cotton batting—another a plaster-of-paris bandage similarly, another a gutter metal, or a gutter plaster splint, another will mold a splint from leather, and still another will apply wood-plastic material. All employ the art of surgery. This art is ever changing. The discoveries constantly being made in the physical sciences are quickly impressed into the service of the progressive surgeon, and surgical art to-day is not the art of surgery practiced and taught five years ago. After these somewhat discursive remarks, the subject of the diagnosis and treatment of incipient tubercular knee-joint and hip-joint disease will be considered from the standpoint of the general practitioner.

### TUBERCULAR DISEASE OF THE KNEE-JOINT.

*Diagnosis.*—Before treating of the diagnosis of tubercular knee-joint disease a word may be said of the etiology of tubercular joint disease in general. Hilton, in his lectures, states: "I believe that the diseases of the joints are almost invariably the results of local injury, and that if they were recognized early, and treated by appropriate rest, nearly all of them would get well." This opinion of Hilton, concerning its etiology, based on clinical experience, is confirmed by Max Schuller, who proved experimentally, in animals infected with tubercle bacilli, that a slight traumatism to a joint would determine localization, by way of the circulation, to the injured part, and that a tubercular synovitis or panarthritis would follow. The primal cause of tubercular joint disease is the bacillus tuberculosis already in the system of the patient, the proximate cause is often a slight injury causing a destructive

* Read by title, in the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Published about 1862.

localization of the germs in the joint tissues. The history of the patient is therefore of importance in making a diagnosis. Has there been, or is there tuberculosis of the respiratory, alimentary, or lymphatic systems? Has there been trauma? The first question is the more important of the two. The chief diagnostic signs of tubercular knee-joint disease are limitation of motion, causing lameness, an early sign; enlargement of the joint measurements, in some cases caused by fluid distending the joint capsule, in others caused by a thickening of the synovial membrane, and peri-articular tissues; tenderness on pressure, deep seated, in some parts or other of the joint is invariably present. Muscular spasm, elicited by attempting passive motion of more or less extent. Fixation of the flexed joint from constant muscular spasm is seen early in acute cases. This, untreated, results in subluxation of the joint, sometimes as early as the sixth month. In acute cases, heat in the joint, felt by placing the hand upon it, is a prominent clinical feature. In the slow, insidious form heat is sometimes absent. The older name of the disease—tumor albus—signifies a clinical feature in the more chronic form of the disease. The whiteness of the skin is caused, in these cases, by its distension by the swollen tissues underneath, producing in the skin anemia, and therefore pallor. A feature of the chronic disease, a filling out of the popliteal hollow, has been noted, so far as I am aware, by one surgeon only, viz., Colles, of Dublin, who taught half a century before orthopedics became a specialty. Some cases of tubercular synovitis are so acute as to simulate traumatic synovitis, inflammation of the joint caused by injury, and lacking the tubercular elements. The majority of cases are, however, of an insidious nature, so that not rarely do we meet with the disease thoroughly developed and a diagnosis very easy—such cases having had no medical treatment, and attributed not seldom to "growing pains" by the wiseacres of the neighborhood, until deformity compels bringing the case to medical attention.

*Treatment.*—The treatment of incipient tuberculosis of the knee-joint is rest and protection for the diseased joint, and thorough constitutional treatment. Joint rest is to be had by immobilizing the joint. This is not attained by the methods commonly employed. Bradford and Lovett, writing upon fixation of the knee-joint, state: "Fixation by stiff bandages is an efficient method of treatment when the bandages are properly applied. They should reach from the groin to the ankle, and as firmly as possible grasp the muscles of the limb. Plaster-of-paris splints are made by the application of crinolin gauze bandages impregnated with finely divided plaster. The limb is first wound with short wadding and then the plaster rollers applied. The method does not give in all cases a certain definite support. Dr. Judson says, in regard to it: 'It may be an exaggeration, but it conveys the idea, to say that a plaster-of-paris or silicate splint, applied to the leg or thigh, contains a mass of jelly in which the femur is but little restrained from motion.' and in a degree this is true of all stiff bandages." The above statement would be more exact if it said that plaster-of-paris, applied over a limb swathed in cotton batting, as it directs, *never* gives fixation. Absolute fixation of the knee-joint is easily obtained by bandaging on the limb splints molded upon it, and made from wood-plastic material. This material is applied directly next the skin, and there is no padding whatever to impair its fixation properties. (See article in the *Boston Med. and Surg. Jour.*, Aug. 31, 1899, entitled "A Safe and Quick Method of Joint and Bone Fixation.")

The wood-plastic material, when suitably cut and moistened with water, can be molded and bandaged upon the limb, producing immediate fixation.

Besides fixation of the joint, protection for it is necessary, i. e., the joint should not be allowed to bear weight. Rest in bed would solve the protection problem, but such recumbency would violate what has been set down as an essential, the constitutional treatment. This treatment requires that the patient be out in the fresh air and sunshine as much as possible. Therefore, only in cases of double knee-joint disease is recumbency to be considered, and even in these cases, a box-cart can be easily constructed that will enable the child to get fresh air and amusement without inconvenience.

There are two methods of giving protection to the knee-joint during locomotion. One is the use of crutches, the other the use of a Thomas knee-splint. In both methods, a raised-sole shoe is used on the foot of the sound limb, to raise the patient so that the diseased limb will not reach the ground. Children over 6 years of age can generally get along with the use of crutches. Younger children do better with the Thomas splint. This well-known contrivance transmits the body weight from a collar encircling the groin, to a ring under the foot, by means of iron rod uprights, one on the inside, the other on the outside of the limb. When properly applied no weight is borne by the diseased joint in locomotion.

The Thomas splint is only for protection, and not fixation. It is a form of perineal crutch, and the knee should be free in it, as its position in relation to the knee must change when its crutch function comes into play. Some orthopedists use it for fixation. The attempt to use an apparatus that changes its relation with the knee-joint every time it bears the body weight, for fixation of the joint, shows a misappreciation of its correct value.

Often when the patient is brought to us with acute tuberculosis of the knee-joint, the knee is already fixed in a flexed position. We can straighten such limbs gradually or at once. In the latter case an anesthetic should be given. Immediately upon its reduction, wood-plastic splinting can be bandaged upon the straightened limb and its corrected position maintained. In case a gradual reduction be decided upon, and this is often preferable because the gentler method, the limb can be mechanically fixed with a wood-plastic splint molded upon it in the position we find the limb. The correct shape of the splint-blank can be obtained by cutting a piece of paper in such fashion that it will be along the inside of the limb and embrace it from near the perineum to the ankle. The splint-blank cut after this pattern is moistened with water and bandaged snugly to the limb. After the joint is thus kept quiescent for ten days, upon removal of the splint, it will be found that the angle of extension of the knee can be increased several degrees. The joint should be fixed in its new position, by means of a newly-molded splint, and every ten days or so the process should be repeated until the limb is straight.

*Constitutional Treatment.*—The diet is important. No tea or coffee is to be given, but boiled milk, graham bread, fresh meats, well-cooked greens, and fresh eggs *ad libitum;* no cakes or candies between meals; both can be allowed at meals, that is, after the substantial portion of the meal is finished, as they are then food.

There must be plenty of sunshine and fresh air, and for medicine, 20 to 30 drops of beechwood creosote can be given, mixed well in a large wine-glass of sweetened water, three times a day. The urine of the patient should be noted while giving this, and if it becomes dark green in color the medicine should be stopped. This may have a detrimental action on the bacilli, but of its therapeutic value in joint tuberculosis I am not prepared to treat. When given as directed, and its administration watched, it is harmless, if not really beneficial.

It is necessary to treat tuberculosis for a period of two years, generally; the milder cases in the fairly robust get well sometimes in the short period of six months. The return to the functional use of the joint must be tentative and gradual. The raised-sole can be lowered and some weight be allowed to bear on the affected limb. After careful watching the splints can be removed and more latitude allowed in the use of the joint. Should signs of tenderness in the joint recur, fixation and protection must again be resorted to until all signs of trouble have subsided. Then again a tentative use of the joint may be permitted. The patient should be under further observation for a year.

I have not spoken of the treatment of abscess. Its occurrence in a properly treated case is very rare. Should it occur, every opportunity for its absorption should be given. In case it does not become absorbed and threatens opening, the thorough cleansing of the abscess cavity should be attempted and its healing brought about by the ordinary surgical procedure.

### DIAGNOSIS AND TREATMENT OF TUBERCULAR HIP-JOINT DISEASE.

*Diagnosis.*—The early diagnosis of hip-joint disease depends, for the most part, upon a delicate manipulation of the suspected limb, and in some cases is not easy. Limitation of the normal motions of the hip-joint is the chief diagnostic mark. Hilton did not give this sign the prominence it merits, though he recognized it, for he states (p. 344, "Rest and Pain," London, 1896): "Recently I saw a lady who was thought to have hip-joint disease on the right side. I examined the hip-joint, and there was certainly nothing wrong; it might be rolled about in every direction without pain."

This limitation of motion is due to involuntary muscular spasm, caused reflexly by irritation in the joint. Therefore, when examining a child its confidence must be won, so that the little one becomes passive during the examination. Otherwise it will be impossible sometimes to distinguish between the voluntary and involuntary muscular action of the child. The child should be examined while stripped, lying upon a padded table, or upon a mattress. With the child lying upon its back, the motions of flexion, adduction, abduction, and rotation of the thigh flexed at right angles to the body may be tested and compared with the same motions in the normal limb. Limitation of the motion of extension is best obtained by having the child lie upon its abdomen. With one hand, grasp the leg and bend the thigh upward, while the other hand rests on the sacrum to determine by its motion when the extension of the hip-bone ends and the pelvis commences to move with it. Comparison should be made with the extent of extension obtainable in the other limb. Any limitation of motion is pathognomonic of hip-joint disease, and the case should be treated as such.

A limp in walking is another early sign of hip-joint disease. It is always present, but sometimes in a degree so slight as to be hardly detected. Gibney briefly gives the other signs and symptoms of incipient hip disease as follows: "Change in nates, flattening for instance; loss or shortening of the ilio-femoral crease, atrophy of the limb, periarticular tenderness, night cries, the typical scream, a history of an insidious invasion, and persistence of the limp." While the diagnosis generally is easy, in some cases it is extremely difficult to differentiate a case from Pott's disease. In some cases of Pott's disease, those where irritation of the psoas muscle is prominent, we have a marked limitation of the motion of extension in the hip. In such cases deep palpation, with the thighs flexed, will generally demonstrate an abscess, even when quite small (Gibney). In Pott's disease there is also a lumbar rigidity—only exceptionally present with very acute hip disease. Simple synovitis of the hip-joint is very rare in children; its treatment is that for early hip-joint disease—fixation.

Rheumatic synovitis is rarely present in the hip-joint alone. A comparatively high temperature and pulse are the differential features.

Poliomyelitis rarely simulates hip disease. There is pain, tenderness, and immobility of the whole limb. There is a quick atrophy of it, and in the later stage of the disease no limitation of motions, but abnormal mobility in all directions.

*Treatment.*—It has not, to my knowledge, been remarked, but none the less it is the fact that the hip-joint is a much smaller joint than the knee-joint, and consequently there is a smaller field for the development of disease. It would appear therefore that incipient tubercular disease of the hip-joint should be at least as amenable to treatment as knee-joint disease, if not more so.

The essentials of treatment for tuberculosis of the hip-joint are the same as for the like disease of the knee-joint—fixation, protection, and constitutional treatment. Some orthopedists add traction, but it is only necessary to reduce the deformity present in acute cases and due to spasmodic contractions of the muscles. Traction, applied by means of a weight and pulley attached to a bedstead raised ten inches at its lower end, is serviceable in these cases. This is the simplest method of applying it. As soon as the limb is straightened there is no further need of traction. Fixation is then the necessary treatment.

The variety of apparatus in use for the treatment of hip disease is astonishing. Almost every orthopedist has a hip splint that is designed to meet the indications calling for treatment in a manner more perfect than any other. It is a question, however, if any better results are secured in the treatment of the disease to-day than John Hilton obtained with his simple appliances of thirty years ago.

The essential treatment is, as I have said, fixation. A simple and efficient method of obtaining it will be described further on. Before describing it, the opinion of Bradford and Lovett upon the plaster-of-paris method of treatment will be quoted. In their book on Orthopedic Surgery (p. 301, 1st ed.) they state: "Plaster-of-paris bandages furnish an imperfect form of fixation, as they do not firmly hold the trunk above the pelvis and owing to the possible motion of the lumbar vertebræ, the pelvis is able to move within the bandage, allowing motion at the acetabulum and distortion of the limb. . . . Furthermore the method is a clumsy and uncleanly one. . . . This method of

treatment is only to be applied as a temporary measure, and is not satisfactory when continued over any length of time." These writers are correct in regard to the poor fixation furnished by a plaster-of-paris bandage. They omit to mention, however, the chief cause for the poor fixation, and that is the swathing of the limb and body in cotton batting before the application of the plaster bandages.

With wood-plastic material an efficient fixation of the hip-joint can easily be produced. The technique is as follows: A piece of strong paper is cut so that it embraces the side of the body above the affected hip and the thigh, the pattern extending from just below the axilla to the knee. The posterior edge of the pattern should lie against the spine, and cross over the buttock and pass along so as to lie over the inner aspect of the thigh. The anterior edge should lie almost to the middle line of the body, and pass over the middle third of Poupart's ligament, and pass somewhat inward and along the junction of the anterior and inner aspect of the thigh. This paper pattern can be laid flat upon a sheet of wood-plastic material and the correctly shaped splint-blank can be cut from it. In splinting the hip a double splint-blank is advisable. The two blanks can be moistened with water—not soaked—and laid together and then bandaged snugly upon the body and thigh, thus producing an efficient fixation of the hip-joint. The manner of banding this splint form upon the body is important. The roller should be applied first so as to embrace the body around both hips for several turns; then in figure-of-8 style around the splinted thigh and body; then down the thigh; finally a bandage should be applied around the body and upper part of the splint.

Protection is furnished the immobilized hip-joint by keeping the child's limb off the ground, as by the use of crutches and a raised shoe. The constitutional treatment is the same as that already described for a patient with knee-joint disease. Treatment, in an incipient case, should last from one to two years. The return to the normal use of the joint should be tentative and gradual, following in similar lines the plan already described in the treatment of knee-joint disease.

## COUGH DUE TO REFLEX IRRITATION IN THE UPPER AIR-PASSAGES.*

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In the daily routine of practice, probably there is no affection more frequently met with by physicians than coughs, and in many cases they are puzzling, harassing and stubborn.

Even after nearly the whole range of indicated pharmacopeial medicines have been applied, the cough still remains as before, excepting with temporary relief. The patient becomes alarmed, fearing pulmonary complications, although assured by the physician that no lesions or symptoms exist in that region.

Mayo Collier[1] says that "cough as a symptom or indication of some irritation in the upper or lower respiratory tract or other parts, is the commonest affection the human frame is subject to." Such cough, however, is oftener extrapulmonary in origin and quite innocent in its nature, and a highly commendable service is rendered and the dignity and scientific value of medicine exhibited when, by thorough and accurate examination, the extraneous cause is discovered, skilfully removed and the cough thereby cured. A shadow of anxiety is lifted from the lives of both patient and friends, and they made happy.

Very few organs of the human organism have escaped the Esculapian in his diagnosis as to the cause of reflex cough. For example, there are coughs known as uterine, splenic, stomachic, ear, and others too numerous to mention. Mayer[2] quotes a case of a large plug of cotton pressing on the ear-drum for many months, causing the most violent cough. Removal gave complete and permanent relief.

*Cough Always Reflex.*—Many authorities consider all involuntary coughs reflex. Roe[3] says that cough is always a reflex action. Although in the last decade investigation has shown to the contrary, many still maintain that cough is purely neurotic in character, while it is true that there exists a so-called nervous cough, as indicated by Koch[4] in the following conclusions: 1. The existence of a true nervous cough can not be denied. 2. This cough, emanating from a nerve center, may be diagnosed as such when abdominal and thoracic organs are intact, when one can exclude hysteria, whooping-cough and beginning phthisis. 3. The monotonous, involuntary cough, always the same in each patient, forms the principal symptom in this affection. 4. Medication fails. They are cured spontaneously by a sea voyage or a trip to the mountains.

Notwithstanding many contend that neurotic coughs exist; nevertheless, are not all produced by irritation in one way or another, direct or indirect, referable to the larynx, no matter from whence its source? The question may be asked: How about cough in a large gathering? when one does the act, others immediately follow. Is it not from the fact that the cough of one reminds others of an irritant larynx, thereby causing the cough? The same principle applies to yawning, mere suggestion by seeing or knowing that another is doing it.

Is not a reflex cough caused by irritation of the larynx direct or indirect? Can a cough exist without irritation? I think not. Therefore, I believe that all coughs are reflex. According to some of the older practitioners, cough is always a disease and not a symptom, but have not modern methods and research proved the contrary, viz., that it is only a symptom caused by a changed respiratory act produced by said irritation?

A long experience in the exclusive treatment of affections of the nose, throat and ear has convinced me that a large number, if not the majority, of coughs are caused by some abnormality in that section.

Skilful manipulation and familiarity with reflected light and the requisite special instruments are of the highest importance. These, with cocain in trained hands, will be sufficient to aid in recognizing many of the conditions in the nose, throat and ear capable of producing cough.

Thompson[5] says that "there are fourteen varieties of useless coughs," and as Mayer[2] has aptly put it: "These fourteen coughs must have many subdivisions of a hydra-headed nature which arise to harass the investigator." Owing to this fact, it is often difficult to discover the sources of these reflexes, but when once ferretted out, treatment is usually simple and satisfactory.

I believe that Hack[6] and Seiler,[7] in the same year, were the first to call attention to the production of cough by nasal disease, but J. N. McKenzie[8] was the pioneer in directing attention to the great frequency of cough as a reflex from intranasal disease, and that it

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

could also be produced by artificial irritation even when there was no apparent pathologic alteration in the nasal tissues. He showed that cough could be cured by proper nasal treatment. Since then, a great many have demonstrated the above facts by illustrated cases.

*Reflex Causes.*—A list of the principal reflex causes may be given as follows (Barnhill[9]): 1. In the ear, impacted cerumen, foreign body or cholesteoma. 2. In the nose, hypertrophies, septal spurs, polypi, foreign bodies and the crusts of atrophic rhinitis. 3. In the nasopharynx, adenoids, polypi or other growths. 4. In the pharynx, elongated uvula, granular pharyngitis, hypertrophy and other diseases of the tonsils. And to this may be added atrophic pharyngitis and viscid mucous in pharynx. 5. In the glosso-epiglottic spaces, hypertrophied lingual tonsils, varix or a too greatly curved epiglottis. 6. In the larynx, presence of mucus or pus, congestions and thickenings of the mucous membranes, papilloma or other growth. 7. In other parts of the body, irritation of the vagi and sympathetic are the most frequent causes.

The causative location of a cough is of the utmost importance. A careful examination of the lungs is absolutely necessary, however much the symptoms may point to an extrapulmonary cause, after which a further examination could be performed with less prejudice. Even if bronchial catarrh or bronchitis is discovered, it may be sufficient to account for the cough, but are not the diseases in themselves in the greater majority symptoms of something else, which rapidly subside when that something else is found and removed? Mayo Collier[10] says that the throat, nasal chambers, postnasal space and upper larynx are in immediate and direct communication with every cranial nerve coming off from the brain or medulla oblongata, as well as the whole of the upper cervical nerves and the sympathetic. "Therefore," says Collier, "it is not surprising that affections of the nasal chambers, etc., involving a suspense or curtailment of the physiological functions may and do affect and involve parts most distant. For instance, a patient had suffered for two years from aphonia, and on examination, an anterior nasal obstruction was found and removed, and in fourteen days, there was complete return of the voice. There had not been the smallest evidence of hysteria in this case, and strong faradic currents had produced no effects.

A most searching examination of the upper respiratory tract must be made. Percussion and auscultation of the chest for the detection of abnormal sounds is not sufficient, for a physician may or may not find enough evidence of trouble to account for the cough. The absence of any discoverable lesion in the lungs, together with the general appearance of the patient, who may or may not be robust, the family history which may be good, and the character of the cough will indicate pretty clearly that the cough is not from the chest, and should therefore be diligently and skilfully sought for in the regions most likely to be affected.

The statements of the patient as to location are not usually to be relied on, although honestly given, as the point of irritation may be quite distant. Recently, some most excellent articles on this subject have been presented and discussed, among which may be mentioned Beverly Robinson's[11] "Enlargement of the Lingual Tonsil as a Cause of Cough," Emil Mayer's[2] "Some Unusual Causes of Cough," and Barnhill's[9] "Cough Due to Causes Outside of the Lungs."

Possibly cough produced by the reflexes from the glosso-epiglottic spaces is more frequent than from any other cause outside the lungs. We must examine closely here for varicose veins or other growths, enlarged lingual tonsils in which the tip of the epiglottis may become buried or irritated by contact, or a too great curvature of the epiglottis causing its crest to come into contact with the base of the tongue, the friction thereof producing cough and a desire to clear the throat, or other reflexes not mentioned in this paper. Dr. Robinson has shown very clearly that this condition may exist at all ages; however, not often in young children or young men, but quite frequently in young unmarried women. However, after about thirty years of age, it is met with quite frequently in both sexes, but always oftener in the female.

Rice[12] thinks that the reason we do not find more trouble from this condition in young children is from the fact that the epiglottis is placed so far back in young children that it is less likely to be irritated by the lingual tonsil and, in fact, it is rarely ever enlarged to any extent and, therefore, there is no compact. It is true that I have seen enlargement on the base of the tongue of children as young as 2 years, but rarely until after the fourth or fifth year.

Contemporary with disease of the pharyngeal and faucial tonsils, a pathologic condition of the lingual tonsil is also quite common, for the reason that the chain of glands surrounding the fauces is composed of the same kind of tissue, and the influences that cause the enlargement and disease of one collection of glands will, at the same time, affect the others. In a great many cases of spasmodic, persistent and even continuous cough, the cause is contact of the lingual tonsil and epiglottis, and this cough will persist notwithstanding all forms of medication have been tried, until the diseased lingual tonsil is relieved. The best way to accomplish this is removal, as far as possible, by the lingual tonsillotome, and in cases where the mass is too flat, often a portion may be excised by a stiff wire snare on the curve. If both of the above means fail, then we may have recourse to the galvanocautery for this and varicose veins.

Roe[3] says that one of the most fruitful sources of cough above the larynx is to be found in glandular hypertrophy at the base of the tongue.

About two years ago, Mrs. B., 32 years of age, was referred to me by her family physician for my opinion as to the cause of her cough, which had persisted for years, often weeks at a time. Her physician pronounced the lungs free from any pathologic process, and this was confirmed by my examination. He had treated successively her nose and rhinopharynx, but the cough continued, giving her much alarm. I found a mass of hypertrophied tissue in the glosso-epiglottic space, reaching almost as high as the epiglottis, and removed it with the tonsillotome, at several sittings, resulting in complete freedom from cough ever since. I might quote a number of such cases, but one illustration is sufficient.

Furet[13] says reflex cough may be due to any pathologic alteration of the tonsil, owing to the involvement of the tonsillar plexus of nerves.

In almost any part of the nasal passages, cough may be caused by irritation, either induced or pathologic. We must look out for sensitive areas, septal spurs, hypertrophic and atrophic rhinitis, both of the septum and turbinates. There is, however, no unanimity of opinion as to where are situated the most frequent causes of cough. However, among rhinologists, generally the consensus of opinion seems to be that the posterior ends of the inferior turbinates and that of the septum and

inner surfaces of the middle turbinated bodies and that part of the septum lying opposite, are responsible for most of the coughs from nasal causes. In my practice, I have seen a few cases of severe cough from nasal hypertrophies which were cured by application of the proper treatment.

An opera singer, aged 35, came under my care for hoarseness, at times so pronounced that her voice could scarcely be heard. A severe cough also racked her frame, could not be accounted for and yielded only temporarily to sedatives. An examination revealed a normal nares right and left, excepting a large posterior hypertrophy of the inferior turbinated body pressing on the septum, middle turbinated and floor of the nose, removal of which effected a complete restitution of voice and freedom from cough and rhinopharyngtis. This case indicates how slight a pathologic change may produce great trouble.

Often sensitive areas are found on the convex surfaces of septal deflections and spurs, and in general hyperesthesia of the nasal mucous membrane, permitting the sympathetic ganglion to have a full and exaggerated sway.

Seven years ago, a gentleman came under my care to see if he could get relief from severe asthma and cough of long duration. Antispasmodics and restoratives had given him but transitory relief. The whole upper air tract seemed in excellent shape, with the exception of an exceedingly hyperesthetic condition of the nasal mucous membrane; touching of this produced a most violent cough which ceased on slight cocain anesthesia. The patient was simply treated with silver nitrate and the galvanocautery, with excellent results.

Vasomotor rhinitis, nasal polypi and the later stages of acute coryza are responsible for much cough. Palmer[14] states that anatomical investigations have shown that the anterior region of the nasal cavity has a nervous connection with the larynx, first through the nasal nerves, then the ophthalmic through the Gasserian ganglion to the sympathetic, through this nerve to the laryngeal and its terminal filaments. On this account, many disorders are associated with distinct pharyngeal disturbances.

Cough has been attributed to the dry crusts in atrophic rhinitis, but not to my knowledge has a case come to my notice.

Adenoids in the pharyngeal vault and the thick, tenacious mucus in chronic nasopharyngitis is a frequent cause. Pharyngitis sicca and a follicular or granular pharyngitis are responsible for this reflex cough.

Elongation of the uvula coming into contact with the tongue, or papillomata of it, enlarged tonsils of any variety may cause cough, but those most liable to do so may be caused by enlargement and prolongation downward of folds or projections from the faucial tonsils which come into contact with the sides of the epiglottis and tongue in such a way as to cause cough by its irritating pressure.

Cryptic tonsils filled with concretions and adhesions to the pharyngeal pillars, a foreign body in the larynx or any pathologic condition, as inflammation, ulceration, papilloma, etc., may give rise to most violent coughing.

The conclusions arrived at by myself can not be better classified than by giving those stated by Mayer.[2] A cough is reflex in its origin: 1. When it is spasmodic, practically constant, without or with but little expectoration and temperature. 2. When the physical signs of pulmonary disease are absent. 3. When it persistently resists all medication for permanent relief. 4. When the general health remains comparatively undisturbed, and 5, when upon removal of the cause it promptly ceases.

Often, in conjunction with the local, general treatment as well is necessary. Digestion and alimentation, and all neurotic conditions should have the most careful consideration.

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# Clinical Report.

## APPENDICITIS IN A CHILD LESS THAN TWO YEARS OLD.

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The history of the following case is of interest chiefly on account of the age and as illustrating the necessity of care in examining the abdomen of children in disease of the bowels. When a child is too young to talk it is an easy matter to overlook the induration that might occur in a case of appendicitis.

M. H., aged 1 year and 11 months, had been fretful and peevish for a few days before I was called to see her. At the time of my first visit she was suffering from intestinal derangement, with tongue coated, stools green and on her face an ecthyma. She had no temperature, but had vomited. I gave her calomel and regulated the diet. Three days afterward the face and tongue had improved but the stools were still green, had a bad odor, and she had a temperature—by the groin—of 101F., with the bowels very much distended with gas. There seemed to be tenderness in the right iliac fossa, although that fact was hard to determine on account of pain on pressure. However, by a careful observation, I could detect a different kind of cry when I pressed over the region of the appendix, and it was possible to detect some induration; by comparing the two sides this was found to be very marked. The grandmother had noticed, in holding the baby, that when the thighs were flexed upon the abdomen she seemed more comfortable and cried less. This child then had the cardinal symptoms of appendicitis, viz., vomiting, tenderness at McBurney's point, induration, temperature and pain. She never cried as though in acute pain, but had moaned rather constantly.

Although I was positive as to the diagnosis I would not advise an operation without an examination under an anesthetic, as the child's constant crying in the presence of strangers rendered a careful examination exceedingly difficult.

At the West Side Hospital, under an anesthetic, a tumor could be very easily mapped out, and I operated. Cutting into the abdominal cavity close to the induration, I walled off the intestines with iodoform gauze, then separated the adhesions, when a cupful of old, ill-smelling pus escaped. No attempt was made to find the appendix, and I packed the abscess cavity with iodoform gauze. The child's temperature gradually dropped to normal, she was taken home upon the fifteenth day, and one month after the operation seemed as well as she had ever been.

103 State Street.

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**Dr. William Osler**, at his clinic, spoke of a case in the Johns Hopkins Hospital of acute miliary tuberculosis where the diagnosis was made by lumbar puncture, an enormous number of tubercle bacilli being found in the exudate. It is always mistaken for typhoid fever and this was the first case in which the diagnosis had been thus made.

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## THE HEMOLYMPH GLANDS.

An important contribution to the study of certain, little known, but probably very important structures known as hemolymph glands is published by A. S. Warthin of Ann Arbor. Because important problems relating to blood formation and to the pathological conditions in the blood and the blood-forming organs appear to be closely connected with these glands, it may be well to briefly review the principal facts in Warthin's article.[1] The various anemias and leukemias, as well as the histogenesis of the different blood-corpuscles under normal and abnormal conditions are exceedingly obscure and poorly understood processes, so that the opening of new lines of investigation at once excites interest.

It appears that H. Gibbes, in 1884, was the first to describe the presence in the human subject of glands resembling lymph glands, but differing from them in that they contained blood-sinuses in place of lymph spaces. The glands briefly described by Gibbes were found between the renal artery and vein. In 1890 Robertson gave a more detailed description of these glands and gave them their present name. His studies were based chiefly on the hemolymph glands of the sheep and bullock. In the sheep some 300 or 400 of the little glands are found in the prevertebral fat. Clarkson, in 1891, and Gibbes in 1893, confirmed the observations of Robertson. Vincent and Harrison, in 1897, noted the presence of these structures in a variety of animals, and pointed out their striking resemblance in structure to the head-kidney of certain Teleostean fishes. Finally, Drummond, in 1900, reported further studies of the glands in animals. Such in mere outline is the brief history of the hemolymph glands. Hardly any work has been done on these organs in man. Warthin's investigation includes 80 autopsies, which furnished him with abundant material of both normal and pathological character. If we follow him and regard "the presence of a sinus containing blood instead of lymph as the essential feature of a hemolymph gland, such glands are found to occur in greatest numbers in the prevertebral retroperitoneal region near the great vessels, near the adrenal and renal vessels, along the brim of the pelvis, in the root of the mesentery, but rarely extending far out into it, and still more rarely in the omentum and epiploica. They are of rare occurrence along the thoracic vertebræ and in the mediastinal tissues, occurring more frequently in the thymus region. Next to their occurrence in the retroperitoneal tissues they are found in greatest numbers in the cervical region, below and behind the lobes of the thyroid in association with the parathyroids." They vary much in size and number and they are remarkable for their abundant blood-supply. Ordinarily they are recognized only with difficulty on naked-eye inspection, because the blood sinuses are empty after death. When the sinuses are distended the glands may be mistaken for hemorrhages and the larger glands show red points or lines. On account of their small size the number of hemolymph glands is very difficult to determine; Warthin estimates their relative proportion to ordinary glands as 1 to 20 or 1 to 50.

Warthin finds that there are two distinct types, namely, the splenolymph glands and the marrow-lymph glands, with an intervening series of transition forms. The splenolymph glands show a subcapsular blood-sinus from which branches pass inward along the trabeculæ, separating masses of lymph adenoid tissue and empty into a central sinus. In parts these sinuses are devoid of endothelial lining, so that the circulation may be described as sinusoidal. The cells of the lymph-adenoid tissue are for the most part lymphocytes, but other cells, mononuclear, polymorphonuclear and eosinophile also occur. A varying amount of pigment is found in the reticulum, and also mononuclear phagocytes containing disintegrating red blood-cells. Peculiar hyaline spherules occur, both free and within cells, representing no doubt products of red cells. The phagocytes are especially numerous in the central sinus. The chief function of the splenolymph glands seems to be to destroy red corpuscles and to furnish new leukocytes.

The marrow-lymph glands are less common and have been found only in the retroperitoneal tissue. They are flattened, vary much in size, sometimes reaching a length of four to five centimeters. They also contain a subcapsular, peripheral blood-sinus from which branching sinuses pass inward. All sinuses are traversed by a coarse reticulum through the meshes of which red blood-cells circulate. Between the sinuses lie masses of lymphoid tissue, among the cells of which are giant cells of the type seen in the bone marrow. Phagocytes are less numerous. Warthin is not prepared to state definitely the functions of this variety of hemolymph gland, but the structure certainly points to some connection with the blood.

The hemolymph glands are subject to the same general pathological processes as ordinary lymph glands. In a case of pyemia Warthin found the marrow glands large, with numerous mononuclear eosinophiles and nucleated red blood-cells in the lymphoid tissue and in the sinuses, numerous dividing lymphocytes being seen. In secondary anemia evidences of increased destruction of red cells were seen in the splenolymph glands. In

1. Jour. of Boston Soc. of Med. Sci., 1901, v, 414-436.

a case of fatal anemia from epistaxis the retroperitoneal hemolymph glands were changed greatly and resembled much in structure the so-called lymphoid marrow. In an instance of splenic anemia with death after splenectomy the glands in the mesentery and retroperitoneal tissue showed changes pointing directly to compensation for the spleen. In a case of lienomyelogenous leukemia the sinuses of the enlarged retroperitoneal hemolymph glands contained numerous giant-cells like those in marrow, mononuclear eosinophiles, myelocytes, and large varieties of leukocytes as well as nucleated red cells. In this case and in the case of fatal epistaxis the marrow-lymph glands appeared as lymphoid marrow. Hence there seems to be a very close relation between the hemolymph glands, the marrow and the spleen, the glands appearing to compensate for these organs when extensively diseased. Many interesting problems are suggested by Warthin's important observations, and the results of further studies will be looked for with eagerness.

## THE REPORT OF THE COMMITTEE ON ORGANIZATION.

At the last meeting of the AMERICAN MEDICAL ASSOCIATION, on the recommendation of the General Executive Committee, two resolutions were adopted, one creating a committee on the organization of the profession throughout the United States, and to consist of one from each state and territorial society represented in the ASSOCIATION; the other creating a committee of three to prepare plans in detail for recommendation to the large committee and to take such action in the premises in regard to a complete reorganization of the profession as it might think advisable. The large committee is called to meet at St. Paul on Monday, June 3. The preliminary report of the smaller committee is published in this issue of THE JOURNAL. In this report the preliminary committee has outlined a plan which covers the state and its subordinate societies, to be considered by the large general committee. It has also outlined a plan for the reorganization of the AMERICAN MEDICAL ASSOCIATION itself.

Stripped of all verbiage, the report recommends the following changes in the organic law of the AMERICAN MEDICAL ASSOCIATION: 1. There is at present practically no limit to the number to which the delegate body may attain; it is recommended that the delegate body be limited to 150, and that it be given a distinctive name; viz., The House of Delegates of the AMERICAN MEDICAL ASSOCIATION. 2. All affiliated state societies, and all district and local societies recognized by an affiliated state society, are now entitled to send one delegate for every ten members; it is recommended that the right to send delegates be given only to the state societies, in proportion of one for every 500 members or fraction of that number. 3. Each Section shall be entitled to one representative. (The Medical Department of the U. S. Army, the Medical Department of the U. S. Navy, and the U. S. Marine-Hospital Service, are each entitled to send one representative at the present time, and this right is continued.)

The above practically covers the changes recommended. In some respects these may seem radical, although they are merely going back to the original plan on which the ASSOCIATION was founded, for, as organized, the legislative and business affairs were a function of the delegate body, this small in number and representative in character.

The House of Delegates, aside from the representatives from the thirteen Sections and from the three government services—sixteen in all—would therefore be created by the state societies and would be representative of the whole profession, bringing the state societies in direct touch, not only with the AMERICAN MEDICAL ASSOCIATION, but with each other. It would be a body in which the state societies would be federated; its functions would be the same as those now belonging to the present delegate body—neither more nor less.

The Committee, in its Argument, has discussed every phase of the question of organization, and as the subject is an important one, this should be read, not only by every member of the AMERICAN MEDICAL ASSOCIATION, but by all who are interested in a more complete organization of the profession than at present prevails.

The subject of organization is, to use a common expression, "in the air." Nearly every state society which has met during the past few weeks has taken some action in regard to the matter, in each instance there being an evident desire to take up the subject in a systematic and in a business-like manner. As regards the ASSOCIATION itself, there is a general feeling that a change in its methods of conducting its business affairs is very desirable. And, while it is possible that every minor detail of the recommendations may not be acceptable to all, the proposed change from an unwieldy and fortuitous legislative body to a small and representative one will certainly meet with general endorsement.

## THE SYMPTOMATOLOGY OF OCCLUSION OF THE MESENTERIC ARTERY.

The diagnosis of abdominal disease is notoriously difficult, and often it does not extend beyond the limits of probability. Avoidance of error can be hoped for only from careful observation and intelligent interpretation, together with a full appreciation of the conditions that may be present. Knowledge in this direction has been enlarged in recent years by investigations especially with regard to diseases of the appendix and of the pancreas, and light has been thrown also upon the condition of occlusion of the mesenteric arteries, occasionally found after death and exceptionally recognized during life. The symptoms of this disorder may, it has been observed, appear in two diametrically opposite forms, either with bloody diarrhea or with manifestations of intestinal obstruction.

An interesting and instructive case presenting some unusual features is reported in this connection by Schnitzler.[1] The patient was a woman, 55 years old, who had for years suffered from obstinate constipation and from attacks of abdominal pain, which for a period of six months had increased in intensity and acquired a colicky character. There was for a time vomiting, and there was also said to have been jaundice. Inasmuch as the patient urgently demanded relief, by surgical means if necessary, and as the possibility of gallstones existed, operation was undertaken, but beyond the presence of biliary calculi in the gall-bladder and adhesions of the latter to adjacent intestine, nothing noteworthy was found. Improvement, however, failed to take place, and death occurred six weeks later, after a mushy dark stool was passed spontaneously. Postmortem examination disclosed occlusion of the mesenteric arteries, probably of some months' standing, with signs of hemorrhagic infarction. The abdomen contained 500 c.c. of partly clotted and partly liquid blood. Loops of small intestine were adherent and deeply injected and the seat of numerous hemorrhages. The mucosa of these parts was swollen and discolored, and in places necrotic and ulcerated. The great omentum also was the seat of numerous hemorrhages. The spleen was enlarged. The aorta exhibited patches of fatty degeneration of the intima. The orifice of origin of the superior mesenteric artery from the aorta was narrowed and the vessel itself was firmly occluded for a distance of 1 cm., by a fibrous thrombus. Further on the lumen was clear. The inferior mesenteric artery exhibited similar alterations. The explanation of the phenomena in this case is probably that as a result of cardiac enfeeblement occlusion of the mesenteric arteries took place. A collateral circulation was established, but with increasing weakness of the heart, even this failed, and hemorrhagic infarction followed, with death. The abdominal pain of the last few months may be attributed to the vascular occlusion, and its periodic exacerbation is comparable with the condition described as intermittent claudication, or arteriosclerotic intermittent dysbasia, in which, as a result of narrowing of the lumen of the arteries of the lower extremities in consequence of sclerosis, the circulation may be sufficient when the patient is at rest, but becomes insufficient on attempts at locomotion, with muscular weakness and possibly with pain and spasm.

1. Wiener Med. Woch., 1901, Nos. 11, 12.

### TYPHOID INFECTION OF EXISTING LESIONS.

Although possibly in more common employ in Great Britain than elsewhere the name enteric fever is not likely to replace that of typhoid fever, in spite of the official adoption of the former by the medical department of the British military service. In the first place, the lesion of the intestine can not be considered the essential feature, though perhaps for the present it must be looked upon as the most distinctive. This peculiarity of localization is perhaps contingent upon the portal of entry rather than upon any specific susceptibility of the intestinal glandular apparatus to infection with the typhoid bacillus. Typhoid fever is thus not a disease of the intestine per se, as this may, in fact, escape, and, moreover, the distinctive typhoid symptoms are attributable to the activity of the toxic products of the bacilli, while metastatic distribution of the latter is responsible for some of the complications.

Further, the qualification "typhoid" has received universal acceptance as applicable to the specific bacillus, and it would therefore appear most appropriate to designate also the disease to which it gives rise. Typhoid bacilli have occasionally been found in lesions long periods of times after attacks of typhoid fever—even many years subsequently, and recently a case has been reported by Caton and Thomas,[1] in which typhoid infection of a pre-existing lesion took place, typhoid bacilli being found in conjunction with an attack of typhoid fever in a partly calcified subdiaphragmatic abscess that had evidently been present for many years. The patient was a man, 30 years old, who in the sequence of an attack of typhoid fever exhibited irregular fluctuations in temperature and pulse-frequency, with some uneasiness in the left hypochondrium and the development of dulness on percussion over the base of the left lung. Introduction of a trocar was followed by the escape of thick, greenish-yellow pus, and empyema being suspected rib resection was practiced and the pleural cavity exposed, but only a small quantity of clear serum was found and evacuated. On palpating the diaphragm through the wound-opening a hard swelling was detected below the left costal arch, and this was found, on enlarging the wound, to be due to a large subdiaphragmatic abscess, roughly spherical in outline, with calcified walls, and five inches in diameter. A part of the wall was removed and the cavity irrigated, but the operation could not be completed on account of the debilitated state of the patient, and drainage was provided. After the lapse of some seven weeks a secondary and more extensive operation was undertaken, from which the patient in due time made a good recovery. In the pus first obtained from the abscess typhoid bacilli were found, together with broken-down pus-cells, fatty detritus and large quantities of cholesterin. The bony plates forming part of the wall of the abscess were one-eighth of an inch thick. The abscess was evidently of long standing, and it is thought to have represented the remains of a hydatid cyst in the left lobe of the liver which had become infected by typhoid bacilli.

1. Liverpool Medico-Chirurgical Jour., March, 1901, p. 64.

### MORTALITY FROM TUBERCULOSIS.

According to some of the accounts of the Canadian Tuberculosis Congress, held a short time ago, the governor-general, Earl Minto, is quoted as saying that tuberculosis causes one-fifth of the deaths in Canada.

If this were true, Canada would be in a bad way. If the statement was made, however, the governor-general, being a layman undoubtedly had his authority from some medical man, and it is a fair sample of many of the reckless general utterances on this subject. There is before us a recent newspaper communication from a physician in which tuberculosis is mentioned as "our most destructive disease, destroying as it does one-fourth to one-third of the population and that in the best period of life." Examples like these could probably be multiplied, so general has become the habit of exaggeration of the mortality and contagiousness of tuberculosis. A disease that causes one-seventh to one-ninth of the mortality is bad enough, and a wholesome dread of it, in so far as it will incite rational precautionary measures, is salutary, but no real good can come in the long run from misstatements that make it nearly or quite twice as fatal as it is. The contagiousness of tuberculosis also is a matter in regard to which some medical authorities need to reform their morals or better inform themselves; while it is a possibility and a real danger to the predisposed, there is little evidence of any frequent or malignant case-to-case infection. There is surely no need of educating the public into a panicky fear leading to acts that needlessly add to the hardships of those already afflicted. This has been done to a certain extent and the medical profession is largely responsible. In the future it would be well for all physicians to do as some have done already—to take care, while describing the dangers of tuberculosis and the precautions needed against them, to use moderation in language and to so qualify their statements as to convey no exaggerated ideas. Still more important than this is the need, not always duly heeded, of strict adherence to fully-established facts.

## FAITH-HEALING HOMICIDE.

Every little while the newspapers contain accounts of deaths occurring under painful circumstances of neglect in the care of Dowieites and "Christian Science" healers. One of the latest is just reported almost from Dowie's Zion itself, and under circumstances that it seems possible may lead to a judicial inquiry. In another case in the same city the court recently refused a Dowieite father the care of his own child suffering from severe burns, and which he wished to remove from medical care. The public is gradually becoming educated as to the dangers to society and to public health that exist in the faith cures, whatever the name under which they pass, and it seems likely in time that with the arousing and enlightening of the public conscience on the subject, there will be found a way to legally prohibit human sacrifices under the pretence of religion. Laws exist on our statute books that it would seem ought to effect this, if duly enforced, but heretofore they have been apparently evaded to a disreputable extent. If they are not sufficiently definite to be effective against such murder they should be made so, but we believe that with a little judicial backbone and common sense they could be made efficient as they are. The fault is not so much with the law as in those who have its interpretation and execution, and some judicial utterances, like that of a Milwaukee judge who could see no difference between "Christian Science" healing and merely praying for the sick, are sadly lacking in a rational appreciation of the true relation of things. Apropos to this question a novel and unexpected support of the antifaith cure side is announced from the humane societies. It is said that they have proposed to investigate the conduct of an adherent of Mrs. Eddy's church who permitted his horse to suffer and die under C. S. D. care. If they do this they will have the hearty approval of the medical profession, which is never and nowhere in favor of useless suffering, even by the most humble of our fellow creatures.

## SURGERY IN EXOPHTHALMIC GOITER.

The dangers of surgery in exophthalmic goiter have not received as yet any large amount of attention, except as regards cases of operation undertaken on the goiter itself. It is perhaps quite generally recognized that patients suffering from this disorder bear anesthetics badly, and that deaths occur from thyroidectomy in this disease that are not readily accounted for by the apparent magnitude and seriousness of the operation. The question of risk in other surgical operations, from the existence of this disease, is hardly touched upon in the text-books. When, however, we bear in mind the general circulatory derangement, the nutritional disorders, the peculiar conditions in the nervous system generally, and particularly those of the cardiac innervation, there would seem to be *a priori* reasons for particular caution before deciding on any serious operative procedures in well-marked cases of this disease. These points are brought out in a recent publication by J. Delprat Harris,[1] of a case of excision of a cystic tumor of the breast in a woman suffering from Graves's disease. The notes given are deficient in detail, but the patient died sixty-eight hours after the operation, which was comparatively bloodless and not formidable in itself, her pulse having been uncountable for a number of hours prior to death. The condition of the heart was the special embarrassment from the first, and Harris suggests that its rapid and irregular action in this disorder possibly signified thin and dilated ventricles; the anesthetic changed at once a condition of chronic compensation to one of acute embarrassment while the unavoidable loss of blood and gastric derangement prevented its being restored, and the patient consequently succumbed. Hence he concludes that serious operations should be avoided in advanced cases of exophthalmic goiter, and if absolutely needed should be preceded by thorough toning up and regulating of the heart's action as far as possible. If this is impossible the question of operation should be reconsidered. The points he makes are worth noting, and it would be of interest to know what has been the experience of other surgeons in operating on cases of this disease for other conditions than that of the thyroid itself.

## BROWN-SEQUARD.

In the latest of its series of articles on the "Heroes of Medicine," the *Practitioner* gives a brief appreciative

1. Brit. Med. Jour., May 4.

biography of Brown-Séquard. It is only a few years since he died and the obituaries then written have hardly yet been forgotten. There are reasons, however, why his life and work can be better written now than then, and it is fitting to again restate the facts of his life and revive his memory. It is not because he will be forgotten, his services to medicine were too great for that to be possible, but because after the lapse of years we can do him better justice in the light of the discoveries that have been developed in the lines he first pointed out. Brown-Séquard may be called the father of scientific organotherapy, and also the discoverer of the internal secretions, two advances in medicine either one of which alone ought to be sufficient to give its originator undying fame. It does not diminish his credit that the most valuable acquisitions in this line have been made by others since his death, or that some of his more sanguine later deductions have not been verified; he first pointed out the way and others followed. It must also be remembered that he was in no way responsible for the ignorant exploitation of his misunderstood statements by quacks and by a yellow press that to a certain extent dimmed his fame in his later days. Even the medical public failed to appreciate the worth of some of his findings, and has had to revise somewhat its estimates of their value. He was all his life an honest and fruitful worker in science, and as the *Practitioner* says, his name will live in the history of medicine as that of one of the master builders of modern neurology. It is a question, however, whether this fact will not be obscured by the greater one that to him we owe the discovery of the internal secretions and to his suggestion the practical application of the discovery to therapeutics. If nothing more should ever come of this than what we now possess in the utilization of the active principles of the thyroid and suprarenal glands he would still have to be counted as one of the great benefactors of mankind. A discovery so striking and suggestive as this has proved to be could hardly fail to be misused to some degree by unprincipled commercialism, but this does not lessen the glory of one who, like Brown-Séquard, never himself sacrificed science for wealth or distinction.

# Medical News.

## CALIFORNIA.

**The board of health** of Alameda has organized and elected Dr. Weston O. Smith, president. Dr. Kate P. Van Orden took her seat as a member of the board.

**Dr. Abijah T. Hudson**, Stockton, on the occasion of his eighty-second birthday, was tendered a banquet by the San Joaquin County Medical Society and was presented with an easy chair.

**The Oakland Board of Health** held its post-election meeting May 9. The new members are Drs. William S. Porter and Peter L. Wheeler. Dr. Oliver D. Haulin was elected president, and Dr. E. von Adelung, health officer.

**Plague** caused the death of a white woman in San Francisco, April 25. Notwithstanding the undoubted existence of the disease in Chinatown, the attitude of most of the local journals in denying that plague existed has caused a feeling of security in the people at large who patronize Chinese laundries, smoke Chinese cigars and wear clothing made in Chinese sweat-shops.

## ILLINOIS.

**Dr. N. Senn** has been reappointed surgeon-general.

**Dr. A. B. Middleton**, Pontiac, has sailed for England, en route to Berlin, where he will study for six months.

**Dr. Charles E. Whiteside**, Moline, expects to leave for Europe next month. He will take a course of study in Heidelberg.

**Dr. Thomas H. Wagner** has been appointed physician for the American Steel and Wire Company at Joliet, vice Dr. J. Bliss Shaw.

**Physicians and Pauper Practice.**—An agreement has been signed by every physician in Pana and published in the two daily papers. By it they agree not to bid for pauper practice, and not to attend paupers at a less rate than the regular established and recognized fee bill of Pana. It is also understood that no one physician shall be favored in the distribution of the pauper practice, but that the patient shall have the privilege of choosing his own physician.

## Chicago.

**Dr. and Mrs. P. M. Woodworth** and Mrs. Nicholas Senn sailed for Europe April 18.

**Dr. O. Beverly Campbell**, St. Joseph, Mo., has been appointed on the gynecological staff of the Post-graduate Medical School.

**Dr. Joseph C. Beck** has been appointed pathologist and professor of otology in the Chicago Eye, Ear, Nose and Throat College.

**Alexian Brothers' Hospital** was the beneficiary of a concert at the Auditorium last week, from which the net receipts were more than $6000.

**Michael Reese Hospital** has received a donation of $25,000 from the children of Jacob and Hannah Rosenberg. The money is to be used as a nucleus for a building fund.

**Fifth Year Medical Course.**—The Northwestern University Medical School, Chicago, has decided to add one year to its course for the benefit of fourth year students, and practitioners; this course to be inaugurated in October, 1901. It has been ascertained that 33 per cent. of the students graduated from regular four-year courses have secured at the time of graduation appointment as internes in the various hospitals. The object of this additional year is to furnish to those students who have not been successful in obtaining interneships, a more practical course than is compatible with the diverse routine work of the third and fourth years.

**Mortality of Chicago.**—Except for the epidemic prevalence of measles, and an increasing mortality from this cause, the public health, as measured by the number of deaths, continues remarkably good. There were but 467 deaths from all causes reported last week, giving an annual rate of 13.8 per 1000 of the estimated mid-year population, 1,758,026. Our recent French visitors expressed a very natural surprise at the continuous low mortality rate of Chicago in view of the dirty streets, and the dirtier comments on the city, with which they have been regaled both before and after their arrival. But M. Siegfried especially, who took occasion to look beneath the surface, found no difficulty in discerning the difference between the superficial dirt and litter of Chicago and the disease-breeding filth of older communities, and was particularly impressed with the abundant ventilation secured by the broad streets and the alleys intersecting every block.

**Prevalence of Measles.**—Attention has before been called by the Department of Health to the unusual prevalence of measles and it desires again to emphasize the importance of this disease. It is not usually regarded as a serious malady, and parents not infrequently intentionally expose their children to its contagion so that they may "take it and get through with it." Even if it were not the fact that its mortality is rarely less than 20 per cent. among children under 2 years of age, and in some epidemics it is as high as 50 per cent., it is criminal folly to expose the young to any form of contagion. The younger the child the less its power of vital resistance. The type of the disease has materially changed during the last fortnight; it is much more severe and its death rate is increasing rapidly. The causes of these changes of type in the contagious diseases are not understood, but the facts are fully recognized, as witness the scarlet fever epidemic of 1899. It would not be at all surprising if the type of the prevalent smallpox should also change and assume its usual malignity. This is a good season of the year, and now while the disease is mild, is a good time to repeat vaccination.

When smallpox is mild, so is vaccination, but both are as fully protective as if their course and symptoms were severe.

## IOWA.

**The Hospital for Waterloo** is now within $1500 of being started. To secure the contract $15,000 was necessary, and $13,500 of the amount has been subscribed.

**Dr. M. Nelson Voldeng**, Des Moines, has been appointed inspector of the county institutions where insane are kept and also private institutions.

**Dr. Samuel W. Moorhead**, Keokuk, has resigned the chair of materia medica and therapeutics in the Keokuk Medical College, and has been succeeded by Dr. Alonzo B. Hughes.

**Mercy Hospital, Clinton**, held its annual meeting May 6, and elected Dr. Franklin P. Batchelder president; Dr. Joseph C. Langan, vice-president, and Dr. Edward L. Martindale, secretary. Drs. Batchelder, David S Fairchild and George A. Smith, of the active staff, were transferred to the consulting staff, and Drs. Harry R. Reynolds and David S. Fairchild, Jr., were elected members of the active staff.

## KENTUCKY.

**Dr. William W. Ray**, Springfield, has been appointed superintendent of the Western Insane Hospital at Hopkinsville, vice Dr. E. B. McCormick.

**Dr. Minnie Dunlap** has been appointed third assistant physician at the Lexington Asylum for the Insane, vice Dr. Louise Bergmann, resigned, the appointment being made by Gov. Beckham.

**Dr. Hobart Amory Hare**, Philadelphia, was the guest of the Medico-Chirurgical Society on the evening of May 17, and delivered an address entitled "The Importance of Studying the Condition of the Heart Muscle in Disease." A banquet was served after the address, at which Dr. J. A. Ouchterlony presided as toastmaster.

## MARYLAND.

**Dr. John W. Hebb, Sr.**, of Howard County, was stricken with paralysis May 12.

**The Health Commissioner** of Baltimore County, Dr. T. Ross Payne, reports the number of births in the county for the last six months as 447 and the deaths as 696.

**The Peninsula General Hospital** directors have appointed Dr. J. McFadden Dick resident physician, and accepted the resignation of Dr. George W. Todd as superintendent. Active work on a new hospital building, to cost $40,000, will begin in a few weeks.

**A medical board** consisting of Medical Directors A. A. Hochling and John C. Wise and Surgeon A. H. C. Russell has reported at the Naval Academy, Annapolis, to physically examine the candidates for admission after the mental examinations are over.

**The fifty eighth annual report** of Mount Hope Retreat for the Insane, near Baltimore, is out. There have been 924 inmates, of whom 250 were discharged and 66 died, leaving 608 at the end of the year. The percentage of recoveries of those admitted under certificates of insanity was 48.8.

### Baltimore.

**Maryland Medical College** held its third annual commencement May 15, with thirty graduates.

**Dr. Robert W. Johnson** sailed for Europe May 18. Dr. Richard H. Thomas will sail June 1, and Dr. Samuel C. Chew June 8.

**The Faculty** of the Maryland Medical College has appointed Dr. Claude L. Holland resident physician of the National Temperance Hospital.

## MICHIGAN.

**Dr. John T. Main** has been elected health officer of Jackson.

**A new medical building** is to be erected for the University of Michigan. The structure will cost $100,000 and plans have already been approved.

**The Grand Rapids Board of Health** met for organization May 11, and elected Dr. William A. Wilson, secretary, and Dr. Mortimer E. Roberts, city bacteriologist.

**Psychopathic Ward.**—The house passed a bill appropriating $50,000 for the establishment of a psychopathic ward at Ann Arbor in connection with the medical department of the state university.

**Medical Summer Session.**—The first summer session of the medical department of the University of Michigan will begin June 24, and continue through August 9. Twenty-one courses in twelve subjects are offered. These courses are classified as special, designed for graduates and advanced students.

## MISSOURI.

**A new private hospital**, to cost $45,000, is to be erected on Independence Boulevard, Kansas City.

**Dr. David C. Gore**, Marshall, recently appointed surgeon-general of the state, has declined the appointment on account of lack of time to devote to it.

**Women's and Children's Hospital**, Kansas City, has elected the following officers: Dr. Avis E. Smith, president; Dr. Dora Greene Wilson, secretary; and Dr. Eliza Mitchell, treasurer.

**The State Board of Health** met at Jefferson City, May 9, and effected permanent organization by electing Dr. A. W. McAlester, Columbia, president; Dr. Benjamin G. Dysart, Paris, vice-president, and Dr. Winn F. Morrow, Kansas City, secretary.

## NEW YORK.

**Oswego Hospital** has received a donation of $2500 from Mr. Orson H. Brown.

**Albany Medical College** held its commencement exercises May 1, and graduated a class of twenty-seven.

**New York State Hospital for Care of Crippled and Deformed Children.**—This institution was formally opened at Tarrytown, May 17. It is the first of its kind in the state, and represents a new departure in the state care, Minnesota being the only other state that has made such provision for its cripples. The hospital is admirably situated, on five acres of ground sloping down to the Hudson River. Dr. Newton M. Shaffer, New York City, is surgeon-in-chief. The managers have decided to receive only cripples between the ages of 4 and 16 years, who are absolutely unable to secure proper treatment for themselves, and whose cases hold out some prospect of a cure. They must have resided in the state at least a year.

### Buffalo.

**Health Commissioner Wende** has returned from Cleveland, Ohio, where he went to investigate the smallpox epidemic.

**Buffalo's mortality** for April was at the annual rate of 15.35 per 1000. Thus far, for May, the death-rate has been lower, 13 per 1000. The city was never in a healthier condition in its entire existence.

**Dr. S. A. Knopf**, of New York City, recently delivered an address on "Twentieth Century Problems of the Medical Profession in the Treatment of Tuberculosis," before the Medical Section of the Buffalo Academy of Medicine.

**Syphilis and Tuberculosis Among Indians.**—Among the Indians representing forty-two different tribes, on exhibition at the Pan-American Exposition, a number show well-marked symptoms of syphilis or tuberculosis. This fact well illustrates the causes of the rapid extinction of these people from our continent, and is to be attributed to that benevolent assimilation by the white man whereby the Indians are the recipients of much of the good but more of the vices and burdens of civilization.

### New York City.

**Dr. William H. Draper**, recently deceased, left an estate valued at $106,000.

**Dr. Frederick Peterson** has been appointed president of the State Commission in Lunacy.

**Dr. Louis Fischer** has been appointed visiting physician to the Willard Parker and Reception Hospitals.

**Long Island College Hospital** held its commencement exercises May 14, and graduated a class of forty-one.

**William B. O'Rourke**, formerly superintendent of Bellevue Hospital, has been transferred to the superintendency of the Metropolitan Hospital on Blackwell's Island.

**Dr. I. N. Love**, formerly of St. Louis, Mo., is now permanently located in New York City, residing at 101 West Eightieth Street. His offices are at 537 Fifth Avenue, between Forty-fourth and Forty-fifth streets.

**Smallpox** continues to prevail in a manner that is not reassuring. Incoming steamers from Naples have brought a number of cases, and investigation has shown that the disease is quite widespread in Naples. The steamship companies have cabled their agents in that city to assist in preventing the shipping of infected persons.

**Mount Sinai Hospital.**—The corner-stone of the New Mount Sinai Hospital was laid, with appropriate ceremonies, May 22. Dr. Abraham Jacobi, Governor Odell, President Seth Low, of Columbia University, Randolph Guggenheimer and Edward Lauterbach were the speakers on the occasion. The new hospital will cover the ground between Fifth and Madison avenues and One Hundred and One Hundred and First streets. In this plot there will be nine separate buildings.

## OHIO.

**Dr. Daniel Heimlich**, Cleveland, has been appointed health officer, vice Dr. George F. Leick.

**The contract** for the construction of St. Elizabeth's Hospital, Dayton, has been let at $157,500.

**Dr. Henry A. Tobey** has been re-elected superintendent of the Toledo State Hospital, for a term of four years.

**The corner-stone** of the New Women's surgical addition to St. Vincent's Hospital, Cleveland, was laid with appropriate ceremonies, May 11.

**Township physicians** are low-priced in Ohio. In Covington Township, active competition resulted in bids being reduced from $70 to $49, and in Batavia Township, contracts were let to the lowest bidders, whose figures were $47, $35 and $25 respectively.

**Certificates Revoked.**—The State Board of Medical Registration and Examination has revoked the certificates of Dr. Norman S. Wright, Cleveland, charged with having used the mails for fraudulent purposes, and of Dr. J. H. Hoyer, Cleveland, convicted of committing a criminal abortion. In the latter case the governor refused to interfere with the action of the board.

## PENNSYLVANIA.

**Western Pennsylvania Medical College,** Pittsburg, held its commencement exercises May 23, and graduated a class of seventy-one.

**Smallpox in Chester.**—On May 17 seven new cases of smallpox were reported in Chester, six in one family. The board of health has ordered all school children to be vaccinated.

**The West Penn Hospital** staff met for organization May 14, and elected Dr. Thomas McCann, chairman; Dr. James W. MacFarlane, vice-chairman; Dr. Ewing W. Day, treasurer, and Dr. Thomas S. Arbuthnot, secretary, all of Pittsburg.

**An osteopath** of Beaver Falls, who was convicted of practicing medicine and surgery in Beaver County without a license, has been granted a new trial on the ground that osteopathy is outside the pale of the medical law of the state.

**The Free Hospital for Poor Consumptives** has bought 125 acres of land near White Haven, on the Upper Lehigh River, as a site for a sanatorium. It is believed that the state will make an appropriation of $50,000 for the erection of a building.

### Philadelphia.

**Woman's Medical College,** Philadelphia, held its forty-ninth annual commencement exercises, May 16, when thirty-seven graduates received their degrees. The address to the graduates was made by Dr. Elizabeth Bundy.

**Jefferson Medical College** held its seventy-sixth annual commencement exercises May 15, when a large number of graduates received diplomas. The degrees were conferred by William Potter, president of the board of trustees, and the valedictory address was delivered by Dr. W. W. Keen.

**The class of 1881,** of the medical department of the University of Pennsylvania, is arranging for a dinner to be held on June 12, to commemorate the twentieth anniversary of its graduation. The affair is in charge of a committee consisting of Drs. George E. de Schweinitz, W. Easterly Ashton and Daniel W. Nead.

**New Laboratory Building for the University.**—Within the next few days the ground will be broken for the erection of the laboratories of physiology, pharmacology, pathology, and pharmacodynamics of the University of Pennsylvania. The new medical laboratories will be quadrangular in shape, two stories in height, and measure 200 by 340 feet. When completed the buildings will have cost in the neighborhood of half a million dollars.

**Diphtheria not a Quarantinable Disease.**—On May 12 the American Line steamship *Rhynland* came into this port with 213 steerage passengers. On board the vessel three cases of diphtheria were found, and the city health authorities were notified. The patients were at once removed to the Municipal Hospital. As soon as the cases were discovered an injunction was issued preventing the other passengers from leaving the vessels. The federal and state quarantine officers decided to pass the vessel, and later the city government refused to hold the passengers since diphtheria was not classed as a "quarantinable disease." The names of the passengers were taken and a close surveillance will be placed over them.

## SOUTH DAKOTA.

**Dr. Rodell C. Warne,** Mitchell, has been appointed superintendent of the Davison County Board of Health.

**Dr. William Edwards,** Bowdle, has succeeded Dr. Alonzo E. Clough, Madison, as president of the State Board of Health.

**Brown County Board of Health** has elected Dr. V. P. Kennedy, vice-president, and Dr. Hiram E. McNutt, secretary, both of Aberdeen.

**Dr. Leonard C. Mead,** Sioux Falls, has been elected superintendent of the South Dakota Hospital for the Insane, at Yankton, vice Dr. Ross, resigned.

## TEXAS.

**Dr. Witten Booth Russ,** San Antonio, has become associate editor of the *Texas Medical Journal*, Austin.

**The Medical Department of the University of Dallas** held its commencement exercises April 18, and graduated a class of fifteen.

## GENERAL.

**The Journal of Hygiene.**—The first issue of a new, high-class English quarterly publication, the *Journal of Hygiene*, has recently appeared. It is under the editorial management of Dr. H. F. Nuttall, of Cambridge, in conjunction with Drs. J. S. Haldane, of Oxford, and Arthur Newsholme, of Brighton. The first number contains articles on the biology and distribution of Anopheles, by Nuttall and several collaborators; on the "Pathogenic Microbes in Milk," by E. Klein; on the "Artificial Modification of Toxins," "Industrial Lead Poisoning," etc., all of which are of high scientific worth. The well-known names of the editors are assurance in themselves of the class of contributions that will appear in its pages, and it should have a reception by the profession corresponding to its importance as an addition to the serials of scientific medicine.

## CANADA.

**The Smallpox Quarantine** in Toronto has been raised, and the medical health officer pronounces the city clear, excepting the three cases still in the pest-house, all of whom are recovering rapidly.

**Mr. E. B. Osler,** conservative member of parliament for Toronto West, and brother of Professor Osler, has donated $1000 toward Lady Minto's cottage hospital scheme for the Canadian Northwest territories.

**Dr. Henry W. Miller,** Toronto '95, has been appointed pathologist and clinical director in the Taunton Insane Hospital, Taunton, Mass., after having spent three years of special study in the other hospitals of Massachusetts.

**Food Adulteration.**—The report of the commissioner of inland revenue for 1900 deals with 16 articles of which 756 samples were tested. Of these, 524 were pronounced genuine, equal to 69 per cent.; 186 were adulterated, equal to 24 per cent., and 46, or 6 per cent., were harmful.

**Ban on the Cigarette.**—The Toronto Ministerial Association is memorializing the Dominion House of Parliament to enact legislation prohibiting the manufacture, importation and sale of the cigarette and the material for its preparation, and to make it a misdemeanor for any person under the age of 18 to be found using or having in his possession tobacco in any form.

**Steamship in Quarantine.**—Two cases of smallpox have been found among the 900 passengers on the steamship *Lake Superior*, all of whom were landed at the Grosse Isle Quarantine Station. The vessel has been thoroughly disinfected and released. The crew and all the passengers will remain in quarantine twenty-one days. The passenger list for May 17 was cancelled.

**Montreal Dispensary.**—The committee of management's report shows that the total number of applications for advice and treatment made by the sick poor during the year was 16,918. A new department, that of diseases of children, under the charge of Dr. A. E. Vipond, has been running for the past two months, and has already a very successful clinic attached to it. The treasurer's report shows that the receipts, including a balance of $3545, were $6501, and the disbursements $2912.

**A Quarantine Station for Montreal.**—On account of complaints that have been made by persons who have been quarantined in small houses on account of outbreaks of smallpox recently in Montreal the city council is considering purchasing a house with grounds for a quarantine station. Quarantine, which lasts for two weeks in Montreal, has just been taken off, or raised, from a small house where some fourteen people were confined, and the sufferings they underwent through lack of exercise, and other incommoding circumstances, so appealed to the city medical health officer that he has brought the matter to the attention of the hygienic committee, with the result that it is to be taken up in council at an early date.

**Bishop's Medical College.**—A number of changes have recently been made in the teaching staff of the Faculty of Medicine of Bishop's College. Dr. F. W. Campbell, the dean, will in future give a special course of lectures in insurance law, in addition to his regular lectures in medicine and neurology. As professor of medicine he will have associated with him Dr. J. B. McConnell, vice-dean. The chair of medicine will be further assisted by Dr W. E. Deeks, lecturer on internal medicine; Dr. A. J. Richer, specialist in pulmonary diseases, and Dr. W. Grant Stewart. Dr. Deeks is a new member of the staff. Dr. James Perrigo, professor of gynecology, will have associated with him Dr. A. Lapthorn Smith, who remains also professor of clinical gynecology. Dr. J. M. Jack, a new member of the staff, will lecture on dermatology. The chair of surgery is to be occupied by Dr. F. R. England, with whom will be associated as lecturers, Dr. F. J. Hackett. Dr. Rollo Campbell, and as instructors, Dr. George Fisk and Fr. Herbert Tatley. Another addition to the teaching staff is the appointment of Dr. Louis Laberge, the city medical officer, who replaces Dr. Richer as lecturer in hygiene. Dr. W. G. Reilly has been appointed to the chair of anatomy.

### FOREIGN.

**Mr. Frederick Treves** has had conferred upon him the honor of knighthood, by the King of England.

**The King of England** has declined to continue an honorary member of the British Medical Association, to which membership, as Prince of Wales, he was elected in 1900.

**Progress of the Plague.**—According to the *British Medical Journal* of May 11, the plague returns for all India, during the week ending April 13, gave 8429 cases as against 11,606 the previous week. In Bombay City 714 deaths occurred, and in the Bombay districts, 767. The same week, in Calcutta, the deaths numbered 548, and 859 the previous week, with 358 deaths in Benares for the week ending April 13. Constantinople reports a case May 1, at Galata, and the sanitary consul in Constantinople has decided to medically inspect all passengers leaving the city by land or sea. During the week ended May 2, in Mauritius, 3 plague cases occurred and 2 deaths.

# Association News.

For additional ASSOCIATION NEWS see page 1510.

### Report of the Committee on Transportation.

The Committee on Transportation of the AMERICAN MEDICAL ASSOCIATION regrets to say that its labors have been very much increased and the railroad rates and time limit of tickets with extension and stop-off privilege greatly jeopardized by the meddlesome and persistent interference of certain persons, chiefly a layman in Chicago, whose action in attempting to concentrate business over a favorite line has nearly resulted in the failure, on the part of your Committee, to secure a rate of one fare plus $2 for the round trip to St. Paul, through the Central and Western territories. This interference has resulted in the Central and Western Passenger associations refusing to grant a stop-off privilege at Milwaukee, Wis., to the members of the ASSOCIATION, many of whom are members of the American Medico-Psychological Association. You have this situation before you: The Transportation Committee of your Board of Trustees, working in the interests of each and every member of the AMERICAN MEDICAL ASSOCIATION, and not asking nor receiving of the railroad companies deadhead transportation for its services, while in another direction you have a layman, not a member of the ASSOCIATION, but assuming to speak for it, and acting as an agent of a particular road, circularizing the regular profession, and throwing every obstacle in the way of your Committee in its earnest endeavors to secure the best rates, stop-off privileges, and time extension possible for the delegates to the ASSOCIATION meeting. Your Committee has but one object in view, that is, the best possible rates for the ASSOCIATION, and it asks you as members, personally interested, to discountenance this annual jeopardizing of your interests by commercial laymen. After an almost constant correspondence since January last, with the various railroad associations, your Committee, notwithstanding the many obstacles and interferences from the source cited, has eventually succeeded in securing a one fare plus $2 rate, with time extension to July 15, if properly applied for in the Western and Central territories, and a one and one-third rate for the round trip through the Trunk Lines territory, with the same time limit extension privilege. Your Committee has secured a one and one-third fare rate in the New England territory, and expects to be able to secure the time and extension privilege granted in the other territories. In consequence of the manipulations of outsiders in opposition to your Committee, the Western Passenger Association and all others have persistently and most positively refused to permit a stop-off at Milwaukee to our delegates. In order to break up this unfair discrimination against our delegates by the western roads in general, and the one in particular which has loaned itself to the party opposing your Committee's efforts, I have prevailed upon one of them, the Chicago, Milwaukee and St. Paul Railway Company which is friendly to us, and championed our wishes, to give official notice to the Western Passenger Association that it would break that territory compact, and grant a stop-off at Milwaukee to our members, thereby permitting them to attend the meeting, June 11 to 14, and thus checking this unjust discrimination against us, and the members of the American Medico-Psychological Association. Your Committee earnestly advises the physicians to patronize on this occasion the roads which have worked in your interests, and with your duly appointed and faithful Committee, and place forever your stamp of disapproval upon the roads, methods and manipulators who discriminate against you or oppose your just and proper interests. Your Committee recommends to the delegates of the New England and Eastern States as the best and most convenient route: the Pennsylvania Railroad and connecting lines direct to Chicago, and from there out of Pennsylvania (Union) station, the Chicago, Milwaukee and St. Paul road, will grant, on returning, the stop-off at Milwaukee to the delegates and others who go to the St. Paul meeting over that road, and will extend the time limit to July 15, and protect the tickets returning through the various railroad association territories; provided the return tickets are duly deposited with its local agent at St. Paul or Milwaukee as required.

H. L. E. JOHNSON, M.D., Chairman.

### The Truax Circular.

WASHINGTON, D.C., May 21, 1901.

*To the Editor:*—The following telegram, from Dr. Chas. A. L. Reed, was received by Dr. H. L. E. Johnson in reply to his queries as to the Truax circular, and speaks for itself:

CINCINNATI, OHIO, May 20.

Dr. H. L. E. Johnson, Washington, D. C.

The Truax circular was printed and distributed before I knew of use of my name as member of committee. I recognize the committee on transportation alone authorized to act for ASSOCIATION. Chas. A. L. Reed.

H. L. E. JOHNSON,
Chairman Committee on Transportation.

### St. Paul Entertainments.

General plans for the entertainment of the members of the AMERICAN MEDICAL ASSOCIATION, have been practically made. The program furnished by the local committee is as follows: Tuesday evening, June 4, is to be devoted to banquets. The Sections of surgery, gynecology and cutaneous diseases will dine at 8.30 at the Ryan. The Merchants', at the same hour, will entertain the Sections on medicine, materia medica, therapeutics, physiology, dietetics, hygiene and pathology. The Section

on ophthalmology will dine at the Minnesota Club, south dining-room. The Sections on diseases of children and stomatology will be represented at a dinner at the Windsor, and the Section on laryngology will dine at the Minnesota Club, north dining-room. The Section on nervous and mental diseases will dine at the Town and Country Club. Wednesday evening there will be receptions at the homes of George Thompson, Dr. Charles A. Wheaton, Michael Doran, Gustave Scholle and Drs. A. J. Stone and Haldor Sneve, all on Summit Avenue, and a smoker will be given at the Ryan after 10 o'clock, by the state and county medical societies. Thursday evening the visitors will see the state university. There will be a ball in the armory and a promenade on the campus, given by physicians of Minneapolis.

### Program of Ladies' Entertainment Committee.

From 4 to 6, Tuesday, a reception will be given by Mr. and Mrs. T. E. W. Villiers Appleby, at their home, 226 Summit Avenue. Wednesday, at 9:30, Mrs. Charles L. Greene will conduct the women by trolley to Minnehaha Falls. Thursday, at 2, there will be a drive through Como Park, in charge of Mrs. Archibald MacLaren. Friday morning a steamboat excursion will be taken to Fort Snelling, under the direction of Mrs. A. J. Stone. Mrs. George B. Young is chairman of the ladies' committee on entertainment, and Dr. Burnside Foster is chairman of the general committee on entertainment. Friday night, after the business of the convention has been finished, a special Northern Pacific train will be ready to convey the physicians to the Yellowstone National Park.

### An Invitation.

Members of the AMERICAN MEDICAL ASSOCIATION are invited to avail themselves of the headquarters secured by the *St. Paul Medical Journal*, in a room adjacent to the general exhibits, during the St. Paul meeting, for writing, reading, smoking and general lounging.

### General Committee on Organization.

The following physicians constitute the Committee on Organization of the medical profession of the United States:

R. M. Cunningham, Alabama.
I. B. Davis, Arizona.
W. B. Laurence, Arkansas.
Thomas Ross, California.
J. N. Hall, Colorado.
L. B. Almy, Connecticut.
Willard Springer, Delaware.
G. W. Cook, Washington, D.C.
W. L. Hughlet, Florida.
Samuel C. Benedict, Georgia.
Ed. E. Maxey, Idaho.
Geo. N. Kreider, Illinois.
Walker Schell, Indiana.
LeRoy Long, Indian Territory.
R. E. Cundiff, Iowa.
J. W. Porter, Kansas.
Jas. H. Letcher, Kentucky.
F. W. Parham, Louisiana
E. H. Hill, Maine.
J. McPherson Scott, Maryland.
E. B. Harvey, Massachusetts.
A. B. Alvord, Michigan.
Walter Courtney, Minnesota.
J. G. Featherstone, Mississippi.
U. S. Wright, Missouri.
J. W. Gunn, Montana.
Robert McConaughy, Nebraska.
Granville P. Conn, New Hampshire.
W. A. Phillips, Nevada.
J. H. Sloan, New Mexico.
E. D. Ferguson, New York.
G. W Pressley, North Carolina.
C. M. Keeling, South Dakota.
H. J. Rowe, North Dakota.
F. D. Bain, Ohio.
R. D. Love, Oklahoma Territ'y.
Harry Lane, Oregon.
Geo. W. Guthrie, Pennsylvania.
Geo. R. Dean, South Carolina.
J. A. Crook, Tennessee.
H. A. West, Texas.
A. S. Bowers, Utah.
M. R. Crain, Vermont.
Hugh T. Nelson, Virginia.
Chas. G. Brown, Washington.
A. H. Thayer, West Virginia.
J. F. Pritchard, Wisconsin.
Geo. Johnson, Wyoming.
Geo. D. Hersey, Rhode Island.

This Committee is called to meet at the Hotel Ryan, St. Paul, June 3, at 2 p. m.

## Married.

P. H. SALTER, M.D., to Miss Ada Butterfield, both of Norfolk, Neb., May 22.

E. FRANK REAMER, M.D., to Miss Josie Berg, both of Minneapolis, Minn., May 15.

R. ALEXANDER BATE, M.D., Louisville, Ky., to Miss Calloway, of Eminence, Ky., May 15.

JOHN HAZELWOOD, M.D., New Albany, Ind., to Miss Pearl Meder, of Louisville, Ky., May 15.

J. EVERETT PIERPOINT, M.D., Skidmore, Mo., to Miss Jessie M. Bentley, of Concordia, Kan., May 7.

SHALER BERRY, M.D., to Miss Jessie Southgate, M.D., both of Newport, Ky., at Hamilton, Ohio, May 7.

HENRY C. SNITCHER, M.D., Jr., Denver, Colo., to Miss Ada B. Kaiper, of Cincinnati, at Denver, May 1.

JOSEPH JAMES CURRY, M.D., acting assistant surgeon, U. S. Army, to Miss Helen Hamilton, of Zanesville, Ohio, April 28.

## Deaths and Obituaries.

**Marie J. Mergler, M.D.,** Woman's Medical College, Chicago, 1879, died from pernicious anemia, May 8, aged about 50. Dr. Mergler was one of the most prominent and highly esteemed women in the profession. Until her illness, she was dean of the Northwestern University Woman's Medical School, and for the past eight years she occupied the chair of gynecology in that school. She was the first woman to pass the examination for interne at the Cook County Insane Asylum. A few weeks ago she was obliged to leave Chicago on account of continued ill-health and went to Los Angeles, Cal., where she died. She was a member of the Chicago Medical Society, Illinois State Medical Society, Illinois State Medical Society, Mississippi Valley Medical Association and the AMERICAN MEDICAL ASSOCIATION.

**Andrew K. Minich, M.D.,** Jefferson Medical College, Philadelphia, 1870, a surgeon in the German army during the Franco-Prussion War, for more than twenty years visiting physician at the Episcopal Hospital, quiz master and lecturer in Jefferson Medical College for many years, and a member of the AMERICAN MEDICAL ASSOCIATION, died from cancer of the throat at his residence in Philadelphia, May 11, aged 53.

**Frank Crampton Hoyt, M.D.,** University of Louisville, Ky., 1885, Superintendent of the Iowa Hospital for the Insane, Mount Pleasant, a member of the New York Medicolegal Society, American Medico-Psychological Association, Iowa State Medical Society and the AMERICAN MEDICAL ASSOCIATION, died at his home in Mount Pleasant, from tuberculosis, complicated with rheumatism, May 21.

**Charles Rice, M.D.,** for the last twenty-five years chemist of the New York Charities Department and chairman of the Committee on Revision of the Pharmacopeia of the American Pharmaceutical Association, died from asthma, in Bellevue Hospital, May 13, aged 65.

**Robert Bolling, M.D.,** University of Pennsylvania, 1855, a student for four years thereafter in Paris, later demonstrator of anatomy under Dr. D. Hayes Agnew, and for more than forty years a practicing physician at Chestnut Hill, Philadelphia, died at his home in that place, May 12, aged 67.

**Harry E. Dawson, M.D.,** College of Physicians and Surgeons, Baltimore, Md., 1892, and a post-graduate of Johns Hopkins University, died at his home in North Scranton, Pa., May 13, from rheumatism, after a protracted illness, aged 36.

**Eugene L. Priest, M.D.,** Kentucky School of Medicine, Louisville, 1876, a leader in the movement that resulted in the enactment of the Hall medical bill, died at his home in Nevada, Mo., May 8, from pneumonia, after a short illness, aged 51.

**Samuel Hanson, M.D.,** Medical School of Maine, Brunswick, the oldest practitioner in Houlton, Maine, died at his home in that place May 7, after an invalidism of thirteen years from inflammatory rheumatism, aged 67.

**Frank E. English, M.D.,** Rush Medical College, Chicago, 1864, a pioneer physician of Polk County, Iowa, died at his home in Valley Junction, Iowa, May 8, from meningitis following la grippe, aged 60.

**Daniel Humphrey, M.D.**, Vermont Medical College, Woodstock, 1852, the oldest practicing physician in Lawrence, Mass., died at his home in that city, May 9, after an illness of three months, aged 76.

**Thomas I. Hodgkin, M.D.**, University of Victoria Medical College, Cobourg, Ont., 1862, who formerly practiced at Guelph, died at his home in Deer Park, Toronto, Ontario, May 6, aged 84 years.

**James Hayes, M.D.**, College of Physicians and Surgeons, New York, 1862, an old and respected citizen of Plainfield, N.J., died at his home in that place, May 12, after an illness of two years.

**Alonzo P. Casier, M.D.**, Albany Medical College, 1880, died after an illness of fifteen years from pulmonary trouble, at his residence in St. Johnsville, N. Y., May 11, aged 56.

**Robert B. Bell, M.D.**, Detroit (Mich.) Medical College, 1898, a practitioner of Manistee, Mich., died in Toronto, Ontario, from typhoid fever, May 13.

**William K. Jones, M.D.**, University of Pennsylvania, 1856, died May 9, at his home in Montgomery, Ala., after a long illness, aged 67.

**J. E. Patterson, M.D.**, Jefferson Medical College, Philadelphia, 1860, died at his home in Harveys, Pa., May 8, after a long illness.

**John W. Drew, M.D.**, State University of Iowa, Iowa City, 1885, died at his home in Onawa, Iowa, May 13, from acute gastritis.

**Angus Noble, M.D.**, Jefferson Medical College, Philadelphia, 1868, died at his home in Wellsville, Ohio, from paralysis, May 7.

# Book Notices.

TUBERCULOSIS AS A DISEASE OF THE MASSES, AND HOW TO COMBAT IT. Prize Essay by S. A. Knopf, M.D., New York. Paper. Pp. 86. Price, 25c. New York: M. Firestack. 1901.

This is a republication of the essay which obtained the prize offered at the International Tuberculosis Congress in Germany. It was selected from among a large number of other competing essays by European authors, and this fact is not only most creditable to the author but also reflects credit on the country from which the work came. The volume is intended to give to the general public such ideas regarding pulmonary tuberculosis and tuberculosis of other organs as will best enable them to resist it and ward off infection and to meet the early symptoms and predisposition in the best and most successful way. From a perusal of the work it is evident that the author has met the demands, and while he points out the dangers and the precautions to be taken he also avoids the extreme statements and advices that are going the rounds so much and often on medical authority. The book is a sensible as well as a scientific one. It is written in such a way as to be readily intelligible by non-medical readers, and we believe its circulation will do a vast amount of good. It has been widely circulated in Germany and translations have been made, we understand, into a number of European languages. The American edition has been somewhat modified from the German; the work as published is not exactly the same as that which appeared abroad, its differences being such as are necessitated by our laws and institutions. It is profusely illustrated and handsomely gotten up by the publisher, and it will undoubtedly have, as it deserves, a wide circulation and popularity.

PULMONARY CONSUMPTION, PNEUMONIA, and Allied Diseases of the Lungs; Their Etiology, Pathology and Treatment, with a Chapter on Physical Diagnosis. By Thomas J. Mays, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic. Illustrated. Cloth. Pp. 539. Price, $3.00. New York: E. B. Treat & Co. 1901.

The views of the author of this volume have been published in various articles by him, and the present work is simply a detailed expansion of them. He sums up his fundamental concepts as follows: "1. That pulmonary phthisis in the large majority of cases is primarily a neurosis, and that the pulmonary disintegration is secondary. 2. That any agent, influence, or condition which undermines the integrity of the nervous system will engender pulmonary phthisis, or some other form of pulmonary disorder. 3. That the only remedies of value in the treatment of pulmonary phthisis are those which appeal to, and act through the nervous system. 4. That of special value in the treatment of phthisis is the counter-irritant action of silver nitrate introduced hypodermically over the vagi in the neck. 5. That acute pneumonia, and other forms of acute pulmonary diseases are closely affiliated with disorder of the nervous system." While the majority of the profession, it is safe to say, will not agree with him, the work will be found of interest and probably instructive to a great many readers. The author combats vigorously the views held by some as to the extreme contagiousness of consumption, and his book may be taken in a certain sense as a special statement and plea for due consideration of the resisting powers of the organism. These are being slighted, we believe, too much by many at the present day. As regards the treatment by nitrate of silver introduced hypodermically in the neck, we doubt whether it will be generally practiced, or considered as worthy of being seriously taken up by most of the profession, but the essential point made, that through the nervous system much can be done to increase the resistance to pulmonary disease, may be accepted as a truth to a very large extent.

THE FEEDING OF INFANTS. Home Guide for Modifying Milk. By Joseph E. Winters, M.D., Professor of Diseases of Children, Cornell University Medical College. Cloth. Pp. 47. Price, 50c. New York: E. P. Dutton & Co. 1901.

There seems to be a flood of books at the present time on the feeding of infants, a worthy subject for our best efforts. Winters' little book is the most unpretentious of any that have come into our hands, and it is nevertheless to be commended. It gives a detailed account of the preparation of various infant foods and gives a formulary for the home modification of milk for infant feeding. The importance of the subject is not yet fully appreciated by the public, nor by some of the profession, and there are some details in regard to it in which we are yet in need of information, but this little volume seems to give a fair resumé of the facts and will be found convenient for reference. It is not so strikingly medical that lay readers might not profit by its perusal.

THE BOUDOIR COMPANION. By Flora L. S. Aldrich, M.D., Anoka, Minn. Cloth. Pp. 127. Price, $1.00. Published by the Author. 1901.

The title is misleading. A boudoir is a lady's—or it may be a gentleman's—private room, hence a book with such a name as the one before us might treat of manicuring or hair dressing, of how to take out wrinkles or put on the tint of youth and beauty. But it has nothing to do with any of these. It would have been better had it been called a companion for the wife and mother. Though an unpretentious little volume, it is large enough to contain much sensible advice to and information for the pregnant woman and the mother; it tells the former how to take care of herself; and the latter how to take care of her child. The author has treated the subject in a conservative and sensible manner, with no pretention of making her book supplant the physician. It is one of the few that the physician can conscientiously recommend to his patient who is to become a mother, for the information it gives will generally receive his endorsement.

DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, etc., with 175 Illustrations, 23 of them in Colors. Cloth. Pp. 646. Price, $4.00. Second Edition: Philadelphia: W. B. Saunders & Co. 1900.

Dr. Kyle has written a book that has been accepted by the profession as one of the best on diseases of the nose and throat. His new edition is already called for, although the last edition was only issued in September, 1899. We can commend particularly the original illustrations and the descriptive text of the pathologic conditions that show his familiarity with this

branch of the subject, and we can recommend the volume to those who need a work on these diseases.

LARYNGEAL PHTHISIS. By Richard Lake, F.R.C.S., Surgeon, Laryngological, North London Hospital for Consumption, etc. With Thirty-six Illustrations. Cloth. Pp. 94. Price $2.00. Philadelphia: P. Blakiston's Son & Co. 1901.

This attractive little book of ninety pages presents the author's personal observation of over three hundred cases of the disorder. The bulk of the work is given up to a concise statement of symptoms, signs, pathology, prognosis and local treatment, and a brief display of cases from the author's clinical records. The thirty-six cuts are excellent in drawing, but the coloring is somewhat exaggerated, a criticism, however, which is applicable to the vast majority of colored plates made to represent the mucous membrane, normal, and the seat of various degrees of inflammation. The author has included an instructive tabulation of his 329 cases. The book is an addition to the literature of the subject, because it is a result of personal experience and not a mere repetition of the work of others.

INTERNATIONAL GLOBE AND GEOGRAPHICAL MANUAL. The International Globe being printed back to back on one sheet. Circular in Form, 28 inches in Diameter. Price $2.00. International Globe Co., Continental National Bank Building, Chicago.

This is a convenient form of condensed geography, the circular map with its attendant pamphlet furnishing a handy bird's-eye view of the great natural and political divisions of our globe.

## Miscellany.

**Thrombosis of Iliac Vein.**—Dr. William Osler exhibited at a recent clinic a case of thrombosis of the iliac vein following pneumonia, and the second case seen at the Johns Hopkins Hospital this year. Pneumonia has the largest percentage of fibrin of any acute disease. The fibrin can be seen between the rouleaux of red corpuscles and, postmortem, firm hard clots are found in the heart. It is almost the only disease in which we can draw out firm clots from veins and sinuses. In this case a cord could be felt extending from the middle of Poupart's ligament some eight inches toward the umbilicus. There was no tenderness. There is danger of detachment of the clot and sudden death. Hence the limb should be kept absolutely at rest and should not be moved or handled much.

**Fads in Medicine.**—M. R. Brown, M.D., in the *Chicago Sunday Tribune*, says: "From the days of Hippocrates until the present time the mission of medicine has been to find out the truth as to physical well being and by applying it to benefit mankind. It has studied with scientific interest or viewed with pity whatever "pathies" or fads have risen in its domain, flourished for a time, and then fallen into decay. If by fads in medicine we are to understand (as the definition of the word implies) a trivial fancy adopted and pursued for a time with irrational zeal, or a matter, whether important or unimportant, imperfectly understood and taken up and nrged with more zeal than sense, we will find less fads in medicine than in any of the other sciences. In fact, medicine, as I understand it in its strict sense, is free from fads, but when confused with some of the irregularities bordering on or embraced in quackery, it must be admitted that it abounds in fads. Experiments carried on with almost irrational zeal by some enthusiasts in medicine have not been done as a fancy but as a search after knowledge or as a means of benefitting mankind, and therefore can not rightly be considered fadism. If a new principle is enunciated, a new remedy discovered, or a new method of treatment worked out, patients flock for a longer or shorter time to the physician concerned, and such a practice is often called a fad. But the definition given does not apply. As instances of real fads I would mention osteopathy and mental therapeutics, including in the latter term "Christian Science," faith healing, and Dowieism, mind cure, etc. The former owes its recent origin to an obscure physician in western Missouri. It had an earlier origin from Borelli, who flourished in Naples in the early part of the seventeenth century. It is a mechanical theory of medicine, and like massage, of which it is an improved form, it has or may have a limited use. To maintain it as an exclusive system is illogical, is a substitution of a part for the whole, and the present pursuit of it is clearly fadism. Mental therapenties, especially in its most fashionable form of "Christian Science," is only a revival, with Christian symbols, of the old pagan worship of the god Æsculapius in pre-Homeric days. The faith healers of that epoch, who were called Asclepiads and who were bitter opponents of Hippocratic or scientific medicine, repudiated drugs and healed, or claimed to heal, disease by sacrifices, prayer, and moral agencies. This seems to be the most rampant "medical fad" of the day, but it will, like its ancient prototype, run its course and be forgotten, for if disease is mere imagination and medicine a delusion, then all experimental science in all the practical departments of life is equally so—a conclusion which common sense refuses to accept. Medicine will endure and be a power for good so long as men have bodies to suffer or decay. Like its mistress—truth—it is everlasting. It is not omniscient nor infallible. It is subject to the limitations of human nature. Its field of work, the human body, is still mysterious and obscure and affected by all manner of influences from the vast world outside. But medicine is honest and unselfish and pursues its steadfast course, confident that fads and systems will perish and that the truth will endure.

## Societies.

### COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
American Laryngological Association, New Haven, Conn., May 27-29, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 30-June 1.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.
Indian Territory Medical Association, Vinita, June 4-5.
American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
South Dakota State Medical Society, Huron, June 10-11.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
Oregon State Medical Society, Portland, June 11-12.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 11-13.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

**Lancaster City and County (Pa.) Medical Society.**—At the meeting of this Society, May 1, ten members were elected delegates to the AMERICAN MEDICAL ASSOCIATION.

**American Association of Life Insurance Examining Surgeons.**—The meeting of this Association will be held in the Masonic Hall, Lowry Arcade, St. Paul, and not in the rooms of the Ramsey County Medical Society as announced in last week's issue.

**Association of Life Insurance Medical Directors.**—The annual meeting of this Association will be held in Hartford, Conn., May 28 and 29, under the presidency of Dr. George R. Shepherd, Medical Director of the Connecticut Mutual Life Insurance Company.

**Ohio Pediatric Society.**—The seventh annual meeting of this Society was held in Cincinnati, May 8, president, John M. Dunham, Columbus, in the chair. The following officers were elected: Dr. David S. Hanson, Cleveland, president; Drs. Thomas V. Fitzpatrick and John H. McCassy, Dayton, vice-

presidents, and Dr. J. D. Kafron, Cincinnati, secretary and treasurer.

**Southern California Medical Society.**—The twenty-seventh semi-annual meeting of this organization was held in San Diego, May 1 and 2. The election of officers resulted as follows: Dr. Wesley W. Beckett, Los Angeles, president; Drs. Fitch C. E. Mattison, Pasadena, and Dr. Charlotte Baker, San Diego, vice-presidents, and Dr. Frank D. Bullard, Los Angeles secretary and treasurer.

**Indiana State Medical Society.**—This Society held its fifty-second annual meeting in South Bend, May 15, 16 and 17, and elected Dr. Alembert W. Brayton, Indianapolis, president; Dr. J. B. Berteling, South Bend, vice-president; Dr. Frederick C. Heath, Indianapolis, secretary; Dr. William H. Gilbert, Evansville, assistant secretary, and Dr. Albert E. Bulson, Jr., Fort Wayne, treasurer. Evansville was selected for the next meeting.

**Association of Surgeons of the Southern Railway.**—This Association met at Mobile, May 7, 8 and 9. The election of officers resulted as follows: Dr. Thomas H. Hancock, Atlanta, Ga., president; Drs. Rhett Goode, Mobile, Ala., and Henry C. Fairbrother, East St. Louis, Ill., vice-presidents; Dr. Samuel Lile, Lynchburg, Va., secretary and treasurer, and Dr. W. C. Connally, Dallas, Ga., censor. The 1902 meeting will be held in Washington, D. C.

**Association of Military Surgeons of the United States.**—The Surgeon-General of the Navy has designated Medical Director Delavan Bloodgood to represent the navy at the St. Paul meeting of this Association; Major John Van R. Hoff and Captain Alfred E. Bradley will represent the Army, and the governor of Minnesota has appointed Drs. Reynaldo J. Fitzgerald and Charles E. Dutton, Minneapolis; Dr. William Jacoby Wells; Dr. William H. Rowe, St. James; Dr. Asa F. Goodrich, St. Paul; Dr. Alvinza B. Cole, Fergus Falls, and Dr. John N. Dorsey, Glencoe, delegates from the state.

**Chicago Society of Internal Medicine.**—The annual banquet of this Society was held at the Auditorium, May 16, Dr. William Osler, Baltimore, being the guest of honor. Dr. John A. Robison presided, and "Medicine" was discussed in its various forms and phases, as follow: Dr. Llewellys F. Barker, "Foundation Stones of Medicine"; Dr. Walter S. Christopher, "Tendencies of Medicine"; Dr. John B. Murphy, "Surgery of Medicine"; Dr. Norval H. Pierce, "Music in Medicine"; Dr. Frank Billings, "Chicago Medicine," and Dr. William A. Evans, "Finalities of Medicine."

**New Mexico Medical Society.**—The twentieth annual session of this Society was held in Alamogordo, May 8 to 10, Dr. G. C. Bryan, Alamogordo, presiding. The following officers were elected: Dr. George W. Harrison, Albuquerque, president; Drs. G. C. Bryan, Alamogordo, B. E. Lane, Las Cruces, Charles M. Whicher, Carlsbad, vice-presidents; Dr. J. Frank McConnell, Las Cruces, secretary, and Dr. Walter G. Hope, Albuquerque, treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The next session will be held in Albuquerque, May 14, 1902.

**Mississippi State Medical Association.**—The thirty-fourth annual meeting of this Association was held in Jackson, May 9, 10 and 11. The following officers were elected: Dr. James M. Buchanan, Meridian, president; Drs. Charles D. Mitchell, Pontotoc, and Anthony Miller, Panther Burn, vice-presidents; Dr. Clifford H. Trotter, Winona, secretary; Dr. Benjamin L. Culley, Jackson, assistant secretary; Dr. David S. Humphreys, Greenwood, corresponding secretary, and Dr. John F. Hunter, Jackson, treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also elected.

**American Medical Temperance Association.**—This association will hold its tenth annual meeting in the Ryan Hotel, St. Paul, June 5. The program will include the president's address and the following papers:

Dr. N. S. Davis, Chicago, "Shall We Continue Striving to Improve the Environment of the Poor and Render Sterile by Mutilation and Electrocution the Degenerates to Prevent their Propagation of their Kind, or Shall We More Directly Prevent their Poverty and Degeneracy by Removing the Chief Causes?" Dr. H. A. Didama, Syracuse, N. Y., "The Decline of Alcoholic Medication Abroad"; Dr. W. S. Hall, Chicago, "Alcohol as a Stimulant and its Fallacies". Dr. John Madden, Milwaukee, Wis., "The Recrudescence of Alcohol"; Dr. E. Stuver, Fort Collins, Colo., "Alcohol in High Latitudes"; Dr. T. D. Crothers, Hartford, Conn., "Text-Book Teachings of Alcohol in Common Schools"; Dr. Ivan D. Mishoff, Milwaukee, Wis., "Why Men Use Alcohol," and Dr. Dudley H. Reynolds, Louisville, Ky., "The Danger of Cigarettes to the Young."

**Michigan State Medical Society.**—The thirty-sixth annual meeting, at Battle Creek, was presided over by Dr. Philo D. Patterson, Charlotte. The session opened May 15 and continued for two days. Among the matters of importance brought up was the report of the Committee on legislation, which, through its secretary, Dr. Emil Amberg, Detroit, presented the following proposed changes in the state medical laws: 1. That all graduates from medical schools shall come before the board for examination. 2. That only graduates of reputable medical colleges be admitted to practice; reputable medical colleges being those whose course of study is not less than four years in length and is approved by the board. 3. That before entering a medical school a candidate must be a graduate of a high school with certain requirements or else submit to an examination in the presence of some member of the board. 4. That the equipment and number of laboratories in medical schools shall be specified in their announcements and inspected by the board. 5. That licenses can be revoked by the board for fraud in connection with the registration and for immoral conduct of practitioners.

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## THE AMERICAN SURGICAL ASSOCIATION.

*Meeting held in Baltimore, May 7, 8 and 9, 1901.*

The President, Dr. Roswell Park, of Buffalo, in the chair.

MAY 7—MORNING SESSION.

### Some Phases of the Cancer Question.

The President read his Annual Address, entitled as above, and stated that pathologists, who study the condition purely from the dead-house point of view, have confronted some of the greatest problems which it has to offer, but have also missed some of its most important aspects. The parasites of cancer, be their nature what it may, are in all probability polymorphic in extreme degree and masquerade under many forms, changing with their different stages of reproduction. There is no other disease which is characterized by metastasis in which the pathologists decline to see evidence of parasitism. Every metastasis of cancer has the form and significance of an inoculation experiment only performed under the most favorable, because natural, conditions. The primary question after all, is the general one of parasitism, but it has not yet been reduced to a question of just what parasite. In the author's opinion it may and probably will be found that cancer is not a question of any single organism, and possibly not even of a single class. The latest work of Roger Williams was then quoted at some length and reference was made to Demarquay, who collected 134 cases of cancer of the penis, whereas in only one instance was the wife affected with uterine cancer. Numerous cases are now on record of cancer along the track of the trocar used in tapping for ascites due to cancerous disease, and surgeons now generally admit this traumatic dissemination of the disease by inoculation of wounds during operations. From studies already made in the New York State Laboratory it seems to be clear that death in cases of cancer comes about, as in so many other diseases, by a sort of terminal infection, which is a conspicuous feature of the disease and has not hitherto attracted sufficient attention. The exact nature of these terminal changes has not yet been made out beyond what is implied in the term "Hematogenous." The predictions of the Italians have failed in many respects, and it is by no means so easy to successfully inoculate animals with the yeast as has been generally supposed. By comparing tumors removed by operation with those removed postmortem, it becomes evident that the organisms either increased rapidly during the period just before death, or that they proliferate in the tissue immediately after death. In practically all scrapings from cancer could be seen either small hyaline refractive forms which in suspension possess a characteristic oscillating motion, or larger forms with projecting pseudopodia, or sacular forms containing very refractive spherical bodies.

The work of Dr. Gaylord in association with the author was then dwelt upon at considerable length. A full report was promised in a short time of the results of inoculating seventy-two animals with the technique employed. That cancer begins as a purely local infection has been verified by the recent experiments made by the author in the laboratory at Buffalo, and also that it kills by becoming generalized, which is equally true to tuberculosis. The author concluded his paper by stating, "I want to make it as evident as possible that carcinoma is an epithelial infection."

### Mammary Cancer.

DR. W. S. HALSTED, of Baltimore, made a few remarks on a "Brief Consideration of the Cases of Cancer of the Breast," treated at the Johns Hopkins Hospital since 1889. He re-

ported having operated on 320 cases of carcinoma of the breast and 450 cases of the breast tumor, as well as three cases of primary sarcoma of the breast. He referred to the difficulty of compiling statistics and demonstrated the method of grouping the cases at the Johns Hopkins in order to arrive at the approximate results. His experience is that the percentage of recurrences is very variable, and he reported that out of 129 cases operated upon, 51 had been cured.

### Treatment of Inoperable Sarcoma.

DR. W. B. COLEY, of New York, read a paper entitled "Late Results of the Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus, with a Report of Cases." The writer stated that the object of the paper was to determine, if possible, whether the action of the toxins upon sarcoma is to be regarded as of temporary or permanent value; in other words, whether or not it is entitled to be called curative. Fifteen cases have passed the three-year limit, and two of them are now well at the end of three and three-fourths, and four and one-fourth years respectively. Thus far no permanent successes have been obtained in melanotic growths nor in lympho-sarcomas of the neck. The writer still believes that the action of the toxins upon malignant tumors can be explained only upon the theory that such tumors are the result of some infectious micro-organism, and this view is strongly supported by the recently expressed opiniou of Czerny.

### Mental Influence on Malignant Disease.

DR. JOSEPH D. BRYANT, of New York, read a paper entitled "The Influence of Mental Depression on the Development of Malignant Diseases," in which he dwelt at length on the history of cancer as affected by mental depression. Paré in 1510 was the first man to refer to mental perturbation, anger and the like, as making a cancer "more fierce and raging," while the same authority under the head of treatment, insists that the patient must eschew fasting, watching, sorrows, cares and mourning. Sir Astley Cooper was of the same opinion, while Velpeau thought otherwise. Grant and Napoleon have been referred to as examples of cancer following reverses, and Paget and Virchow gave a qualified allegiance to the passive side of the question. The foundations of the different phases of the contention rest on the beliefs, 1, that cancer may result from the direct influence of mental depression; 2, that cancer may arise indirectly from mental depression because of the defective nutrition attendant upon it, and 3, that mental depression exercises in no respect influences that admit of sufficient proof to warrant serious discussion. The author referred to the infrequency of cancer in insane patients, and stated that females suffered twice as often as males. Statistics were given from a number of institutions which showed that the death-rate in the female was nearly double that of the male, although there were more male melancholics, but melancholia in the male does not seem to exercise any distinctive effect on the death-rate. Neither is melancholia in the male more often associated with cancer than with other forms of malignant growths.

### AFTERNOON SESSION.

DR. J. COLLINS WARREN of Boston in discussing the foregoing papers stated that there were several different ways of approaching the question as exemplified by different writers, and referred to the geographical, statistical, histological, experimental, and blastomycetic. The experimental was divided into chronic irritation and inoculation, and reference was made to the fact that two papers had appeared during the year in favor of the protozoan theory of the disease. Lack produced peritoneal cancer in a rabbit by scraping the ovaries, which observation, so far as known, has not been confirmed by any other observer.

### Clinical Value of Blood Examinations in Appendicitis.

DR. J. C. DA COSTA discussed this subject under the heading of, 1, methods and technique; 2, classification; 3, the anemia of appendicitis. The details under each one of these headings was discussed at great length and a large number of blood counts were given, both actual and comparative.

### Blood Examination in Relation to Surgical Diagnosis.

DRS. J. B. BLAKE, J. C. HUBBARD and R. C. CABOT read a paper on this subject, and divided the subject into, 1, the leucocyte count in fracture; 2, postoperative leucocytosis; 3, ether-leucocytosis; 4, the effect of fear on the leucocytes; 5, regeneration of the blood after the operations on malignant tumors, and 6, blood examinations in relation to intestinal perforation in typhoid fever.

### Effect of Ether on the Blood.

DRS. J. CHALMERS DA COSTA and J. L. KALTEYER of Philadelphia read a paper entitled "The Effect on the Blood of Ether as an Anesthetic." The authors concluded that the hemoglobin is absolutely reduced after the administration of ether, this reduction being manifest in the individual corpuscular hemoglobin value. The increased hemolysis which occurs in Nature's effort to rapidly replace the destroyed corpuscles and the regenerated cells are imperfectly supplied with hemoglobin. The author urges that, whenever possible, one or two blood examinations should be made before ether is administered, and these examinations should be made before preparatory treatment has been instituted. If less than 50 per cent. of hemoglobin is present an anesthetic is dangerous and should only be given in a surgical emergency which threatens life. In malignant disease a percentage of under 50 per cent. contraindicates operation. Mikulicz says no general anesthetic should be given under any circumstances if the hemoglobin is under 30, but the author believes that 40 per cent. is probably the lowest justifiable limit. If operation must be performed when the hemoglobin is under 40 per cent. a local anesthetic should be given. It is true cases with under 40 per cent. of hemoglobin are occasionally etherized successfully—for instance, one case was recalled with only 24 per cent.—but such instances are rare, are not sufficiently numerous to set aside the rule, and are only justified by the imperative necessities of a vital emergency. Whenever the percentage of hemoglobin is low the administration of the anesthetic should be entrusted only to an experienced man, as little ether as possible should be given, the surgeon should operate quickly, and proper measures should be adopted to bring about reaction promptly and to remove the ether from the lungs and blood as quickly as possible.

### Examination of the Blood in Surgery.

DR. JOHN B. DEAVER, of Philadelphia, read a paper entitled "Examination of the Blood in Relation to Surgery of Scientific Value, but too often of no Practical Value and may Misguide the Surgeon." The subject of appendicitis was discussed in detail and the value of the microscope in bedside diagnosis was referred to, but the author felt that too much importance should not be attached to this as compared with the weight given to other signs of the disease, some of the latter possessing, in his opinion, greater merit as aids to the surgeon.

DR. B. FARQUHAR CURTIS, of New York, in his discussion on the foregoing papers, remarked the frequency of leucocytosis following ether anesthesia, and stated that it occurred quite as often after intraspinal anesthesia. He did not believe that leucocytosis should be considered as demonstrating the existence of infection, but rather that it should be looked upon as a fixed factor following anesthesia, illustrating this point by reference to a case. While he considered this point of great value, he felt that the temperature and pulse record were equally so.

### SECOND DAY—AFTERNOON SESSION.

### Pancreatitis with Special Reference to Chronic Pancreatitis.

MR. A. W. MAYO ROBSON, of Leeds, Eng., read a paper entitled as above. The author commented on the fact that he thought it strange it had not until recently dawned on the minds of clinical observers that whatever obstructs the common bile duct at its lower end must also of necessity lead to an obstruction in the pancreatic duct. When the common bile duct is obstructed the objective sign of jaundice at once demonstrates the fact, but hitherto no pathognomonic sign has been discovered which will show conclusively that the pancreatic ducts are occluded, unless it be the extreme loss of weight. When it is borne in mind that the pancreatic duct opens along with the common bile duct into the second part of the duodenum it is not a matter for surprise that pancreatitis should be met with. The essential and immediate

cause of the various forms of pancreatitis is bacterial infection, which has been positively proved both clinically in the human subject and experimentally in the lower animals. The association of gall-stone with chronic pancreatitis was absolutely forced on his mind by the frequency with which he found inflammatory enlargement of the head of the pancreas when operating for gall-etones in the common duct. Taking up the subject of fat necrosis, it was stated that this condition was commonly found in association with pancreatitis, and the relationship between the two conditions has given rise to much speculation.

### Surgical Treatment of Chronic Ulcer of the Stomach.

MR. A. W. MAYO ROBSON, of Leeds, Eng., read this paper, and stated that the treatment of these cases is at first essentially medical. He compared the treatment of ulcer of the stomach with that of ulcer of the leg and particularly referred to the tendency to relapse. Twenty-three affections were referred to as complications of the condition which were looked upon as serious menaces to the treatment of the ulcer. He believe that about 25 per cent. of cases of gastric ulcer treated medically died, while only about 16 per cent. treated surgically died, according to statistics a year ago, but at the present time, while the percentage death-rate in cases treated medically remains about the same, it has been reduced to 5 per cent. under surgical treatment. A number of operations were mentioned, from which one could take his choice, and great stress was laid upon the importance of the proper preparation of the patient before operation. The number of operations performed by the author, divided up according to the number performed of each kind, were given and the method he employs in stomach and other operations involving the making of an anastomotic opening between the hollow viscera. The author demonstrated the method, which consisted practically of the employment of a method of suturing over a decalcified bone bobbin.

DR. WILLIAM J. MAYO, of Rochester, Minn., said that excision or other form of surgical treatment is indicated in a few cases presenting special features, but the common situation of the ulceration, its varying extent and the reasonable possibility that more than one ulcer exists, makes gastroenterostomy the practical operation in the majority of cases. Not infrequently the site of the ulcer can not be discovered, rendering gastroenterostomy the operation of necessity.

The symptoms of ulcer of the stomach depend somewhat upon the situation of the disease. Ulcer is most common near the pylorus, a position which may introduce certain mechanical features, and it is in the relief of these secondary phenomena that this operation achieves its triumphs. Gastroenterostomy relieves the hyperacidity and allows prompt emptying of the ingesta, preventing irritation and aiding nutrition.

The ulcerated stomach is often contracted, and among the earlier writers it was supposed to be always small; this is but part of the truth. In acute ulcer it is small, and if the ulcerative process is not in the vicinity of the outlet it will probably remain small. On the contrary, it is during the healing process that many ulcers in the pyloric region become most troublesome. Ulcers in this situation are often extensive, and in chronic cases perhaps but party cicatrized. Enough distortion or narrowing of the pyloric outlet takes place to materially obstruct the opening. The unhealed portion of the ulcer keeps up irregular symptoms of its presence in addition to the dilatation. In such cases symptoms of open ulcer alternate with periods of health and later signs of ulcer in a stomach, more or less dilated, supervene. The majority of cases when once cicatrized remained healed, but a minority occasionally lapse into open ulcer. The capacity of the stomach affected by ulcer is not greatly changed in the majority of cases, but if so it has a surgical significance. This gives us a good working basis for comparison: 1, ulcers in the pyloric region with a normal or enlarged stomach, and 2, ulcers in a contracted stomach.

DR. W. G. MACDONALD, of Albany, N. Y., reported two cases of posterior gastroenterostomy for the relief of chronic ulcer of the stomach. One case, which existed for eight years, did very well for ten months, when distinct symptoms presented themselves of a well developed tumor in the region of the pylorus, the patient dying shortly afterwards of carcinoma of the stomach. The second case was very similar, except that the improvement following the operation lasted for a somewhat longer time.

DR. WILLIAM L. RODMAN, of Philadelphia, called attention to the fact that malignant degeneration frequently takes place on the site of an old benign ulcer, and also that the great majority of gastric ulcers are situated posteriorly and not anteriorly. In his opinion adhesions play a very important part in these conditions, but he felt that, if the ulcer is anterior and free from adhesion, the operation should be done, while, if it is posterior, it is out of the question.

*(To be continued.)*

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## MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

*Thirty-first Annual Meeting held in Sacramento, April, 1901.*

Dr. Thomas Ross, Sacramento, the president, presiding.

### Bubonic Plague at the Close of the Nineteenth Century.

DR. DAVID POWELL, Marysville, in his paper went exhaustively into the history of the disease, calling attention to the fact that for the first time in its history it had reached the Western Hemisphere. He referred to the 32 fatal cases which had been reported in San Francisco in the last year, confined, with two exceptions, to the Chinese population, and lamented the frustration of repressive measures caused by the unwarranted opposition from the newspapers and business interests of the city. He reviewed the work of the Federal Commission recently appointed to investigate this matter, and their report, showing 6 of the 13 cases examined by them to have been plague. The disease has been confined almost exclusively to the Chinese, and an examination of the mortuary records of the latter for the last four years shows that there has been no time during that period when it has increased to such an extent as, in itself, to cause alarm. The recent liberal appropriation for sanitary improvement, which is now being expended under the supervision of the municipal, state and federal health authorities in San Francisco, indicate that California has at last learned, and will profit by, the lessons of past epidemics. However, the danger of fresh invasions which threaten this country, from both the Atlantic and Pacific, because of more direct and intimate communication with oriental countries, should not be forgotten. Let those on whom the responsibility rests be sure that nothing short of the vigilant exercise of the most modern sanitary precautions, and the vigorous quarantine and prophylactic measures, can prevent the insidious encroachment of this relentless enemy upon American soil.

### Pathology and Bacteriology of Plague.

DR. W. H. KELLOGG, city bacteriologist of San Francisco, read this paper. He described the general characters of the bacillus, regarding morphology, staining properties, culture-media, appearance of colonies, etc. While it was until recently supposed that the plague bacillus was a very delicate organism, and easily killed by the ordinary vicissitudes of extracorporeal existence, he referred to recent experiments by Rosenau and others that seem to oppose this conclusion, and he thinks they can in no sense be considered tender organisms, as was at first supposed. He referred to the pathologic conditions found following animal experiments, and the greater susceptibility of certain animals over others. Either of the three forms of the disease may be produced in animals by varying the method of inoculation. If the culture is painted on the nose, with a camel's hair brush, the pneumonic form of plague is produced. If the culture is rubbed into a slight abrasion of the skin of the leg, the bubonic form is the result, and if injected subcutaneously, the septicemic form ensues. The latter was the method he used in routine diagnostic work, and he described lesions in experimental plague from the autopsy records of the animals used in establishing the diagnosis of some of the San Francisco cases. Prominent among the lesions present were coagulation necrosis at the point of inoculation; sub-

cutaneous edema at different parts of the body; enlargement of lymphatic glands with hemorrhages into the gland substance; injection of superficial veins and also mesenteric vessels, turbid fluid in peritoneal, pericardial and pleural cavities; heart muscle hyperemic, and cavities filled with dark blood; spleen uniformly enlarged, mottled in appearance, and filled with small nodules containing pure culture of the bacillus. The author thinks that the bacillus, above described, is the cause of plague, is a fact as well established as that the earth is round, although there are people who dispute the latter fact, and probably these same ones, or others of equal mental caliber, still dispute that cases of plague have been found in California.

### Extra-Uterine Pregnancy.

DR. FRANK L. ADAMS, Oakland, reported four cases of extra-uterine pregnancy treated by the vaginal route. He called attention to the fact that this condition is not so rare as was formerly held. Formad reported 35 cases, or 1 per cent., found in making 3500 general autopsies. He stated that the best writers now maintain that nearly every instance of pelvic hematocele is the result of ectopic pregnancy. He mentioned the different theories presented as to the probable cause of this condition, and called attention to the fact that early rupture was the rule. The symptomatology was referred to in detail. He thinks that abdominal section was the best method of treatment in the great majority of cases, especially when internal hemorrhage was suspected. When, however, there was a well defined and movable mass felt through the vaginal vault, vaginal section and drainage were clearly indicated. In properly selected cases the vaginal method was better, safer, and more rapid than the abdominal one. This was especially true when an adherent sac, accompanied with suppuration and an active peritonitis had to be dealt with. By this method the tubes and ovaries were preserved, the abdominal cavity not opened, and intestinal adhesions avoided. The shock was much less marked, as the anesthesia was much shorter, and the handling of the bowels avoided. The rest of his paper consisted of the clinical report of the four cases which he had operated on per vaginam.

### Surgery of the Lungs.

DR. WILLIAM LEMOYNE WILLS, Los Angeles, in a paper, called attention to the fact that the peculiar climatic conditions of California, and the great influx to this state of those suffering from pulmonary tuberculosis in its different stages, made the subject one of peculiar interest. He drew a detailed picture of the history of lung surgery from the time when Hippocrates wrote about pneumonic abscesses and their cure to the present. He believes that very many are allowed to go from bad to worse and perish from tubercular disease because of the inability of the physician to recognize the necessity for, or the hesitation to insist on, an operation, which would at least ameliorate, if not permanently cure, the condition. After referring to the dangers in these operations, as shock, hemorrhage, pneumothorax, and sepsis, he called attention to the four plans to be considered in the surgical treatment of pulmonary tuberculosis. These are: 1. Aspiration of cavities and the introduction into them of drugs. 2. Incision and drainage of cavities; known as pneumonotomy. 3. Pneumonectomy, or excision of the tubercular area. 4. Obliteration of the cavity by collapse of lung.

Aspiration has proved an unqualified failure. After pointing out the indications for pneumonotomy and pneumonectomy, he stated that the object of his paper was to urge all physicians to use every endeavor to look at this subject from a surgical standpoint, and whenever justifiable to advise operative treatment, thus doing much to relieve the suffering of the last days of, if not permanently cure, the largest class of patients sent to our coast.

### Renal and Ureteral Surgery.

DR. J. HENRY BARBAT, San Francisco, presented a paper on "The Present Status of Renal and Ureteral Surgery." He called attention to the great progress in the past ten or fifteen years in the diagnosis and surgical technique of renal and ureteral affections, and particularly the means we possess in the x-ray for determining the presence and location of calculi. He referred in detail to ureteral anastomosis, and the large amount of experimental work which had been done by Gaspare, D'Urso, Achille de Fabri, and himself. He believes that these operations would find their place in the surgery of the future, and, as the technique improves, the danger of such formidable operations will grow less, and we will be able to save lives which are now lost on account of our timidity.

### Subarachnoid Injections of Cocain.

DR. A. W. MORTON, San Francisco, presented a paper entitled "The Subarachnoid Injection of Cocain for Operations on all Parts of the Body." He reviewed the dangers and disadvantages of general anesthesia in comparison with this newer method, and called particular attention to the necessity of careful preparation of the cocain solution and technic of injection. He reported 253 cases from his own practice, several of which were operations on the upper extremities, and one a case of trephining of the skull.

### Carcinoma of Bile-Duct.

DR. J. EMMET RIXFORD, San Francisco, presented a paper on "Carcinoma of the Lower End of the Common Bile-Duct Successfully Removed; Reimplantation of the Duct into the Duodenum; Recurrence after one Year." The patient was a woman, 33 years of age who, without pain or other warning, became suddenly jaundiced in June, 1899. The writer did not see her until October 18 of that year, when he found her greatly emaciated, intensely icteric, and excessively weak. The gall-bladder was distended, reached below the umbilicus, and was moderately tender. He operated on October 22, punctured the gall-bladder, removing eight ounces of thick, green bile. No stone was found. A hard mass was felt beneath the duodenum in the region of the papilla. The mass being movable, the omentum was opened between ligatures and the pancreas exposed. The pancreas being in intimate connection with the duodenum, the mass was reached by going through the duodenum instead of around it. This was done by making a longitudinal incision 1½ inches long. The duodenum was empty at this point, and an incision was then made in the opposite wall over the nodule, through which a transparent mass of tissue was removed. This relieved the obstruction, and the field of operation was immediately filled with bile, which could only with difficulty be wiped away fast enough. The patient being exceedingly weak, further dissection was postponed until the nature of the tumor could be determined. The incision into the duodenum was closed, and the gall-bladder sutured to the peritoneum in the upper angle of the incision, a drainage tube being inserted into the gall-bladder. The course of convalescence was uneventful. The tumor being reported as adenocarcinoma, and it being certain that the section made at the operation was not sufficiently extensive to insure against recurrence, and the tumor being very small, a radical operation was attempted thirty days later. The tumor, with adjacent portions of the duodenum, was excised with curved scissors. Careful palpation over the adjacent region discovered two retroperitoneal lymph nodes, which were isolated and removed. The choledochus, one and a half inches of which had been excised with the tumor, was implanted in the upper angle of the duodenal incision. The gall-bladder was freed from its adhesions to the skin and closed. The opening was partially closed and a Mikulicz drain inserted to the region of the duodenal suture. The secretion from the wound had ceased entirely about the eighth day, the wound was entirely healed on the twenty-third day, and the patient felt strong and left the hospital. She remained perfectly well for eight months; at this time examination showed that recurrence had taken place, and as she suffered from attacks of indigestion and intense jaundice, it was proposed to give what relief was possible by making an anastomosis between the gall-bladder and the small intestine. The old scar was cut away, but the whole region was so filled with tumor masses that the operation was performed with the greatest difficulty. Convalescence from this operation was uninterrupted, and the patient left the hospital in good spirits and comfortable, in twenty-two days, and for some time rapidly gained in strength, but gradually got

weaker and anemic. She died about four months after the last operation.

### Rheumatism in Children.

Dr. Wm. Fitch Cheney, San Francisco, presented a paper on the "Manifestations of Rheumatism in Children," and based it on 1422 cases observed in the childrens' clinic at Cooper Medical College, during seven years. The paper detailed clinical reports, and the different manifestations dealt with, as follows: 1. Manifestations in joints. 2. Manifestations in heart. 3. Chorea. 4. Purpura rheumatica. 5. Subcutaneous nodules. 6. Tonsillitis. Under the chronic manifestations he referred to the close relationship, according to some authors, between rheumatism and chorea, but according to his own observations the place of chorea among the rheumatic manifestations is rather a doubtful one, unless we assume, as some authors do, that chorea is in itself a rheumatic manifestation, no matter whether others occur or not. He reported two cases of purpura rheumatica in which the connection between the purpura and other undoubted rheumatic manifestations was so close as to justify the diagnosis of rheumatic purpura. Regarding the question of a tonsillitis being a manifestation, his experience leads him to believe that the coincidence is too frequent to give tonsillitis a place in the rheumatic series.

### Officers.

The officers elected for the ensuing year are: Dr. W. J. G. Dawson, St. Helena, president; Dr. F. B. Carpenter, San Francisco, first vice-president; Dr. Frank L. Adams, Oakland, second vice-president; Dr. George H. Evans, San Francisco, secretary; Dr. Elmer E. Kelly, San Francisco, treasurer. The society selected San Francisco as the next place of meeting.

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## IOWA STATE MEDICAL ASSOCIATION.

The semicentennial meeting was held at Davenport, May 15, 16 and 17, 1901, under the presidency of Dr. Robert E. Conniff, Sioux City.

The sessions were well attended; the papers were short, practical and instructive, and the discussions spirited.

### President's Address.

In his address, the president gave a retrospective view of the advances that have been made in medicine and surgery in the last few years. Among other things, he urged the establishment of a state sanatorium for the treatment of the indigent consumptive poor, and suggested that action be taken to influence the State Legislature to appropriate sufficient money for the construction and maintenance of said sanatorium. He also recommended the enactment of a law to regulate marriage among the defective classes.

### Organization.

Dr. Ira K. Gardner, Chairman of the Committee on Constitution and By-Laws, read the report of the Committee, and asked that action on it be deferred until the next annual meeting, for the reason that at the St. Paul meeting of the American Medical Association a report is to be made looking toward the reorganization of that Association, and in case that report was adopted, such changes would have to be made in the Constitution and By-Laws of the Iowa State Medical Society as would make them conform with those of the American Medical Association. He outlined the salient features of the report of the Committee on Reorganization of the American Medical Association, and urged the Iowa delegates to go to St. Paul and do everything in their power towards its adoption. The suggestions were adopted.

### Puerperal Infection.

Dr. Royal L. Cleaves, Cherokee, in a paper on "Puerperal Infection," discussed the varieties and causes. He narrated the report of a case of pyemia and septicemia, and then gave his conclusions drawn from a long experience, and made a plea for asepsis in the lying-in room.

Dr. Gilbert G. Cottan, Rock Rapids, discussed puerperal infection from a surgical standpoint. He detailed a series of cases illustrating the various forms of puerperal sepsis, with deductions as to sources and prevention of infection. The futility of temporizing measures was dwelt upon, and the manifest advantages of radical treatment at the onset of symptoms pointed out.

### Mammary and Uterine Cancer.

Dr. Davin C. Brockman, Ottumwa, spoke on the early diagnosis of mammary and uterine cancer. Statistics show that three-fourths of all cases of cancer begin in the uterus or breast. Primarily they are local, and curable, if operated upon early. The diagnosis is not always feasible; if it were, many patients might be saved who now die. The cardinal symptoms were pointed out. Doubtful cases should be considered malignant until they are proved to be benign. He urged the importance of examining thoroughly a specimen of the growth. The symptoms of uterine cancer, either of the cervix or body, were defined.

Dr. Charles E. Ruth, Keokuk, in a paper on the treatment of uterine and mammary cancer stated that the growth is primarily local. There is a tendency to speedy death from exhaustion. Recurrence of the disease is certain if a portion of it be left. Metastasis takes place through the lymph channels, and not by the fascia. Serum-therapy and other medication are unpromising. Surgical treatment, while uncertain, gives the only hope in such cases. It was exceedingly difficult, if not impossible, to tell where normal tissue begins and where carcinoma ends. He referred to drainage, dressings and hysterectomy when and when not indicated. He also discussed the vaginal and suprapubic routes. Sloughing is a contraindication against hysterectomy.

### Ovarian Cysts and Malignant Sequelae.

Dr. Henry A. Leipsiger, Burlington, referred to the best available means of differentiating benign from malignant ovarian growths in the early stages. Do apparently benign ovarian cysts contain foci of malignancy? He reported two cases in support of this view.

### Ovarian Tumor.

Dr. William L. Allen, Davenport, reported a case of ovarian tumor in a child. The tumor was first noticed when the child was 12 years and 6 months old. The growth appeared at that time to be the size of a cocoanut. Operation was done ten months later, a simple unadherent cyst of the right ovary being removed, which weighed about 12 pounds. Rapid and complete recovery followed.

### Kidney Stone.

Dr. Donald Macrea, Jr., Council Bluffs, gave a brief resume of the work done in cases of kidney stone, the diagnosis and treatment. He alluded to the importance of the X-ray as a positive means of diagnosis, and showed numerous skiagraphs. He emphasized the importance of thoroughly clearing the ureter.

### Duodenal Ulcer.

Dr. David S. Fairchild, Clinton, considered ulcer of the duodenum from a surgical standpoint. Conditions were compared with those of ulcer of the stomach. The importance of making a diagnosis before perforation was dwelt upon, as well as the difficulty attending diagnosis. He discussed the methods which may be employed before and after perforation, reported a case, and briefly reviewed other cases.

### Surgery of the Gall-Bladder.

Dr. Arthur L. Wright, Carroll, gave a brief history of the surgery of the gall-bladder. He pointed out the indications demanding such surgery and the methods used in determining such indications. He dwelt on the most suitable time for the performance of such operation. Should it always be done whenever gall-bladder pathology exists? He considered the technique of the operation, as well as the immediate and remote results.

### Election of Officers.

The following officers were elected for the ensuing year: Dr. James R. Guthrie, Dubuque, president; Drs. Samuel Bailey, Mount Ayr, and John H. Kulp, Davenport, vice-presidents; Dr. Vernon L. Treynor, Council Bluffs, secretary; Dr. George

L. Skinner, Cedar Rapids, treasurer. Des Moines was selected as the place for the next annual meeting.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting held May 2.*

Robert F. Weir, M.D., President.

### Clinical Aspect of Acute Intestinal Obstruction.

DR. HOWARD LILIENTHAL opened the discussion on this topic. He said that the chief causes contributing to the mortality of this affection are shock, sepsis and the embarrassment of the functions of the heart and lungs resulting from the abdominal distention. Constricting neoplasms are common in elderly persons. The discharge of foul gas is of far greater importance as an indication of the relief of the obstruction than the mere passage of feces. Ischuria and great dryness of the mouth are of diagnostic value. A number of successful cases have been reported in which a good result followed the administration of large doses of atropin—5 milligrams—but the mouth, already dry, is thereby rendered very much more uncomfortable, and these large doses are apt to cause a variety of delirium which closely simulates that dependent on sepsis. This medicinal treatment may possibly be a justifiable temporary measure in cases of chronic ileus with acute exacerbation. The speaker said that since 1893 he had performed 34 operations for acute ileus, with 41 per cent. of recoveries. It has been his practice for the past three years, in cases in which there was great distention of the bowel, to make a sufficient number of small incisions opposite the mesentery to relieve this distention. While this procedure has been unfavorably criticised by some of the surgeons in New York City, he has seen nothing but good from it.

DR. B. FARQUHAR CURTIS said that the only new diagnostic sign of importance is leucocytosis as an indication of peritonitis. In cases of acute intestinal obstruction in elderly persons his first thought is of malignant disease. Digital exploration of the rectum is an important aid to diagnosis in these cases. As long ago as 1888 he pointed out, in a statistical study, that three-fourths of the cases could be relieved by making an artificial anus, that one-half recover and that fully one-third of these are entirely cured of the intestinal obstruction. The operation could be done quickly and without a general anesthetic if need be, hence it could be looked upon in appropriate cases as a life-saving measure.

DR. C. L. GIBSON exhibited a table of statistics collected from 187 cases of acute intussusception, and pointed out the very rapid and significant increase in mortality in the first few days, as well as the increasing percentage of irreducible cases found during this period. The establishment of an artificial anus certainly will often save life for the time, but it also makes it probable that grave conditions of the bowel demanding operative intervention will be overlooked or improperly treated.

DR. MORRIS MANGES said that the duty of the medical man is to make the diagnosis and then promptly call in a surgeon. The important points to consider are the presence of shock and of more or less pain and vomiting. A digital examination of the rectum will afford more valuable information in these cases than will the most careful abdominal palpation, even under a general anesthetic.

DR. HENRY KOPLIK said that acute intussusception sometimes comes on in an insidious fashion in children, thus increasing the difficulties of diagnosis. He believes it to be most important to make the physical examination in children under a general anesthetic. Often there is very little prostration in children at the beginning, and even vomiting and bloody stools may be intermittent.

## PHILADELPHIA COUNTY MEDICAL SOCIETY.

*Meeting held April 24.*

Dr. George Erety Shoemaker in the chair.

### Antitoxin in Diphtheria.

DR. J. D. STEELE read a paper entitled the "Present Aspect of the Antitoxin Treatment of Diphtheria." He detailed the statistics regarding the beneficial results obtained in the treatment, which showed that in a series of 200,000 cases of diphtheria there was a mortality of 18 per cent. In another series of 24,000 cases which had been reported the mortality was 16 per cent. In the latter, when the antitoxin treatment had been employed on the first day the mortality was 3 per cent., while after the first day it was 34 per cent. According to the report of the American Pediatric Society, in a series of over 5000 cases reported in private practice the mortality was about 5 per cent. Baginsky, in a series of cases first day reported a mortality of from 1.7 to 2.7 per cent., and when used on the second day the mortality was from 2 to 14 per cent. The statistics of all the cases so far reported show that the mortality of diphtheria by this plan of treatment is 10 per cent. In hospitals the mortality is 19 per cent. The greater mortality in hospital cases is due to the fact that they are usually overcome by the disease before treatment is instituted. In a series of 15,000 laryngeal cases the mortality is about 16 per cent., while in pre-antitoxin days it was 70 per cent. Formerly the death-rate in these laryngeal cases was 70 per cent., while since the introduction of the antitoxin treatment, the number of recoveries is 70 per cent., thus reversing the death-rate. As to the influence exerted on the heart and kidneys by antitoxin, all results go to show that it has no deleterious action. As a local remedy in the treatment of this condition he has obtained good results from the use of nitrate of silver (60 grains to the ounce), first recommended by Hand. Applications should be made once daily for three successive days.

### Diphtheria.

DR. FREDERICK A. PACKARD read a paper on this subject. He said that in some instances the bacilli of diphtheria do not appear to be virulent simply because they have become attenuated. It is his personal feeling that these latter cases, from a hygienic point of view, are of even greater importance than frank cases of the disease. Symptoms of diphtheria depend on the local action of the micro-organisms of diphtheria, and though bacilli have been found in the internal organs they probably have little to do with the general manifestations of the diseases. Diphtheria is not a local disease, in the strict sense of the term, since its process may extend upward into the nares, or conjunctiva, and may involve the mucous surfaces elsewhere, or abrasions on the skin. Absence of the false membrane is no guide to the absence of diphtheria bacilli. In streptococcic infection there may be more pain and local manifestations. The cases of diphtheria with a high frank temperature are more liable to recover than those with a lower temperature. The danger of cardiac involvement in this disease is great even from the very first day. Local palsies are more frequent than in any other disease.

### Prophylaxis of Diphtheria.

DR. J. P. CROZER GRIFFITH read a paper on the prophylaxis. He believes the only way to eradicate the disease is by thorough disinfection. Children who have recovered should be kept under close surveillance for a period of 10 to 14 days. As a prophylactic measure the nurse should wear a skull-cap of some kind and should disinfect the face and hands thoroughly whenever she comes in contact with the patient. The mouth, too, should be repeatedly rinsed out. The physician should envelop himself with a rubber garment on entering the room, and after leaving should thoroughly disinfect himself. All upholstered furniture in the room, all lace curtains and carpets should be removed, and after recovery of the patient the walls and ceiling should be painted, and the bedding thoroughly steamed. Spraying the nose frequently frightens the child, and the nares should be irrigated by means of a syringe. Peroxid of hydrogen is frequently too highly acid, and should be neutralized with lime-water. Ordinarily peroxid should be diluted with water 1 to 4. Bichlorid of mercury, 1 to 5000, seems of benefit. For the pharynx, peroxid of hydrogen in full strength may be used. Locally, Löffler's solution is of advantage. As to inhalations, it is foolish to try to keep the atmosphere in a room moist by evaporating in the open a small pan of water. If any beneficial effects are to be obtained the bed must be enveloped in a sheet and the steam conducted upward.

### Bacteria of Diphtheria.

DR. A. C. ABBOTT spoke on the bacteria found in diphtheria, saying that in typical cases there should be no hesitancy in stating that there is a specific micro-organism present; yet there are some cases in which the clinical symptoms do not designate that such is the case. In diphtheria one should not be surprised to find the disease vary in type. The differences in clinical manifestations are not due to the bacteria, but to the soil on which they grow. As a prophylactic measure we should be very careful to find those cases of diphtheria in which the disease is confined to the nares with no other clinical manifestations. When virulent diphtheria bacilli are found in the throat of healthy people, it means that those individuals at that time are not susceptible to the disease.

### Heart and Kidney Changes.

DR. R. M. PEARCE then exhibited, by means of lantern slides, the changes found in the heart and kidneys, as determined by the investigation of the subject by Councilman, Mallory and himself. The investigations proved that the heart muscle might undergo the various forms of degeneration, and the same was true of the kidneys. In the latter organs hyaline degeneration was very frequently met with.

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## GERMAN CONGRESS OF INTERNAL MEDICINE.

*Held in Berlin, April 16 to 19.*

A very interesting feature of this congress was the scientific exhibit connected with it, which was restricted to diagnostic instruments and appliances. It was a remarkable showing of what has been accomplished in this line, and was ably supplemented by a descriptive souvenir catalog, the work of Mendelssohn. The first session was devoted to

### Heart and Vasoconstricting Medicines.

GOTTLIEB stated that he had succeeded in isolating the pulmonary circulation in living, warm-blooded animals, and found that the action of the ventricle could be increased by the influence of digitoxin to three and four times its pristine energy. The stronger systolic contraction of the heart is an important factor in the effect of digitalis. The constricting action on the vessels is secondary, but it aids in the benefit derived. Digitalis also stimulates the pneumogastric, and this has a tendency to retard the pulse, which also assists the favorable effect. The blood is aspirated out of the veins more completely when the pulse is slow and regular. Paralysis of the vessels from insufficiency of the central innervation, as in case of infectious diseases, causes the blood to accumulate in the abdominal vessels, leaving the peripheral and cerebral vessels comparatively empty. This condition requires a drug to act on the splanchnic vessels—not on the heart—and strychnin, caffein and camphor answer this indication and constrict the splanchnic vessels. This can also be accomplished by counterirritation or cold applications to the skin. Caffein has also a direct action on the heart, the reverse of digitalis. It does not increase the functional energy, but reenforces the action of the heart muscle to overcome pathologic arterial resistance. It may thus prove useful in heart affections with high aortic tension. Alcohol dilates the peripheral vessels and diminishes the resistance, thus furnishing better conditions for the heart to work in. Camphor has little action on the normal heart, but in experiments on rabbits in certain pathologic conditions, when the heart stopped beating the application of camphor revived it and restored its functions. Sahli in his address described four varieties of stasis, although the sluggish circulation in the aorta is common to all, with consequent unequal distribution of blood throughout the system: 1, the cardiac stasis, which may be due to insufficiency of the systole as well as to mechanical hindrance of the diastole of the heart; 2, respiratory stasis, in affections of the respiratory organs and intrathoracic effusions; 3, stasis due to dilatation of the capillaries; and 4, splanchnic stasis. The latter is a stasis from primary vasodilatation chiefly in the domain of the splanchnic vessels. The patients are pale and look as if they had been drained of their blood. This stasis may occur alone or in combination with a serious cardiac stasis, such as is observed in aortic insufficiency. The stasis should be diagnosed and treated at the first symptoms without waiting for complete development. Treatment should be instituted when the pulse is frequent and traces of edema appear, with diminished urinary secretion and congestion of the jugular veins. Digitalis is effective in all cases of generalized stasis and lowers instead of increasing a high arterial tension. In some cases, however, its effect is nullified by an essential insufficiency, beyond compensation, of some valve. Caffein and camphor are indicated in the stasis due to dilatation of the capillaries, "vasomotor stasis." Camphor is especially useful in sustaining the vital function in the course of infectious diseases. Alcohol has a brief relaxing effect on the peripheral vessels, and is indispensable during a febrile chill or in case of defective reaction to a cold bath. These effects render it useful in certain cases of high tension, combined with digitalis or caffein. Ewald administers digitalis in enemata or suppositories in case of gastric intolerance. He considers morphin in certain circumstances one of the best heart tonics at our disposal. Goldscheider reported excellent results from the administration of 1 to 22 cg. of digitalis a day for months at a time. Smith called attention to the injury caused by all stimuli that enlarged the heart. The outlines of the heart should be supervised in athletic training. He has found in a number of cases of neurasthenia, melancholia, hypochondria and depression, hypertrophy of the heart as the cause or aggravating element, and after this had been cured the nervous affection vanished with it or was materially improved. Hofmann reported tests on healthy persons showing that camphor, digitalis, cocain, belladonna, strophanthus and strychnin cause the heart to contract. Narcotics—ether, lead acetate and alcohol—enlarge the heart. Schott stated that the Nauheim treatment, baths and exercise, raised the blood pressure in subjects that were benefited, but that the blood pressure was lowered in persons with advanced arteriosclerosis, myocarditis or aneurysms, which he considers contra-indicate the treatment.

### Acute Myelitis.

VON LEYDEN classified this condition as transverse or disseminated, and the acute or chronic form of poliomyelitis. The direct agency of the streptococcus has been established, and myelitis is frequently preceded by la grippe. It has also been observed consecutive to typhoid, panaris, angina, gonorrhea or trauma. Ritter has witnessed six cases of myelitis in children consecutive to an infectious disease, and concludes from his experiments that ptomain poisoning was the cause in these cases. A number of members reported the discovery of the ordinary streptococcus in cases of articular rheumatism and chorea, and Singer considers the disease an attenuated pyemia. Mayer stated that he had induced a disease in animals inoculated with streptococci from 12 patients with acute articular rheumatism, which caused effusions in the joints and inflammation of the serous membranes with endocarditis in 17 out of the 89 animals. Jaeger asserted that epidemic cerebrospinal meningitis is endemic in this country and that the cases occurring in Germany are imported from the United States. Bier confirmed his previous announcement in regard to the pain-soothing and bactericidal effect of congestive hyperemia combined with massage to promote absorption. Arterial hyperemia with hot air has no bactericidal influence nor any action on the nervous system. Hansemann reported three pure cases of syphilis of the lungs. Kahlden asserted that traumatism is the most important factor in the genesis of porencephalia. Rosenfeld described researches which showed that fatty degeneration is due to an immigration of the fat globules into the protoplasm of the cells. This immigration cannot occur unless the cells are deficient in glycogen. Consequently in his experiments with artificial fatty degeneration produced by phloridzin, he was able to prevent it by administering substances that supplied the demand for glycogen. Wiener announced that he had established in birds a synthesis of uric acid from oxyketon and dibasic acids, and that the same process probably occurs in man.

# Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### Treatment of Indigestion.

Dr. J. M. G. Carter, of Waukegan, Ill., in *Med. Fortnightly*, states that where there is interference with digestion resulting from a hypersensitive condition of the mucous membrane of the stomach, with a tendency to fermentation of the carbonaceous foods, he employs the following prescription:

| | | | |
|---|---|---|---|
| R. | Acidi carbol. | gtt. vi | 4 |
| | Tinct. gelsemii (U. S. P.) | | |
| | Glycerini | | |
| | Vini colchici, āā | ʒss | 16 |
| | Tinct. opii camph. | ʒiss | 48 |
| | Elix. simplicis | ʒi | 32 |

M. Sig.: One teaspoonful before each meal and at bedtime.

In the same journal are given the prescriptions for this purpose, used by M. Mathieu:

| | | | |
|---|---|---|---|
| R. | Tinct. ipecacuanhæ | | |
| | Tinct. calumbæ | | |
| | Tinct. gentianæ, āā | m. 75 | 5 |

M. Sig.: From 15 to 30 drops after each meal in water.

Or:

| | | | |
|---|---|---|---|
| R. | Tinct. ipecacuanhæ | ʒiss | 6 |
| | Saccharin | gr. iss | 1 |
| | Menthol | gr. iv | 25 |
| | Alcoholis at 80 deg. | ʒx | 40 |
| | Syr. simplicis | ʒiv | 128 |

M. Sig.: Two to four teaspoonfuls after each meal.

### Soda Compresses in Suppuration.

G. E. Vladimiroff, according to the *Phila. Med. Jour.*, states that he has obtained splendid results from the use of soda compresses in diverse suppurative processes. He has employed it in several cases included among which there were burns of second degree, burns of the third degree, suppurating processes, contused and incised wounds and suppurating lymphatic glands. He employed it as follows: 1. A layer of gauze saturated with a 2 per cent. solution of soda, was applied. This was covered with a piece of oilcloth, cotton and a bandage. The compress was changed two or three times in twenty-four hours. 2. The gauze next to the body was not saturated but kept wet with the soda solution by pouring on the solution three or four times daily. 3. Several layers of gauze saturated in soda solution were placed over the suppurating surface, these were covered by a thick layer of boric acid and camphor salve, then a piece of oil silk, cotton and bandage. Such a compress remained moist one or two days.

### Treatment of Chronic Arteritis.

Boix, in *N. W. Lancet*, gives the following combination for chronic arteritis:

| | | | |
|---|---|---|---|
| R. | Hydrastininæ hydrochlor. | gr. iss | 10 |
| | Sodii iodidi | gr. xxx | 2 |
| | Aq. destil. | ʒvi | 192 |

M. Sig.: Take two tablespoonfuls each morning. The treatment should be suspended one week in each month.

### Local Application of Turpentine in Neuritis.

Of the counterirritant effects of turpentine there can be no doubt. Mircoli strongly recommends the local application of turpentine in neuritis resulting from exposure to cold, and in sciatica especially. He recommends the following:

| | | | |
|---|---|---|---|
| R. | Terebenthinæ (Venetian) | ʒi | 32 |
| | Dissolve in | | |
| | Olei terebenthinæ | ʒii | 8 |
| | Olei olivæ | ʒiss | 48 |

M. Sig.: Apply locally once or twice daily with friction.

The resin remaining will exert a continuous action upon the skin after each application.

### Hemoptysis.

Tuberculous hemoptysis sometimes proves so stubborn that the ordinary treatment will not prove efficient. Lemoine, as noted in *St. Louis Med. Rev.*, states that hemoptysis without fever is, as a rule, less grave. He recommends absolute rest; horizontal position with the head slightly elevated; warm foot baths, active purgatives to bring the blood to the abdomen and extremities. Sinapisms to the apices and bases of the lungs, oft repeated, aid revulsion. Internally he administers quinin and ergot. Alcohol should be discarded. In febrile hemoptysis ergot is not always indicated. The following combination is recommended.

| | | | |
|---|---|---|---|
| R. | Pulv. ipecac. | gr. xxx | 2 |
| | Syrupi ipecac. | ʒx | 40 |
| | Syr. aurantii | ʒiii | 96 |

M. Sig. One dessertspoonful every two hours until slightly nauseated.

### Suprarenal Capsule in Treatment of Hemoptysis.

W. B. Kenworthy, in *Med. Record*, states a case which he had unsuccessfully treated for hemoptysis by the usual methods—administering opium, ergot, and gallic acid. The extract of suprarenal capsule was then administered in three grain doses, every half hour until three doses were taken; then every two hours for six or seven days. In a very few minutes after the first dose was taken the hemorrhage ceased entirely without return while under his care ten weeks later.

### Treatment of Gonorrhea.

F. P. Dyer, of Boston, in *Jour. Med. and Science*, states that he uses the following formula in all stages of gonorrhea, and reports several cases successfully treated:

| | | | |
|---|---|---|---|
| R. | Balsami copaibæ | | |
| | Spts. etheris nitrosi, āā | ʒiv | 16 |
| | Spts. lavendulæ comp. | ʒiii | 12 |
| | Tinct opii | ʒi | 4 |
| | Syr. simplicis | ʒi | 32 |
| | Mucil. acaciæ q. s. ad | ʒvi | 192 |

M. Sig.: Shake. One teaspoonful after each meal in milk.

He calls attention to the fact that no alkalies enter into the composition of the above and by its omission irritation of the bladder is avoided. He prefers protargol in 2 per cent. solutions as an injection twice daily.

### Salt Solution for Intravenous Injection.

Carwardine, as stated in *Operative and Pract. Surgery*, states that the surgeon should keep a bottle of sterilized salt solution more nearly approaching the composition of blood plasma than the normal salt solution made up from ordinary table salt. It is composed as follows:

| | | | |
|---|---|---|---|
| R. | Sodii chloridi | ʒiiiss | 14 |
| | Potassii chloridi | gr. xii | 75 |
| | Sodii sulphatis | gr. c | 6 66 |
| | Sodii carbonatis | gr. c | 6 66 |
| | Sodii phosphatis | gr. viii | 50 |
| | Aq. destil. | ʒviii | 256 |

M. Sig.: Sterilize and before using increase its bulk to two pints, by the addition of water.

### Migraine.

W. Whitehead, in *British Medical Journal*, reports some very interesting cases of migraine which he successfully cured in every instance by means of the ordinary tape seton. He grasps at the back of the neck between the finger and thumb of the left hand and then transfixes the skin with a scalpel and passes a needle or probe, with an eye, through the wound. A piece of tape one-half inch wide is then drawn through the wound. Four or five inches of tape is left on either side of the wound and tied so that the tape can not be displaced. The patient is ordered to move the tape in the wound from side to side each day. This seton is allowed to remain continuously for three months. If the migraine reappears at the end of that time another seton should be introduced. Anesthesia with nitrous oxid for one-half minute is sufficiently long for the operation.

### Chronic Otorrhea.

| | | | |
|---|---|---|---|
| R. | Potassii iodidi | 3ss | 2 |
| | Tinct. iodidi | 3vi | 24 |
| | Alcoholis | ʒi | 32 |
| | Glycerini | 3vi | 24 |
| | Iodoformi | 3ss | 16 |

M. Sig.: Inject into the outer ear daily.—*Med. Woch.*

### Treatment of Pruritus Ani.

In an interesting article in *Internat. Jour. of Surgery*, J. P. Tuttle, of New York, states that the local treatment, while simply palliative, is of the utmost importance because of the necessity of giving the patient immediate relief. By means of local application the itching and nervous conditions can be quieted. He recommends hot water as one of the simplest, applied by the patient, just before retiring, as hot as can be borne. This must be applied without rubbing or irritating the parts. He recommends the following, containing salicylic acid and glycerin as being the most efficient ointment in his hands:

| | | | |
|---|---|---|---|
| R. | Acidi carbol. | 3ii | 8 |
| | Acidi salicylici | 3iss | 6 |
| | Sodii biboratis | 3i | 4 |
| | Glycerini | ʒi | 32 |

M. Sig.: Apply at bedtime and during the night if necessary.

In cases where there is fissure or in those marked cases of atrophic catarrh, the following is effectual:

| | | | |
|---|---|---|---|
| R. | Ext. conii | 3ii | 8 |
| | Ung. stramonii | | |
| | Lanolini, āā | ʒi | 32 |

M. Sig.: Apply at bedtime and after stool.

### Treatment of Hemorrhoids.

J. P. Tuttle, as noted in *Amer. Med.*, believes that in many acute cases of internal hemorrhoids, local and general measures should be resorted to rather than operative procedures. Cold water enemas once or twice a day are of great benefit in order to produce an easy movement of the bowels and to contract to some extent the blood vessels. Injections of mild nonirritating astringents, such as the fluid extract of krameria, fluid extract of hamamelis, or fluid extract of pinus Canadensis, will have a very soothing and curative influence. Suppositories of ichthyol, tannic acid and belladonna are of great benefit, especially if there is an eroded condition of the parts. Resinous cathartics, such as podophyllin, aloin, gamboge, etc., irritate the parts and should not be used. Small doses of saline laxatives, especially sodium phosphate, before breakfast, followed after breakfast by a cold enema, will have splendid effect upon the liver, intestine and hemorrhoids.

## Medicolegal.

**Liability for Aggravation of Existing Diseases.**—The Supreme Court of Illinois holds in the case of the City of Rock Island vs. Starkey, an action brought by the latter party to recover damages on account of an injury alleged to have been received by falling on a defective sidewalk, that if, prior to the injury, the woman had diseases which were aggravated by the fall, she might recover from the city, but its liability would be measured by the damages which were the natural and proximate result of its negligence. It adds that the evidence tended to show something more than a mere latent tendency to particular diseases, and holds that if there was an aggravation of the existing diseases, the city would only be liable for what resulted from the fall.

**Death from Lightning Conveyed by Telephone Wire.**—In the case of Griffith, administrator, vs. the New England Telephone & Telegraph Company, the Supreme Court of Vermont affirms a judgment holding the telephone company liable for the death of a physician struck by lightning while sitting in his library intently reading, under a telephone instrument. It holds that the duty of the company, in undertaking to maintain an instrument in the doctor's house for his use, was to exercise the care of a prudent man in like circumstances in selecting, placing, and maintaining, in connection with its wires and instruments, such known and approved appliances and ground connections as were reasonably necessary to guard against accidents from lightning striking its telephone line and passing along its wires. Whether the doctor was in the exercise of due care at the time it says was for the determination of the jury.

**The Phrase "Wholly Disabled" in Accident Insurance.**—The Supreme Court of Nebraska holds, in the case of Coad vs. the Travelers' Insurance Company, that where a person is insured against being wholly disabled from transacting "any and every kind of business pertaining to his occupation," the phrase "wholly disabled" should be given a reasonable and practical construction, so as to carry out the intention of the parties, and give to the insured the protection contracted for. But if an injury received by the assured renders him less capable of performing the duties required in the conduct of his business, yet notwithstanding the same he is able to devote substantially all of his time to the business, and to do practically all kinds of work and perform all necessary acts for the prosecution thereof, and accomplish, substantially, results of the same character as before the injury, the court does not consider that he is wholly disabled, within the meaning of the contract of insurance. Nor does it think that he is so disabled, within the meaning of the policy, where there are different branches of the business pertaining to the occupation in which he is insured, the prosecution of one of which may be prevented by the injury, and yet the other engaged in, prosecuted, and carried on.

**Testimony not Amounting to a Waiver of Privilege.**—The third appellate division of the Supreme Court of New York says that, while on the witness stand the plaintiff in the personal injury case of Fox vs. the Union Turnpike Company detailed her alleged injuries, and stated without reserve her feelings and all the alleged consequences of the injuries; but she did not attempt to give the conversations with the physician called to treat her after the accident, or detail what, if anything, was done by him. The only evidence given by her on her examination with reference to what was said and done by the physician when he was called, other than that he gave her internal remedies, which she used, was brought out by the defendant on cross-examination. It was as follows: "What did the doctor do for you then? 9. He examined my back and examined me. He ordered alcohol. Q. What did he give you? A. He gave me some medicine. That is all I can tell you. Something in a glass; two or three different kinds." The court holds that the plaintiff's testimony was not an express waiver of the statutory prohibition against disclosures by a physician. It says that when a patient voluntarily opens the door of the consultation room, and gives a view that may have been specially arranged for the purpose, it would not be in accordance with the spirit of the statute or in the interest of truth to shut the door against a view to be described by the physician; but in this case the door was not opened by the plaintiff. Further, it says that the prohibition contained in the statute against disclosing professional information is for the purpose of allowing greater freedom between physician and patient, and a patient should not be subject to the penalty of waiving entirely the prohibition if she gives to a friend, or as a witness in an action or proceeding in court, a general statement of her injuries, and the claimed consequences of the same. The determination of the question of an express waiver depends very largely upon the extent to which the patient in her testimony has entered into the details of the consultations with her physician.

**Validity of Law and Procedure to Revoke Certificate.**—The Supreme Court of Rhode Island holds constitutional, in the case of the State Board of Health vs. Roy, section 5 of chapter 165 of the General Laws of Rhode Island, which section provides that the State Board of Health may refuse to issue a certificate to practice medicine to any individual

guilty of grossly unprofessional conduct of a character likely to deceive or defraud the public, and may after due notice and hearing revoke a certificate for like cause, in all cases of refusal or revocation the applicant to have the right of appeal to the appellate division of the supreme court, which may affirm or overrule the decision of the board. It does not think that it violates the constitutional provision that the judicial power of the state shall be vested in a supreme and inferior courts, even if the State Board of Health be only an administrative board, and not a court or judicial body. It says that the way provided to determine, in the first instance, whether a trial before the appellate division of the supreme court is desired, is speedy and inexpensive. He whose application for a license has been refused, or whose license is proposed to be revoked, can have a judicial trial without terms or condition, by taking an appeal, which is practically for the asking, and then his case is tried in full before the highest court in the state. If the State Board of Health decides in his favor, he gets all he asks, with little trouble and expense. If the decision is not in his favor, he gets for the asking a trial before the highest tribunal in the commonwealth. It is difficult to see how his rights could be better protected. The appeal vacates the proceedings before the board so far as results go, and brings the matter up before the appellate division *de novo* or anew for trial as fully as though it had never been heard before the board, save that the original charge or petition remains as the cause of trial, and save, also, that before it can be so tried before the appellate division it must have been brought before the board. Hence, mere errors in proceeding do not afford ground for overthrowing or annulling the whole proceeding, so that an appeal povided to correct such errors can not be prosecuted. Nor does the court think there is any conflict with the constitutional guaranties that no one shall be deprived of life, liberty or property unless by the judgment of his peers, or by the law of the land, or be denied the equal protection of the laws. Moreover, while it says that it is axiomatic that one can not judge in his own case, the court points out that the complaint in this case was not made by any member of the board, *ex officio* or otherwise, and says that if the secretary is personally interested in the complaint, he can not vote upon it, and, if he is officially interested merely (if such a distinction can be taken), his action is similar to boards of aldermen in various health matters where they originate the proceedings which may be appealed from, and it has never been supposed that their so doing was a cause for quashing the proceedings. And the court holds that if a person obtains his certificate to practice medicine by misrepresentation and fraud in palming off upon the State Board of Health a diploma issued to another as one issued to himself, he is guilty of conduct likely to deceive and defraud the public by inducing the public to believe that he is lawfully entitled to practice medicine by reason of the possession of qualifications that would honestly entitle him to the certificate, conduct grossly unprofessional, which is continued every time he practices medicine under the pretended authority of such certificate. No answer of the board to an appeal is required, and one is simply nugatory.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## Medical News (N. Y.), May 11.

1 *Practical Food Prescribing. Floyd M. Crandall.
2 *Studies in the Bacteriology of Typhoid Fever, with Special Reference to Its Pathology, Diagnosis and Hygiene. Philip Hanson Hiss, Jr.
3 Restoration of Useful Vision in a Complicated Case of Acute Inflammatory Glaucoma of Ten Days' Duration with Visual Acuity Reduced to the Perception of Light. C. A. Veasey.
4 Rupture of the Right Kidney; Nephrectomy; Recovery. G. R. Trowbridge.

## Philadelphia Medical Journal, May 11.

5 *The Doctor's Fee—A Plea for Honorable Dealing. John B. Roberts.
6 *The Etiology of Arrested Mental Development. Pearce Bailey.
7 Cataract Extraction. Edward Jackson.
8 Abscess of the Orbit from Disease of the Ethmoid; Curetting Through the Orbit and Draining Through the Nose. George C. Harlan.
9 Purulent Choroiditis, Following an Attack of Mumps; Diagnosis, Metastatic Choroiditis, Revised by Study of the Enucleated Eyeball. John T. Carpenter.
10 Spontaneous (?) Rupture of the Spleen. Laparotomy—Death—Report of Case. D. C. Howard.
11 Ephemeral Insanity with Report of Two Cases. Charles J. Aldrich.

## American Medicine (Philadelphia), May 11.

12 *The Necessity for Greater Conservatism in the Use of Vasodilators in Certain Cases of Cardiovascular Disease. Louis F. Bishop.
13 Aneurysm of Ascending Aorta of Great Size; Treatment by Gelatin Injections and Electrolysis, with Effect of Coagulating Most of the Contained Blood. W. W. Johnston.
14 *Postpartum Metastatic Panophthalmitis, with a Clinical and Pathologic Study of a Case. Walter L. Pyle.
15 A Preliminary Note upon Hydrocyanic Acid Gas as a Disinfecting Agent. John S. Fulton.
16 *The Food Value of Alcohol and Professor Atwater's Experiments and Teaching. (Concluded.) John Madden.
17 *A Case of Double Bladder; each with a Separate Ureter. A Study of the Urine from Each Kidney. E. P. Hershey.
18 Transfusion, Infusion and Autotransfusion. G. W. Wagoner.
19 Litholapaxy in a Child Four Years old, with an Improvised Evacuator. Gwilym G. Davis.

## New York Medical Journal, May 11.

20 *Atonia Gastrica and a New Method of Treatment. A Rose.
21 What Constitutes Sexual Intemperance. W. J. S. Stewart.
22 *The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Skin. John A. Fordyce.
23 *Primary Chancre of the Septum of the Nose. W. Freudenthal.
24 *Syphilis of Nervous System. B. Onuf.
25 Acute Strangulated Femoral Hernia on a Porto Rican Hillside. P. R. Egan.

## Boston Medical and Surgical Journal, May 9.

26 Some Reported Cases of Typhoid Fever Attributed to Contaminated Oysters with Certain Facts Concerning this Means of Infection. Charles Harrington.
27 *Experience with the Widal Reaction in Typhoid Fever. Charles F. Withington.
28 *The Widal Reaction in Typhoid Fever. George B. Shattuck.
29 Means of Infection in Typhoid Fever. E. N. Whittier.
30 Early Diagnosis of Typhoid Fever by Isolation of Bacillus Typhosus from Stools; Conclusions of Dr. L. Remy Based on the Use of His Asparagin-Lactose-Carbol Gelatin. Calvin G. Page.
31 *The Fevers of the Philippines. Joseph J. Curry.

## Medical Record (N. Y.), May 11.

32 *The Toxic Origin of Neurasthenia and Melancholia. M. Allen Starr.
33 Potain's Simple and Accurate Method of the Percussion of the Heart, with Postmortem Verifications. George M. Converse.
34 *The Treatment of Pneumonia, Including the Hypodermic Injection of Saline Solution. F. Neuhoff.
35 *Syphilis in the Well-to-do. J. A. McDonald.
36 *Subarachnoid Spinal Cocainization as a Means of Inducing Surgical Anesthesia. Edward N. Llell.
37 Keloid Formed upon a Vaccination Scar. Frederick Griffith.
38 A Successful Pylorectomy on a Man in His Seventy-first Year. Alfred King.
39 Postural Treatment in Threatened Miscarriage. Alice M. Smith.

## Cincinnati Lancet-Clinic, May 11.

40 "Pus in the Pelvis." F. M. Barden.
41 *Important Points Concerning the Dosage of Antitoxin. M. D. Rabenoyich.

## St. Louis Medical Review, May 11.

42 *Schnetter's Placenta Forceps. E. J. Kempf.
43 Serotherapy and Cytotherapy. H. Vaquez.

## American Practitioner and News (Louisville, Ky.), March 15.

44 Some of the Features of Health Administration. M. K. Allen.
45 Affections of the Eye and its Appendages in Bright's Disease. William Cheatham.
46 A Case of Sepsis. J. M. Adair.

## Medical Age (Detroit, Mich.), April 25.

47 The Duty of the Public to the Medical Profession. F. R. Sturgis.
48 Diabetic Gangrene; Amputation; Recovery. August Schachner.
49 Mercurol Inunctions Preparatory to Skin-Grafting in Leg Ulcers. William R. Stone.
50 *Briefs on the Surgery of the Genito-urinary Organs. G. Frank Lydston.

Northwestern Lancet (Minneapolis), May 1.

51 A Case of Multiple Neuritis. Christian Johnson.
52 Two Months' Surgical Service in the Minneapolis City Hospital. J. E. Moore.
53 Thrombosis of the Vena Cava Inferior. C. H. Hunter.

Pennsylvania Medical Journal (Pittsburg), April.

54 *Paralysis Agitans without Tremor. Augustus A. Eshner.
55 Leukemia and Pseudo-leukemia. Charles H. Miner.
56 Traumatic Hysteria and Neurasthenia. Edward E. Mayer.
57 *The Easiest, Quickest, Safest and Most Thorough Method of Removing the Third Tonsil. Louis J. Lautenbach.
58 Living Animal Organisms in the Ear. Francis R. Packard.
59 The Operative Treatment of Ugly Ears. John B. Roberts.
60 Typhoid Fever Concisely Considered. James Fulton.
61 A Case of Resection of Four Feet of Small Intestines. Geo. D. Nutt.
62 *The Treatment of Cicatricial Stenosis of the Esophagus, with Particular Reference to the Method of Koenig. Chas. H. Frazier.
63 *The Climatology of Neurasthenia. F. Savary Pearce.
64 Relation of the Oculist and Optician to the Profession and Public. P. J. Kress.

Canadian Journal of Medicine and Surgery (Toronto), May.

65 Treatment of Morphinism. T. D. Crothers.
66 Adrenalin, the New Hemostatic. Murray McFarlaue.
67 *The Protozoon of Cancer. Harvey R. Gaylord.
68 1. Thoracic Aneurysm. 2. Carcinoma of Superior Maxilla. 3. Cholelithiasis and Suppurative Cholecystitis. 4. Inguinal Hernia of (a) Bladder; (b) Cecum. Bern B. Gallaudet.
69 *The Carhohydrates of the Urine in Diabetes Insipidus. David L. Edsall.
70 Laryngeal Hemorrhage from an Apparently Normal Larynx. George B. Wood.
71 *Blastomycetic Dermatitis of the Gluteal Region. Frederick G. Harris.
72 Subinvolution of the Uterus; Three Suggestive Cases. L. W. Atlee.

American Medical Compend (Toledo, Ohio), May.

73 Ulcerative Keratitis. Charles Lukens.
74 Meningitis, with Special Reference to Lumbar Puncture and Kernig's Sign. Elizabeth Woods-Bowman.
75 Sesamoid Bones and Floating Cartilages. H. L. Green.
76 Croupous Pneumonia, Followed by Pulmonary Gangrene with Report of a Case. G. Aftel.
77 Nutrition and Disease. A. T. Cuzner.

Medicine (Detroit, Mich.), May.

78 Experimental Digestive Plague. D. MacDonald.
79 *Clinical Observations on Protargol, with a Résumé of the Literature. Max Reichmann.
80 Chloretone Anesthesia as an Aid in Subarachnoidean Operations. William R. Stone.
81 *Three Cases of Osseous Stylohyoid Arch. Thomas R. Crowder
82 The Malarial Causation of Cranial Nerve Paralysis; With a Case. Louis R. Morris and Allan McL. Hamilton.

Louisville Monthly Journal of Medicine and Surgery, May.

83 Welcome Address Delivered before the Morganfield District Medical Association. P. B. Miller.
84 The Gonococci in the Gonorrheal Secretion. A. Ravogli.
85 Acne and its Treatment. Henry H. Koehler.
86 Practical Things About Typhoid Fever. W. J. Leach.
87 Emergency Hospital at the Pan-American. Herbert Shearer.

Obstetrics (N. Y.), April.

88 *Indications for the Cesarean Section in Placenta Previa. G. M. Boyd.
89 *Pregnancy in the Accessory Horn in the Uterus Duplex. (Concluded.) Erwin Kehrer.
90 The Prevention of Puerperal Eclampsia. L. F. Bennett.

Kansas City Medical Index-Lancet, May.

91 Recto-colonic Enteroliths and Concretions. Samuel G. Gant.
92 Medicine a Progressive Science. John M. Langsdale.
93 Stones in the Common Bile Duct. A. H. Cordier.

Archives of Otology (New Rochelle, N. Y.), April.

94 *Electrolysis in the Destruction of Organized Strictures of the Eustachian Tube. Joseph A. Kenefick.
95 Acute Otitis Media, Cerebellar Abscess; Operation. Death from Meningitis. Wendell C. Phillips.
96 Mastoiditis Complicated by Paralysis of External Rectus. Kasper Pischel.
97 Acute Mastoiditis, Thrombosis of Lateral Sinus, Perforation into Pharynx. Kasper Pischel.
98 Skin Flap for Immediate Closing of Wound in the Radical Mastoid Operation. Kasper Pischel.
99 *The Diagnosis and Treatment of Otitic Meningitis. Dr. Hinsberg.
100 Primary Otitis Externa from a Clinical Point of View. C. J. M. Schmidt.
101 Topographic Anatomy and Operative Technique of Otitic Abscess of the Temporal Lobe. H. Preysing.

Medical Mirror (St. Louis), April.

102 *Nutrition and Stimulation. I. N. Love.
103 The Relation of Appendicitis to Diseases of the Uterine Appendages. Albert L. Beahan.
104 A Case of Resection of Caput Humeri for Subcoracoid Dislocation—Recovery with a Useful Arm. Valdemar Pleth.
105 The Most Poteut Mercurial Preparations for specific Diseases. Frederick S. Mason.
106 Autoinfection in Disease and Individual Prophylaxis. J. C. Shrader.
107 Autointoxication from Renal Insufficiency, with and without Diseased Kidneys; with Report of Some Remarkable Cases. James T. Jelks.
108 A Case of Pernicious Malarial Fever. Nevil M. Garrett.
109 Some Points of Practical Importance in the Symptoms and Treatment of Acute Pneumonia. Dr. Babcock.
110 *Hypospadias. C. H. Mayo.

Brooklyn Medical Journal, May.

111 *The Genesis of Uric Acid. R. H. Chittenden.
112 A Case of Transperitoneal Ligation of the External Iliac Artery for Femoral Aneurysm. Russell S. Fowler.
113 A Résumé of Present Knowledge Concerning Water Purification, and Some Comments Relative to the Needs of the Brooklyn Water Supply. George W. Fuller.
114 Sanitary Condition of the Brooklyn Water Supply, Based on Work of the Rockville Center Laboratory of the Brooklyn Health Department, 1896-1897. Hibbert W. Hill.

Toledo Medical and Surgical Reporter, May.

115 Hospitals of Europe. Christian Storz.
116 A Case of Hydramnion. F. A. Leslie.
117 Chloretone in the Treatment of Epilepsy. F. W. Hammond.

Journal of Eye, Ear and Throat Diseases (Baltimore), March-April.

118 Protargol: Some of its Uses in the Nose and Throat. Wilbur F. Skillman.
119 *Pathology of Deaf-Mutism. J. J. Carroll.
120 A Method of Preserving Eye Sections in Museum Jars. J. William Watson.

Mississippi Medical Record (Vicksburg), May.

121 Some Surgical Cases. (Sarcoma, etc.) J. A. Crisler.
122 The Pathology of Adenoids in the Adult. A. T. Mitchell.
123 Some Interesting Items. (Abscesses, etc.) J. C. Ballard.
124 Accidental Impregnation. John Darrington.

Laryngoscope (St. Louis), April.

125 *The Pathology of Pharyngomycosis, with Lantern Slide Illustration. B. Braden Kyle.
126 *On Sounding and Irrigating the Frontal Sinus Through the Natural Opening. Walter A. Wells.
127 Primary Carcinoma of the Nasopharynx; Report of a Case. Chevalier Jackson.
128 Gummous Tumor in the Larynx in a Boy Six Years Old, Due to Latent Hereditary Syphilis. Gottlieb Kiaer.

Nashville Journal of Medicine and Surgery, April.

129 The Medical Society—Its Advantages to the Profession and its Value to the Public. J. A. Crook.
130 Surgery in Country Practice with Report of a Case of Fracture of Skull—Loss of Brain Substance. A. M. Chittenden.

New Orleans Medical and Surgical Journal, May.

131* Disinfection from a Purely Practical Point of View—Its Efficiency a Problem for Solution. John J. Archinard.
132 Dermoid Cyst of the Scalp, with Report of a Case. Sydney P. Delaup.
133 Lung Infarction and Pneumonia in Cardiopathies—a Case with Post-mortem Examination. E. M. Dupaquier.
134 Chronic Gastritis with Erosions—A Clinical Lecture. Otto Lerch.
135 Traumatism of Eye—Discrepancy Between Cause and Effect. Drs. Burns and Robin.
136 A Needle for Silver Wire. L. J. Y. Genella.

Medical Standard (Chicago), May.

137 Appendicitis and its Treatment. A. J. Ochsner.
138 Chronic Constipation. David Paulson.
139 Drug Habits and their Treatment. T. D. Crothers.
140 Epistaxis; its Causes and Treatment. Aime Paul Heineck.
141 Membranous Croup. William F. Waugh.
142 A Neurological Clinic. Daniel R. Brower.

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## AMERICAN.

1. **Infant Feeding.**—Crandall's article treats the subject generally, gives tables for prescribing the proper amount of fats, proteids, sugars, etc., in the milk, and advises beginning feeding with weak mixtures, which, however, are not to be con-

tinued. He objects to the changing of foods under slight provocation. If the child becomes actually ill it is best to dilute. If indigestion or diarrhea occurs, stop milk, as diarrhea is usually a bacterial trouble. Chronic indigestion with beaded ribs and sweating of the head in sleep suggests rickets. Painful joints and purple gums suggest scurvy and its proper treatment. Eczema is sometimes relieved by reducing the fat, while constipation with hard dry stools may sometimes be helped by increasing it. Colic, flatulence, and restlessness are indications for the reduction of percentage proteids. Regurgitation of food with perhaps small frequent passages suggests excessive fat, while green acid stools, with gas and colic suggest an excess of sugar. Curdy stools call for more dilution of the top milk. Foul stools call for thorough washing and reduction or stopping of milk.

2. **Typhoid Fever.**—From a study of a number of cases of typhoid fever in the New York hospitals, examination of stools, etc., Hiss offers substantially the following general conclusions: 1. Usually after the first week bacilli can be found in the blood, spleen, rose spots, urine and feces, and in rarer instances in the secretions of exudates of the mouth, throat and lungs. After death the bacilli are demonstrated here and in other locations, such as the lymphatic tissues of the intestine, mesenteric glands, bone-marrow, lungs, gall-bladder, etc. 2. The bacilli apparently do not thrive or even survive long in the circulatory blood. They may, however, live and multiply at some of the points where they are deposited by the blood and lymph, thus forming bacterial foci. 3. Morphologic examination of tissue secretions to determine the relations of bacilli to lesions of the bacilli of typhoid have generally proven unsatisfactory and inconsistent. Some of the lesions undoubtedly occur at points remote from the bacilli; others, it is probable, are intimately associated with them, and it is not unlikely that certain lesions occur only at points of localization of bacilli. 4. Typhoid is therefore an infectious disease with wide dissemination, and multiple localizations of the bacilli are frequently demonstrable during life and after death. During the disease various tissue changes take place, some neurotic and others hyperplastic, and while some are remote from inciting organisms, other facts point strongly to the close association of the germ with some of the more characteristic lesions. 5. There is a close connection at least between the appearance and disappearance of bacilli in the intestinal contents, and the appearance of and repair in the intestinal ulcers. The organisms are very rarely demonstrable in stools before the first days of the second week, and disappear with the fall of the fever. While the intestinal tissue destruction is most active, they can be isolated with great regularity. When continuously absent in typical cases, it probably indicates the scarcity or absence of intestinal lesions. 6. The urine in a certain percentage of cases contains the bacilli. These are found near the end of the second week, and they may not appear here until very late in the disease or during convalescence, and may persist, it is claimed, for months, and are generally associated with albuminuria. He dwells on the importance of disinfection of the urine, which is often a source of infection, and of the feces in the later stages, and of the expectoration on account of the chance of the bacilli being present in the mouth. All eating utensils should also be disinfected.

6. **The Doctor's Fee.**—Roberts' article is a protest against certain practices which are more or less common and certainly objectionable, such as collusion with manufacturers and druggists and insurance companies, which are not always honorable in their dealings, the writing of articles for drug companies, the division of fees by consultants and surgeons and excessive charges, especially those made against estates of deceased. In this latter point he goes at some length and claims that the professional spirit has been somewhat debauched by mercenary considerations, and that courts are often justified in treating with suspicion large bills that are presented. He says there is but one just plan by which the fee should be regulated, that is, the doctor should have an estimate of the value of his services fixed in his mind, not too low nor too high, and that the wealthy patient should pay the full fee and it should be generous in order to recompense the physician for his experience, education and hazardous life. The fee should not always be increased, however, because his services are utilized by a very wealthy person, unless an unusual time is given to services or additional responsibility is placed upon the physician by reason of the patient's position.

6. **Arrested Mental Development.**—Causes of degeneracy, idiocy, etc., are classed by Bailey under three heads: Those occurring before birth, at birth, and during infancy and childhood. Among the first he includes heredity, alcoholism of parents, tuberculosis, syphilis, etc. Among the second he briefly mentions cerebral injuries at birth. The causes occurring after birth are the most important, inasmuch as a child's brain is vulnerable as a whole to injuries and the lesions are not localized as in adults. A foremost place among them is occupied by post-natal diseases of the brain and its membranes, such as hemorrhages, meningitis, infectious fevers, intestinal intoxication, defects of the senses, etc. Traumatism plays but a small part, but nutrition is of great importance. A large number of feeble-minded children are rhachitic, and in this class are included also faulty conditions of metabolism, known as cretinism, and amaurotic family idiocy. Chronic alcoholism is also more serious and frequent than is perhaps believed, and due to parents giving beer and wines to their children. While these various causes enumerated vary greatly in frequency and importance some of them merit much more detail than he has been able to give to them. All of them are worthy of special consideration and teach important lessons to those who wish to have children and to those whose duty it is to care for them.

12. **Cardiovascular Dilators.**—According to Bishop there is too much tendency to the routine use of cardiovascular dilators in certain cases of cardiovascular disease, and they are now given in such a way often that no effect whatever is produced. A careful regulation of the dose is required, for their final action may be paralysis and dilatation of the heart through a complete breaking down of inhibition. It is important, when the nitrites are used, to have a reliable preparation, which is not always the case, and the case must be studied from time to time with withdrawal of the drugs and substitution of others of a different class. Cardiovascular disease is particularly remote from the ideal of treatment by specifics. The whole management is like the running of an intricate machine: the physician must study and learn all its resources. No permanent course or management can be planned for in a single case. He mentions a particular form of pulse where nitroglycerin is not as valuable as other drugs. This is a high tension pulse with persistent rapid heart's action. In such cases the greatest benefit is sometimes derived from digitalis. It theoretically does not act, but practically it does. Even when tension does exist in cardiovascular disease with nephritis it should be realized that some tension may be desirable. As time goes on the greatest danger to be feared is too great lowering of the blood tension with its accompanying condition. In the presence of symptoms indicating disturbances of the cerebral circulation, such as numbness or awkwardness of one of the extremities or speech disorder, the vascular dilators are imperatively needed. Sodium iodid has also an undoubted power to control these conditions. Bishop believes that with a properly planned regime, and careful medication and other therapeutic measures, the heart may recover its tone so that all symptoms of degeneration disappear and the kidneys settle down to their work sufficiently well to maintain health.

14.—See abstract in THE JOURNAL of March 30, p. 911.

15. **Hydrocyanic Acid Gas as a Disinfectant.**—The danger of hydrocyanic acid gas is not considered so great by Fulton as commonly supposed. He says he has lost some of his fears of its imputed energies, though its real power must always be respected. He gives the details of disinfection experiments with the gas produced by the action of sulphuric acid upon potassium cyanid. Against organisms no hardier than diphtheria and typhoid bacilli hydrocyanic acid gas is about as effective as formaldehyde, though a greater amount

of gas is required and perhaps more time. One gram of cyanid per cubic foot of space is probably the correct proportion. It has no great power of penetration and Fulton thinks that a gaseous germicide with great penetrating power is as yet a desideratum. Against animal life it has a strong diffuse energy and can destroy insect life completely. He thinks it not unlikely that it may be to some extent made to meet the need of a gaseous germicide which will also become a destroyer of animal life.

16. **Alcoholism.**—In this conclusion of his criticism of Atwater's views, Madden says, testing alcohol by the requirements of a food, viz., the lack of irritating effects and the orderly liberation of energy, what do we find? "In the first place, on all hands, it is recognized as an active protoplasm poison, so active, indeed, that less than a fourth as much as is necessary to furnish the tissues with fuel may be taken daily without tissue derangement being universally apparent, and but a very little more than enough to supply the tissues with their daily needs of fuel has been found sufficient to destroy life when taken in a single dose. Does it need a technical education to determine whether any poison so violent as this shall be called a food or not? It seems that very few facts in science admit a clearer demonstration than that alcohol is not a food. Its destructive properties alone are sufficient to at once and forever bar it from the lists of food of any class. He says many other poisons contain a large amount of latent energy which is usually set free in the body—phosphorus, ptomains, etc., are of this class, and he asks whether we should utilize these with alcohol?

17.—See abstract in The Journal of March 16, p. 756.

20. **Atonia Gastrica.**—The new method of treatment suggested by Rose consists in the use of a bandage, 36 by 12 inches, applied tightly around the abdomen, drawing it well upward, the two ends meeting or overlapping at the spine. The plaster should not include the crest of the ileum, but should run closely along and above it. The support of the abdominal walls is made perfect by additional applications of two side pieces, extending from the hypogastrium over the inguinal and iliac regions and reaching also to, or near, the spine. In the application of these pieces considerable force may be used. He has a record of about 100 cases in which he has made use of this treatment and in which it gave most marked and prompt relief in a high degree of gastroptosia in which reflex cough and vomiting were among the symptoms. The majority of his patients were dispensary cases, working people, and in very few was there ever complaint of any inconvenience or irritation of the skin.

22.—See abstract in The Journal, xxxv., p. 1172.

23. **Primary Septal Chancre.**—Freudenthal, after noticing the various types of primary facial lesions and their causes, describes a case in a physician where there was primary chancre of the nasal septum due to finger infection. The patient had suffered from a dry ulceration and the formation of crusts, and it was in getting rid of these that the nasal infection was produced. He thinks there are many cases of this sort, which for obvious reasons are not published.

24. **Nervous Syphilis.**—Onuf reports the manifestations of syphilis of the nervous system, with special reference to diagnosis, calling attention to cutaneous symptoms, eye symptoms, and those of the internal organs. He reviews the different forms in which they may occur and points out a few symptoms that are somewhat characteristic, though not pathognomonic of these states, such as irregular contraction of pupils, pinhead pupil, vertigo, etc. The prognosis and treatment are also briefly discussed.

27. **Widal Reaction.**—In 253 cases of typhoid during six months of the year 1900 there were only 10 failures of the Widal reaction, but besides these there were 6 other cases in which the diagnosis of typhoid was made through evidence that was not directly conclusive. In these there were repeated negative Widals. Including these, Withington says, as we might, we would have a total of 259 with failure in 16, or a little over 6 per cent. In one case, after eight consecutive failures, the test was positive for the first time on the twenty-ninth day.

28. **Widal Reaction.**—The same subject is taken up by Shattuck who compares his own experience in a former published article and reports certain interesting cases.

31. **The Fevers of the Philippines.**—Curry gives in this paper a preliminary report of the fevers met with among the troops in the Philippines. Typhoid fever, he thinks, previously existed amongst the Spaniards and natives, though to what extent it is impossible to say. He thinks there is danger in the future, when the camps become more permanent, that typhoid may increase and the prevalence of the disease in the Philippines be a serious problem. Malta fever was also observed, and he points out that it is probably not uncommon. The name is unfortunate as indicating a localized disorder, whereas it seems to be met with in various other Mediterranean countries; in India, Hongkong and Porto Rico. The malarial fevers of the Philippines differ slightly from other tropical countries in the greater prevalence of the tertian form. Malarial fever often complicates other diseases; the parasites are the same as those known the world over. He also mentions certain undetermined tropical fevers which are still open to investigation. Among these there is a fever described by Munson as double continued fever, which closely corresponds with Malta fever and a so-called "hepatic fever."

32.—See abstract in The Journal of May 11, p. 1340.

34. **Pneumonia.**—The following are Neuhoff's conclusions in regard to saline infusion treatment in acute croupous pneumonia: It is a useful adjunct to other treatment in selected cases. It acts as a powerful heart stimulant when other heart remedies can no longer sustain the flagging circulation. It increases the secretions, and moistens the tongue and throat as well as the skin. It lessens the delirium. Other observers have noticed that it also improves the respiration ,but of this I could not convince myself. It is contraindicated in pulmonary edema. Some patients apparently die of collateral pulmonary edema not consequent on a failing heart. In these saline infusions were not applicable. Others apparently died from heart failure or edema caused by heart failure. Here the infusion averts the tendency to death by sustaining the heart as nothing else can.

35. **Syphilis in the Well-to-do.**—McDonald believes that syphilis is a less formidable disease in the well-to-do, especially as regards its later symptoms. From an analysis of 150 consecutive cases in which there were 3 per cent. of hereditary cases, he found the mortality in the hereditary 40 per cent. In the acquired cases 65 per cent. had only mild trivial, transitory lesions, without leaving any traces; 6 per cent. suffered severely, but recovered completely without perceptible impairment of any organ; 20 per cent. suffered from gummata, which left scars but which were readily amenable to treatment and healed up satisfactorily. Only 6 per cent. were formidable and not a single case was appalling. He attributes this to a greater attention to the early treatment and cleanliness and the milder form of the disease acquired, with the precautions taken by the patient, and maintains that syphilis in the well-to-do is a different disease from syphilis in the poor.

36. **Subarachnoid Spinal Cocainization.**—Liell has looked up the statistics of spinal cocainization and believes that this method of analgesia has passed the experimental stage, and that we are justified in hoping that it will find its field of practical usefulness in the near future along with ether, chloroform and nitrous oxid.

41. **Antitoxin.**—The special object of Rabenoyich's article is to emphasize the fact that every case is a rule unto itself as to the amount of antitoxin required. The proper dosage can not be laid down and the symptoms and signs of the disease must guide. The writer has found a preliminary injection of never less than 3000 units advisable and the total dosage may be carried up to even 50,000 or more. The only guide is a shrivelling up of the membrane and disappearance of constitutional symptoms. A number of cases are reported as illustrating his views.

42. **Schnetter's Placenta Forceps.**—This instrument, which is described by Kempf, consists of a canula, 7 inches long, in which is a rod with a handle at one end and a fenestrated forceps in the other. The blades of the forceps are one-half inch wide and are fastened to the rod by a steel spring. The instrument is introduced into the uterus closed and the handle then pushed up into the canula, which opens the forceps. When rotated it acts as a double curette and scrapes all the loose placenta in the center of the forceps. If the forceps is gradually closed there is no danger of catching the sides of the uterus. When a portion of the placenta has been caught further rotation will peel off the remainder and get it all without tearing it. The instrument is capable of being thoroughly aspecticized and Kempf claims it of great value in certain cases. He does not know who Schnetter, the inventor, is, but thinks the instrument should make him famous.

50. **Hydrocele.**—Lydston's method of treating hydrocele is by complete excision of the entire sac of the tunica vaginalis under aseptic conditions. He gives his technique in detail, and remarks that it often cures the chronic indurations and enlargements of the testis and epididymis so frequently associated with hydrocele and permits also an excision of tubercular foci, small cysts, etc. The stitching of the superimposed tissue in two distinct layers and the formation of a pseudo sac are, he believes, efficacious in preventing adhesions of the skin with subsequent tenderness and possibly neuralgia.

54.—This article appeared in THE JOURNAL of February 16, p. 422.

57. **Adenoids.**—Lautenbach objects to anesthesia in the removal of the third tonsil, and insists first on making a digital examination. He does not use a gag in the child's mouth, but wrapping the index finger with one or two layers of adhesive plaster, he then puts over this two or three turns of double flannel roller bandage. If he finds the expected growth, he proceeds to gouge it out with the nail of his index finger, removing every shred and being careful to see that the fossæ of Rosenmuller as well as the Enstachian tube orifices are perfectly clear, or that the finger nail can not remove the parts. When he can not get rid of all parts with the normal organ, he uses his artificial finger nail. He says that the finger feels just what we are doing and we know just when to stop. The rapidity with which the operation can be done is almost inconceivable, and there is not the added danger of the anesthetic. Since he has used this fore-finger operation he has found recurrences to be very rare.

62. **Esophagal Stenosis.**—The treatment of cicatricial stenosis of the esophagus is described by Frazier, who mentions the instruments, especially the silver balls of graduated sizes, which he employs to dilate strictures where the bougie can not be used. He has the patient swallow the smallest of the threaded balls, the attached string being fastened to the coat or ear, and retain it for twenty-four to thirty-six hours or more, when it will be generally found to have passed the stricture; then other sizes are gradually utilized up to 6 or 7 mm. in diameter, and suitable treatment conducted on the lines laid down for permeable strictures. He sums up that the plan of treatment to be adopted can be decided on only after very careful explorations, and draws a close analogy between the treatment of these strictures and those of the urethra. Forcible measures, he thinks, are unnecessary and may be serious in their results. The first class is the permeable stricture admitting the passage of the bougie and should be treated by gradual and intermittent dilatation. The frequency with which the bougie should be passed will depend on the tolerance and the limit to which it should be dilated, as in children 18 mm. and in adults 22 mm. The best adapted instrument is the fine conical tipped rubber bougie. Class 2, or the intermittent class, is composed of those strictures where attempts to pass a bougie have failed, and here the silver ball treatment comes in and should be followed, if successful, by gradual dilatation. Class 3 includes the absolutely impassable strictures or those not included in the first and second classes. These are to be subdivided into those in which the passage may be effected by approaching the stricture through the stomach, and of which retrograde dilatation, rapid or permanent, or division with a string by Abbe's method, followed by rapid retrograde dilatation, is the proper mode of procedure, and 2, those in which the passage through the stricture can only be effected by external esophagotomy; the stricture is divided either by Abbe's method or by cutting it from without inward, as by external urethrotomy. Class 4 is composed of those very exceptional cases which have proven absolutely impassable. Here gastrotomy with the establishment of permanent fistula is to be recommended.

64. **Neurasthenia.**—According to Pearce there are two extremes to be avoided by the neurasthenic individual, viz., the low, windy, treeless country, and the one characterized by constant quiet atmosphere, high altitude—above 2000 feet—with low atmospheric pressure. An illustration of the former condition is found in Portland, Ore., where neurasthenia is very prevalent, and of the second, the higher parts of Southern California, and New Mexico. The suitability of any given district for the treatment of nervous disorders depends on altitude, barometric pressure, character and temperature of prevailing winds, the nature of the subsoil, gravelly loam being most desirable, an abundance of sunshine, and finally, in a lesser but still important degree, on idiosyncrasy. Places where heavy storms are prevalent should be avoided. The Maine country about Rangeley Lakes is almost ideal for neurasthenic patients, with an altitude of 600 to 1000 feet and a rare combination of sea and pine-laden atmosphere with plenty of sunshine. Next he would place the inland country of New Brunswick and Nova Scotia, away from the fogs of the coast. The third in order is the great lake region of Ontario, Wisconsin and Michigan, spreading east to Muskoka Lakes and about Lake Simcoe and Nipissing. Any very stimulating climate should be avoided, hot winds, frequent fogs, cloudy saturated atmosphere, with slight movements of air-currents; low country with the monotonous moderate heat. The ideal conditions include sea air in a well-wooded country, just far enough from the coast to avoid its fogs. A sea voyage is as a rule an excellent preliminary to other climatic measures, provided it is not stormy, and good feeding is an important addition: without it other methods may fail.

67.—This article is noticed editorially in THE JOURNAL of May 11, p. 1324.

69. **Urinary Carbohydrates in Diabetes.**—After noticing first the statement of Rosin and v. Alfthan, that the unfermentable carbohydrates are increased in diabetes, Edsall made an examination of the esters formed in a case of diabetes insipidus, with the result of finding that the carbohydrates were not increased. Any increase in this disease, unless very marked, should scarcely be looked upon as an evidence of primary disturbance of the metabolism of carbohydrates, since flushing the system with large quantities of water would cause a large increase of nitrogen output. He thinks, taking all things into consideration, that the amount of carbohydrates in the urine depends largely on the diet, and they are in a large part at least derived from the food rather than formed in the body, though the question is still widely open.

71.—See abstract in THE JOURNAL of March 2, p. 589.

49. **Protargol.**—In 16 cases in private practice, which are available for study, Reichmann found 14 with anterior urethritis and 2 presenting also posterior urethritis. Only 4 were first cases: all the others had had previous attacks. All applied for treatment during the first week, and in only 1 case of posterior urethritis was he compelled to stop the treatment on account of complications, but even here protargol finally gave satisfactory results though the treatment had to be continued for a long time. In the other 15 cases complete disappearance of the gonococci could be observed between the third and ninth day, though prolonged injection of a 1 per cent. solution for ten minutes was continued for at least two weeks. The entire course of the treatment did not exceed twenty-three days, excepting where complications occurred.

81.—This article was abstracted in THE JOURNAL of March 2, p. 589.

88. **Placenta Previa.**—After discussing the utility of Cesarean section in cases of placenta previa, Boyd "would recommend an immediate examination under anesthesia of all suspected cases for the purpose of: 1. Confirming the diagnosis. 2. Determining the variety of the previa. 3. The size and position of the fetus. 4. The condition of the cervix, and finally to facilitate the introduction of the cervical and vaginal tampon. If the hemorrhage appears before the viability of the child, if the previa is marginal, the cervix dilatable, the fetal heart absent, then version or forceps may suffice. If, however, the child is viable, the previa complete or partial, the cervix rigid, or the fetus transverse, then, in preference to other interference, the Cesarean section would seem indicated."

89. **Cornual Pregnancy.**—In this concluding paper Kehrer sums up the treatment of accessory horn pregnancy in the following words: "Expectancy is never indicated, and neglect to interfere before the seventh month is a blunder. After the thirty-second week we must seek to save the child by Cesarean section."

94. **Eustachian Electrolysis.**—Kenefick offers the following conclusions: "1. That it can not be foretold exactly in any given case just what result will follow this treatment, as this will depend largely on two comparatively unknown quantities, viz. (a.) the vascularity of the tube lining and its toleration of the mechanical and electrical interference, and (b.) on the degree of tympanic involvement. 2. That tubal obstruction is early present in the great majority of cases of so-called chronic hypertrophic catarrhal otitis media, and that progressive deafness, tinnitus, and vertigo, and many of the peculiar and distressing head symptoms may be purely mechanical, dependent upon closure of the tube by an organized obstruction, while the tympanum and its structures are yet free or only slightly involved. Under the latter conditions brilliant results may follow restoration of the tube's patency. 3. That in any case where Eustachian obstruction has become organized, the best means of disintegrating and causing its reabsorption is by the electrolytic bougie, which in rapidity, efficiency, and permanency excels all known methods."

99. **Otitic Meningitis.**—Hinsberg's article is a discussion of the diagnosis, with a number of cases reported illustrating the various points discussed. He holds that the meninges, like the peritoneum, may be able to dispose of certain degrees of bacterial invasion, and the question whether it is worth while to remove the primary focus under these circumstances may arise. The circumscribed otitic meningitis may progress like cases of beginning diffuse meningitis or may simulate cerebral abscess. Positive diagnosis is often impossible, but that it is a fact that a circumscribed meningitis may give the symptoms of a diffuse process should warn us not to be too ready to give a fatal prognosis. The exact status of lumbar puncture for diagnostic purposes is not yet decided, and it is not altogether free from danger. It seems to the author that it is of no use in patients who are practically hopeless, and whether it will inform us as to the diffuse or circumscribed nature of the inflammation is a question. Turbid fluid and increase in albuminuria does not necessarily mean diffuse meningitis, and the presence of bacilli is not of much positive prognostic value. It is certain, he holds, that some cases of purulent meningitis recover spontaneously. The occurrence of circumscribed areas of meningitis is always dangerous, since it may be the starting-point of a diffuse process, and we can not say when this is liable to occur. We should, therefore, be ready to assist Nature in every possible way, either by removing the primary focus in the otitic process, or if necessary by incising the dura. This removal of the primary process has been successful in many reported cases, one of which is cited. He reports a number of cases showing the difficulties of deciding whether the aural suppuration is the cause of the meningitis or not, and he says that we may conclude from these that among a not very large number of otherwise well persons the paralytic symptoms give the first sign of tubercular meningitis, and the combination of a discharge from the ear with tubercular meningitis is not very rare, especially among children.

102.—This article appeared in The Journal of March 2, p. 537.

110. This article appeared in The Journal, April 27, p. 1157.

111. **Genesis of Uric Acid.**—Chittenden concludes that uric acid has a two-fold origin in man, one portion, coming from the breaking down of nuclein-containing tissues, or cell elements of the body, hence endogenous, while, the other, usually the larger, is of exogenous origin, from a transformation of free and combined purin compounds in the food. The first is essentially constant in amount with the same individual under all conditions of diet, but is subject to slight variations in connection with alterations in activity of the tissues. It is a physiologic constant for a given individual, but individuals vary and personal idiosyncrasy, constitutional differences, etc., affect it. The amount of exogenous uric acid depends on two factors, viz., the quantity and character of the nuclein contained in the ingested food, and the quantity and character of free purin bases present in the food. The uric acid coming from nucleins does not appear until some hours after digestion has been under way, while that from free purin bases, such as from meats, soups, coffee, etc., leads to a quicker output owing to their ready solubility and availability. Differences in the extent of this form of uric acid production are traceable to natural or free purin bases; adenin, hypoxanthin, and guanin for example, showing distinct differences in the extent to which they are individually converted in the body. There is no actual relation whatever between daily urea and uric acid output; they stand for distinct chemico-physical processes and any attempt to emphasize the so-called uric acid to urea ratio is misleading. Between uric acid and ordinary proteid metabolism there is no connection whatever. With a purely non-nitrogenous diet on the one hand, and a diet rich in eggs, milk and cheese on the other, with perhaps a maximum amount of contained proteid, the output of uric acid remains practically unchanged. The genesis of uric acid is to be found solely in the metabolism of the tissue nucleins and in the transformation of nucleins and free purin bases of ingested foods.

119. **Deaf-Mutism.**—Judging from the results of 150 autopsies collected by Saint-Hilaire, Carroll concludes that the pathology of deaf-mutism varies greatly. The anatomical alterations of the ear, which are capable of producing serious deafness, have not been found in deaf-mutes; no permanent lesions are present and no single definite pathologic condition characteristic of disease.

125. **Pharyngomycosis.**—The literature of the pathology of pharyngomycosis is reviewed by Kyle, who notices the general opinions in regard to the disease, discusses the question of the patient's condition, the presence of leptothrix, the state of the epithelium and submucosa and illustrates his article with reproductions from lantern slides. He does not believe that the disease is especially affected by sex or age, though it does seem to be somewhat affected by climatic conditions. The general health seems to bear very little relation to it, and he concludes that the disease is not uncommon, though he has only seen ten cases. As regards the importance of the leptothrix, he is inclined to believe its action is secondary and it is more than likely that the chemical changes brought about by the pathologic alteration in the submucosa causes a change in the glandular secretion and forms soil which is a suitable nidus for the proliferation of certain bacteria. This degeneration seems to be largely hyaline, and while many bacteria were demonstrated on the surface the subepithelial cells showed no alteration significant of bacterial infection. Their relation to the disease he thinks is controlled by chemical reactions of tissues and secretions. The absence of clinical phenomena invariably indicates that if there is any bacterial cause the germ produces no toxins, and this would be the case with the leptothrix. The reaction of the glandular secretion of the mouth does not seem to have any effect on the disease, which is also against the bacterial theory, since, as a rule, the pathogenic bacteria require an alkaline medium. Local application of germicides and other agents having no effect, may be explained by the closure of the lymph channels from the process of keratitis and subepithelial change, which prevents the cells

from penetrating the tissues. Whatever the pathologic change may be the slides indicate their beginning from below and extending upward.

126. **Sounding the Frontal Sinus.**—Wells says: "To successfully sound the frontal sinus we must have a probe bent at 3 cm. from the end, which should be rounded and at an angle of about 100 degrees, though capable of being flexed to a greater or less extent to suit individual differences. Using the uncinate process as the guide (resection of the anterior end of the middle turbinate is necessary in some cases) to begin, we apply the beak of the probe well backward in the hiatus, and draw it forward and upward in the direction of the sinus at the same time that the handle is depressed. If it does not slip easily into the cavity, do not use force, but holding always the probe lightly in the hand, reintroduce, feeling for the ostium with the beak a little in front of the hiatus. If the sound be in place we will be aware of it by the following tests: 1. The probe will have penetrated such a distance as to measure more than 6 cm. (between 6 and 7 cm.) from its extremity to the point where the handle is in contact with the anterior border of the floor of the nose. 2. The direction will be such that it makes an angle of about 60 degrees with the floor, or, what is the same thing, the handle makes such an angle with an imaginary horizontal line or plane, continuing the floor of the nose forward. 3. The beak of the probe will be directed forward (as shown by the ring indicators on the handle). 4. The handle will permit of a certain amount of rotation."

131. **Disinfection.**—The conclusions deduced by Archinard, from his own observations, are: 1. Sulphur dioxid is of little value and a destroyer of dyes, and should be discarded. 2. Formaldehyde, is an agent of great penetration and high efficiency, though practically harmless to colors and fabrics. Simple, cheap, harmless and easily managed methods of its use are available and its immediate general adoption is much to be desired. 3. Bichlorid of mercury is recommended as handy and an efficient means of treating washable fabrics. 4. Sprinkling with a 20 per cent. solution of formalin and keeping in closed containers for twenty-four hours enables us to dispose of woolen and other wearing apparels not amenable to treatment by bichlorid. 5. Chlorinated lime is our best agent for disinfection of excreta, vaults, yards, drains, etc. 6. Incineration is the best method of disposing of substances of no intrinsic value, such as soiled rags etc.

## FOREIGN.

### The Lancet, May 4.

**Eczema in Relation to Age.** Malcolm Morris.—Morris divides eczema into: 1. Eczema of infancy; 2, of childhood; 3, of puberty; 4, in the adult; 5, of the menopause; and 6, in the aged. Beginning with the first of these he suggests that a little circular patch on the scalp of a new-born child should not be neglected, as is too often the case, for if it is left alone a red areola appears, and from this other circular patches will start and a generalized eczema follow. In treating this we should first recognize that the child has a great blood supply to the brain, and, owing to the great vascularity of the scalp, the slightest irritation is very liable to convert a very trivial condition into an acute one and make eczema spread from that particular spot. Therefore, the washing should be done with no violence whatever, and if soap be used, it should be a superfatty one, not the ordinary yellow soap. The head should not be covered, especially in the house, and it should not be too warmly clad about the head when taken out. Heat and friction increase the blood-supply, the eczema may extend down the front of the chest and possibly behind the ears, form a collar around the neck, and patches form on the abdomen, back and limbs. In infants it tends more especially to become pustular, and in a few days or hours dry crusts form and the typical condition of infantile eczema appears. Tying the child's hands is needless; the child is hardly strong enough to scratch. We should so act as to give the child relief without this. The local treatment should be the simplest and gentlest, and applications be antiseptic. There is nothing better than mild sulphur ointment, 5 gr. of precipitated sulphur to 1 ounce of benzoated lard. When the discharge begins, we have to consider what converts the dry form into the acute. Usually it is attributed to improper feeding, but this is not always the case. It is possible that there is some cause in the skin itself, as yet unknown. Later in the child's life there may be unquestionable factors; one of these is vaccination, and if this is done when there are only circular patches or a seborrheic type, it may arouse a state of violent inflammation. Another factor is intestinal worms, and he advises that we should pay attention to the bowels, and there is nothing so good as mercury in some form. A small dose of calomel, given at bedtime and repeated two or three nights, will do wonders. For local treatment the best thing is to apply powder and dry up the discharge. It is not a bad plan to apply it in a muslin bag. The best powder is a mixture of finely triturated boric acid and starch, and perhaps one part of oxid of zinc. This in a muslin bag, not too tight, loosely applied over the head, tends to moderate the discharge. To check formation of scabs one of the best prescriptions is oxid of zinc, 7 drams, lanolin, 1 dram, olive-oil, 1 ounce, and 1 ounce of lime-water. Other drugs may be added, a very small quantity of ichthyol being excellent. The whole of the affected skin surface should be covered with a very thin gauze bandage, after having been covered with thin strips of linen soaked in this cream. As soon as it begins to dry, the strips should be removed and some more applied. When the condition passes into the dried-up scaly stage, he suggests a weak ammonio-chlorid of mercury ointment. This trouble is liable to be recurrent and nothing will ensure against this, but accuracy of treatment in early life is the key-note of a great deal of later success. In more chronic forms, when calomel is contraindicated, a small dose of gray powder is given as an alterative every night and seems to modify the process. Morris does not believe in giving infants alkalies or any kind of specific treatment, and knows of none for this condition. In children of 4, 5 or 6 years of age, the disease is generally also of seborrheic type and treatment is important. Cases of this kind are best kept at home. If the eczema of early life has left behind large glands, and there is any tubercular heredity, it is sometimes very wise to send the child to the seaside, but not if very acute, not tubercular. He is not sure that teething has any effect in these attacks, nor that teething bears any relation to eczema, though it seems to be the general belief that it has a strong influence. Two forms of eczema may begin at puberty, the seborrheic form, which may commence upon the scalp or elsewhere apparently from local infection, and the type associated with dry skin—xeroderma—not necessarily the result of exposure to cold, and usually attacking the flexor surfaces, joints, elbows, knees. In this dry form, soaking the skin in a prolonged bath and softening the dry and hard parts by glycerin and water, 1 to 5 parts, or, if the eczema is very acute, the zinc cream already mentioned with the addition of some antiseptic, will probably suffice. There is another type at this period of life, a form of eczema which alternates with nerve attacks, especially asthma and beginning rheumatoid arthritis. This form requires special internal treatment; nerve tonics, like valerianate of zinc, or, if very bad, perhaps small doses of opium. Morris describes a case which came on in a healthy adult from exposure to cold, and emphasizes the importance of the mineral water treatment in certain forms of adult eczema. It is not advisable during the acute stage nor the subacute, but it is proper when only a neurosis is left as the result of it. In beginning cases the patient should be put to bed, and covered with the lightest possible clothes, the diet non-stimulating, no alcohol, coffee, or tea, and the bowels regulated by calomel or saline injections in the morning. Here also small doses of tartrated antimony may be of the greatest possible service; 1/32 grain is quite enough to produce a marked effect. The action of alcohol in connection with eczema is especially noticed. Intertrigo is a very disagreeable form of eczema which should be relieved by curtailing the exercise, using antiseptic lotions and careful drying, or even a weak sulphur ointment applied accurately over the parts. It is purely local and requires only local treatment. The varicose eczema which is very common in adults is treated by rest in bed, with leg elevated, especially at night, and the application of Unna's zinc glycerin jelly, made

by mixing oxid of zinc, gelatin, glycerin and water. It should be heated in a water-bath and, after liquifying, is cooled a little and painted on the skin by a large brush. The gelatin should be applied all over the vein, as well as all over the eczematous patch and a little cotton wool put over it to make it dry. One application should last two or three days, and the patient feel quite comfortable. Another form of chronic eczema of the leg is mentioned, occurring in little circular patches. He puts the drugs which are efficient for it in the following order; salicylic acid, resorcin, pyrogallic acid, and chrysarobin. First take salicylic acid, 1 gr. to the ounce; if that fails combine resorcin with it, 15 gr. to the ounce; if these two fail use pyrogallic acid, 5 or 6 gr. to the ounce, If after making the pyrogallic acid stronger it still fails, try chrysarobin ointment (B. P.) one-half strength, well rubbed in. Eczema of the menopause is generally an acute eczema of the head and face, and he also mentions eczema of the vulva and anus. For the first form he would use ichthyol given internally in the form of tabloids, 2.5 gr. after each meal, increased to 5 gr. or more. The effect is often extraordinary in clearing up the symptoms. Fairly strong applications of sulphur and resorcin may be used locally. Eczema in the aged is very serious on account of their weak nutrition. The atonic condition of the skin leads to a chronic eczema with short exacerbations, not disappearing as in early life. It interferes with taking of nourishment, and by reflex irritation of the intestines prevents digestion. This reacts against the acute condition, thus creating a vicious circle. There is only one drug for this condition as far as he knows, that is opium. He thinks that it is absolutely necessary and what harm is it likely to do, if life is made intolerable without it?

**Some Further Investigations on Rheumatic Fever.** F. J. Poynton and Alexander Paine.—The authors have isolated their diplococcus from sixteen cases of rheumatic fever. They have succeeded in obtaining it in 3 rheumatic nodules taken from 2 cases, and in 1 instance they have isolated it in pure culture. Intravenous inoculation of this culture has produced valvulitis, pericarditis, and polyarthritis in the rabbit. They have isolated diplococci from the joint exudate of this rabbit. The nodule is looked upon as largely a characteristic manifestation of rheumatic fever, therefore they conclude that their investigation lends strong support to the contention that this diplococcus is the cause of the disease. They also discuss the pathology of rheumatic chorea, and attempt to explain its clinical characteristics, that most cases probably commence as the result of the actual presence of these diplococci and their toxins in the brain. When chorea is apparently started by fright or shock, they believe the toxins are already in the brain and the shock only precipitates the disease. They have also demonstrated the presence of these organisms in the polymorpho-nuclear leucocytes, and suggest as a possibility that this leucocytosis in rheumatic fever is protective. It does not appear from their researches that there is any definite incubation period in rheumatism, and they also offer some facts which seem to indicate that the fever is a primary phenomenon of the disease. They have seen the temperature rise within twenty-four hours of inoculation, whereas local lesions usually do not appear until the third day. There is no question as to the relations of the organism to cardiac lesions, for they have repeatedly seen them produced by it in rabbits.

**On Serous Vaccinia in Connection with Cretinism and Ricketts.** Robert Kirk.—The relation of the serous character occasionally shown in vaccinia to constitutional conditions is illustrated by Kirk in four cases, which he reports, of subsequent myxedema or cretinism and in one case spasmodic asthma. He suggests that there exists here a hereditary constitutional vice which manifests itself in the peculiar characteristics of the vaccinia, and this latter may possibly have a tendency in such cases in developing subsequent myxedema. He asks whether the thyroid is specially concerned in the production of serous vaccinia and the serous types of other affections, and he answers that the evidence seems to show that it is. It appears further that the condition of the gland in such cases is one in which it is prone to atrophy from existing causes that would otherwise prove inefficient, and one of his cases has made this of much significance in this regard. If the healthy gland is necessary to produce viscid or normal vaccinia, it is conceivable, he thinks, that it may perform an office of this defensive kind whether it has a toxin-destroying power or not. The viscidity may be defensive, limiting the multiplication of organisms, amount of toxins produced and absorbed, while if it is of a serous character, opposite results may ensue. He suggests the experimenting on calves, producing vaccinia after extirpation of the thyroid, to test the question.

Bulletin de l'Academie de Med. (Paris), April 18.

**Treatment of Chlorosis with Salts of Copper.** Liégeois.—It has been Liégeois' experience that iron cures about 50 per cent. of all cases of chlorosis, and arsenic 35 per cent. The remaining 15 per cent. of the cases are scrofulous, and this class resists arsenic and iron, but can be cured by the acetophosphate of copper. He has been presenting the benefits of this copper treatment since 1887, and a number of Italian writers have called attention to the hematogenic power of the salts of copper. Hare has also successfully administered arsenite of copper in anemia. The formula found most effective in Liégeois' experience is 5 mg. to 1 cg. of neutral copper acetate and 5 cg. of sodium phosphate, made into a pill coated with licorice powder, then with glycerin and then with sodium phosphate and silver coated. Giudiceandrea has recently reported eighteen cases of chlorosis treated with 5 mg. to 5 cg. of copper acetate a day. The number of red corpuscles constantly increased, and the amount of hemoglobin, while the general health rapidly improved. No symptoms of intolerance were observed. He alternated iron and copper and commenced at once with the latter when iron produced disturbances.

**Influence of Quinin on the Striated Muscles During Chloroformization.** J. de Tarchanoff.—Experiments on frogs demonstrated that the injection of a 2 per cent. solution of quinin hydrochlorate in the muscles of the thigh or back, followed by the administration of chloroform, caused the muscles affected by the quinin to assume cadaveric rigidity under the influence of the chloroform. The muscles lost their transparency, elasticity and excitability, and became opaque and rigid, this condition persisting for several days. If the heart muscle is affected by the quinin the animals are unable to bear the chloroform, and under its influence the heart stops in diastole much sooner and more rapidly than in the control tests. The quinin evidently renders the muscles less resistant to the coagulating action of the chloroform, but does not affect the action of ether. The quininized muscles do not become rigid under the influence of the latter, and the heart does not become paralyzed. Binz considers quinin a poison for living protoplasm in general and for the muscles in particular, enfeebling their vital functions and diminishing oxidation.

Bulletin de la Societe Med. des Hop. de Paris, April 25.

**Influence of Lumbar Puncture on Gastric Crises.** G. M. Debove.—The cures reported in cases of sciatica and the fulgurant pains of tabes, by spinal cocainization, suggested to Debove that the benefit may have been due to the lumbar puncture rather than to the cocain injected. He accordingly practised lumbar puncture alone in a case of essential, intense gastric crises, similar to those of tabes. About 30 c.c. of cerebrospinal fluid were withdrawn and the painful crisis was arrested immediately.

May 2.

**Hysteric Mammary Hemorrhage.** Le Gendre.—This rare manifestation of hysteria was to have been treated by hydrotherapy, when evidences of tenia were discovered and vermifuges administered instead. With the expulsion of the tenia all the complicated hysteric and hysteriform symptoms vanished, with no recurrence during the year.

**Lobar Localizations of the Liver.** F. Glénard.—The liver is anatomically divided into four lobes, but percussion shows only two. Palpation, particularly with the thumb of the left hand, with which it is possible to outline the crest of

the margin of the liver, supplemented by pivoting this edge forward by bimanual pressure, and its lower position during inspiration, enables three lobes to be distinguished. Glénard advises graphic notation of the data determined by the thumb palpation, and calls the lobes the right, the square or cholecystic and the epigastric lobe. These various lobes develop independently of each other; one may be hard while the others are soft. One may be indolent and the others hyperesthetic. The free margin may be round and smooth in one and sharp in the others. They may become hypertrophied independently of each other and experiments on the cadaver show that each has a separate circulation to a certain extent and that each lobe has a direct connection with a certain portion of the intestines. Hyperemia in a certain segment of the intestines is followed by localization of the congestion in the corresponding lobe of the liver. Sérégé has recently studied this connection between segments of the intestine and the various lobes of the liver, not only on the cadaver but by injecting a stain in the veins of living animals. He found that an infinitesimal amount of a stain injected in the superior mesenteric vein was transported exclusively to the right lobe of the liver, while it was exclusively localized in the left lobe when injected in the venules in which the splenic vein originates. He concludes that there must be two currents in the portal vein, which pass along together without blending, one from the superior mesenteric vein to the right lobe and the other from the splenic vein to the left lobe. The density and freezing-point of the serum in each current varies slightly. He found in sixteen autopsies of patients who had succumbed to dysentery with abscess of the liver, that in fourteen cases the abscess was in the right lobe and the ulcerations in the intestines were in the region of the superior mesenteric vein. In the two cases in which the ulcerations were in the rectum, the abscess was in the left lobe of the liver. He also states that in hundreds of other observations he has never found a single contradictory case. In one case of carcinoma of the rectum there was a metastasis in the left lobe of the liver. In another a neoplasm in the small intestine coincided with a neoplasm in the right lobe; in a third a neoplasm in the cecum corresponded to another in the right lobe, and another in the rectum had induced a tumor in the left lobe, all four in the same subject. Still another case of a neoplasm in the cecum is reported, accompanied by an abscess in the right lobe. Porak recently mentioned a case of abscess in the left lobe in a new-born infant consecutive to infection of the umbilicus. Sérégé has also observed two cases of chronic gastritis or gastroduodenitis with an abscess in the left lobe, showing the intimate anatomic relations between the stomach and liver. He also reports two cases of gangrenous appendicitis, both accompanied by abscess in the right lobe of the liver. Glénard thinks that the liver has a more preponderant rôle in general pathology than is recognized at present.

### Presse Medicale (Paris), April 6.

**Action of Tuberculosis on the Kidneys.** A. BRAULT.—Certain writers have recently asserted that tuberculosis of the kidneys—aside from the actual tubercular lesions—results in the production of a chronic parenchymatous nephritis. Brault, on the other hand, states that in all his experience he has never noted anything of the kind, but always an amyloid degeneration, more or less pronounced, as the result of the influence of this condition. In patients with amyloid degeneration, the altered glomeruli allow the free passage of albumin. The epithelium is but little affected, comparatively speaking, and allows the passage of the extractives and of methylene blue. Symptoms of uremia consequently do not appear until a very advanced stage. The amyloid degeneration may be complicated by syphilis or some other disease, resulting in the shriveling of the kidney. This amyloid degeneration of the kidneys is the only remote, apparently non-specific manifestation of tuberculosis which Brault has ever observed in man.

### April 20.

**The Ureter-Bladder and Pyelovesical Reflex in Renal Pathology.** P. BAZY.—Pressure on the anterior abdominal wall, 2 or 3 cm. from the median line, will determine pain in certain cases of cystitis. If it irradiates to the bladder it is similar in character to the pain of nephritic colic and has the same meaning. A still more significant phenomenon is a painful desire to urinate elicited by vaginal palpation of the lower surface of the bladder. The sensitive point in this case corresponds to the orifice of the ureter and indicates a pyelitic lesion in the latter. This orifice is higher in man and more difficult to locate, but if it proves possible thus to induce the pain, it has the same diagnostic value in both sexes, and demonstrates the futility of treating the cystitis exclusively when there is a concomitant lesion above. Bouchard's sign is also a valuable aid in determining whether pus in the urine comes from the bladder or kidney. A little Fehling's solution is added to the urine in a glass and the glass is suddenly jarred. If the pus comes from the kidney, droplets of gas will be discovered in the fluid. If heated, vesical pus sinks to the bottom, while kidney pus rises on account of the air imprisoned in it. Pollakiuria at night and the frequency of urination with little or no accompanying pain are other important symptoms.

### April 24.

**Diagnosis by the Leucocytes.** G. MILIAN.—A few cubic centimeters are enough for cytodiagnosis, and they are easily derived from an exploratory puncture. All the fluid obtained should be sent to the laboratory to be examined, and not merely the supernatant portion. The presence of polynuclear elements in the cerebrospinal fluid indicates acute cerebrospinal meningitis, while lymphocytes suggest a tubercular meningitis or some other organic lesion of the nervous system. The absence of figured elements in the cerebrospinal fluid in the tertiary stage of syphilis shows that the nervous symptoms observed are due to neurasthenia alone, with no immediate danger of tabes. In acute gonorrheal hydrocele, the effusion contains polynuclear cells, while only lymphocytes are found in tubercular hydrocele. Chronic idiopathic hydrocele contains few cellular elements, except possibly large endothelial cells. Polynuclear cells are characteristic of acute, scrofibrinous, streptococcus pleurisy. The effusion in pneumococcus pleurisy contains red corpuscles and a few lymphocytes, with mononuclear cells more or less numerous, some enclosing polynuclear cells. Lymphocytes predominate in tubercular pleurisy, but the mechanical pleurisy in cardiac or Bright's disease, contains few leucocytes, but large cells, like endothelial, are scattered over the surface of the pleura as if desquamated. In hemothorax an increase or decrease in the number of red corpuscles indicates that the effusion is increasing or being absorbed. The polynuclear cells should all be gone by the twenty-fifth day. If they persist suppuration may be feared.

### Revue Hebd. de Laryngologie, Etc. (Bordeaux), April 13 and 20.

**Hysteric Mastoiditis.** G. LIARAS.—A number of patients have applied at Moure's clinic, during the past few years, begging for relief from intensely painful mastoiditis. Examination failed to disclose the slightest organic lesion in several cases, and the trouble was evidently an algia of the mastoid on a hysteric foundation. The pain always appeared suddenly in these cases, was intense from the first, and was distributed over the entire mastoid region, with no especially sensitive points. It was not constant in location and in one case was diagnosed by the sudden transference of the pain to the opposite mastoid region. The absence of fever and prostration are also signs of the hysteric nature of the affection. It yields to suggestion, with possibly a sham operation. Neuropathic symptoms usually point the way to its differentiation. The algia sometimes coincided with an otitis, but the pain was always out of proportion to the lesions observed, and appeared when the patients were on the road to recovery and drainage well established. The pain was continuous, not irradiating, with no special localizations but excessive hyperesthesia, without fever, chill or prostration. In another group of patients the pseudo-mastoiditis appeared years after an otitis had developed and healed. The tissues were intensely sensitive to pressure, but there was no tumefaction nor congestion. The pain was continuous, without exacerbation. The possibility of the coincidence of an algia of the mastoid with an acute affection of the middle ear should be borne in mind, and hysteric antecedents carefully weighed. Intense pain in the mastoid region, of an

indeterminate and indefinite character, in persons subject to hysteria, with or without an affection of the ear, should suggest the possibility of a monosymptomatic and disguised manifestation of hysteria. Five personal cases are reported in detail and several in the literature are reviewed.

Semaine Medicale (Paris), April 24.

**Treatment of Arteriosclerosis by Inorganic Serum.** C. Trunecek.—There is a certain proportion of calcium phosphate in the blood serum. This phosphate is insoluble in water but dissolves readily in a saline solution. The fact that it is in solution in the blood serum is probably due to the large amount of sodium chlorid in the fluid. All the tissues of the organism contain sodium chlorid and the proportion is larger in youth. As the body grows old there is less and less of this sodium chlorid, 4.92 gm.; sodium phosphate, 15 cg.; sodium carbonate, cium phosphates which result in arteriosclerosis. It is also indicated by the unusual acidity of the urine, which suggests an insufficiency of the alkaline salts in the blood. Reasoning from these premises Trunecek administers the alkaline salts, normally to be found in the blood plasm, as a therapeutic measure in arteriosclerosis. As they would be trying for the alimentary canal, he injects them subcutaneously in the form of an inorganic serum and has found the following formula best adapted for the purpose: sodium sulphate, 44 cg.; sodium chlorid, 4.92 gm.; sodium phosphate, 15 cg.; sodium carbonate, 21 cg.; potassium sulphate, 40 cg., in water to make 100 gm. The salts are eliminated too rapidly through the kidney when injected into a vein, consequently he injects the serum under the skin of the forearm. He commences with 1 c.c. and repeats the injection every fourth to seventh day, increasing by .2 to .5 cg. at a time. If the dyspnea from the arteriosclerosis is very distressing he repeats the injection every day. The largest amount he has ever injected at a time was 7.5 c.c.; usually 5 c.c. is sufficient. The dyspnea is sometimes relieved by a single injection more promptly than by morphin, and cardiac asthma is relieved in the same way. Sleep and appetite return and the general health improves. The sclerosis of the arteries apparently retrogressed in certain cases, but this is difficult to estimate and consequently he bases the results accomplished by the treatment on the improvement in the general health. This inorganic serum is indicated in all cases of arteriosclerosis in which the hyperacidity of the urine and the desquamation of the skin testify to a deficiency of alkaline salts in the blood. The relief of the dyspnea is probably due to the favoring of the oxidations by the alkaline medium, and by the increased absorption of carbon dioxid by the alkalinized blood. The sodium chlorid has also a directly stimulating action on the heart, and all these salts have a favorable influence on the formation of normal epithelial tissue, and possibly also on the regeneration of the vascular endothelium, altered by the arteriosclerotic process. They dissolve the calcium phosphate which has become incrusted on the walls of the vessels, promote organic combustions and metabolism and regulate the functions of the various organs, especially those of the heart and vessels. Several cases are described in detail.

May 1.

**Surgical Deviation of the Blood of the Portal Vein.** B. Schiassi.—There are only twenty observations on record of the intentional establishment of a collateral circulation to relieve the obstructed portal vein. Schiassi reports two more and urgently recommends his technique as free from the disadvantages of the operation as first proposed. He makes a vertical incision 15 to 20 cm. long extending downward from the costal arch. A second incision about the same length is made at right angles to the first, starting at the juncture of the upper and middle third of the first, and extending beyond the median line. After exposing and examining the liver, etc., the great omentum is drawn out through the transverse incision as fas as possible and the peritoneum is sutured. The large flap of omentum is then spread evenly over the peritoneum under the abdominal muscles, and gently rubbed with a compress dipped in a bichlorid solution, in order to promote the formation of adhesions. The edges of the flap are fastened with a few catgut stitches and the muscle-skin flaps are replaced and sutured in two tiers; no drainage. One patient with pericardial adhesions and bivenous cirrhosis and ascites has had no recurrence of the effusion during the two years since the portal circulation was thus deviated. Another patient was a young man who had suffered from an infectious nodular cirrhosis for ten years with constantly recurring ascites. He has gained twelve kilograms in weight and has now but a few cubic centimeters of fluid in the peritoneum. During the third or fourth week after the operation, intense dyspnea and profuse sweats with slight fever appeared after eating some raw eggs. These symptoms disappeared when the diet was restricted to carbohydrates. This case is another demonstration of the possibility of survival even when the functions of the liver are reduced to a minimum. After surgical deviation of the blood of the portal vein, the individual recovered comparative health. A partial operation on a woman with malarial cirrhosis restored her to a satisfactory condition. Schiassi observes that his operation is no more serious than an exploratory puncture, while it allows the entire abdominal cavity to be explored. The effects can only be palliative at best, but they enable life to be prolonged many years. In case of passive congestion of the liver it is best to operate at the first indications of hepatic dyssystolia. In ordinary venous cirrhosis prompt intervention is preferable before the connective tissue neoformation has done much harm. It is also preferable in biliary cirrhosis to operate early and not wait for the effusion, draining the gall-bladder for a time. This procedure has been successfully done several times according to the literature.

**Ocular Complications of Smallpox.**—The physicians of Lyons, France, observed serious ocular complications in an epidemic of 800 cases of smallpox last year, two patients becoming blind. They finally found that instillation of a 2 per 1000 solution of methylene blue, several times a day, at the slightest suspicion of disturbance in the eye, was as effective a prophylactic measure as nitrate of silver in ophthalmia neonatorum. In serious cases they made subconjunctival injections. Dufour recently cured a severe case by subconjunctival injection of a solution of bichlorid of mercury.

Deutsche Med. Wochenschrift (Berlin and Leipsic), April 25.

**Technique of Subcutaneous Injection of Quinin.** Bluemchen.—Fifty centigrams of quinin hydrochlorate dissolved in 1 cubic centimeter of hot water can be injected under movable skin without pain. Infiltration very rarely occurs and is never painful; the skin remains unaltered, with no necrosis. This simple aqueous solution is aseptic, as tests at the Berlin Institute of Infectious Diseases have shown that even tetanus spores are destroyed by five minutes boiling in the water or the quinin solution. The injections are painless and easily made, while the effect is much more reliable than when the quinin is administered by the mouth.

**Further Communications in Respect to the Biologic Serum Test for Blood.** Uhlenhuth. Further tests of the serum of rabbits previously treated with defibrinated blood have demonstrated that the test is accurate and sensitive with blood that has been putrid for three months, also with menstrual urine, blood mixed with soapy water, etc. Specimens of blood frozen at 10 degrees below zero, C., for fourteen days, also responded equally well to the tests. The serum can be heated to 60 C. for an hour, and one serum is still in use that has been kept for three months by the addition of 5 per cent. carbolic acid. The rabbit is treated with 10 to 20 c.c. of blood. This small amount can be taken from a healthy person without injury by applying a Huerteloup cup, and injected at once into the rabbit after it has been defibrinated.

**Defective Oxidation of Sugar in the Organism.** P. Mayer.—Continuing his researches on the "glukuron acid" in the urine, Mayer found it frequent in incipient diabetes, and he considers it a valuable diagnostic sign of a preliminary stage of diabetes, before any sugar can be discovered in the urine. The presence of the "glukuron acid" indicates defective oxidation of sugar in the organism, and this may progress to actual diabetes in time unless arrested by appropriate prophylactic dietetic measures.

May 2.

**The Bacilli Discovered by Danysz, Pathogenic for Rats.** J. KISTER.—The assertions of Danysz in regard to the pathogenic power of his bacillus have been confirmed by the tests at the Hamburg Institute, reported in this communication. All the rats fed with cultures of this bacillus died in five to seven days ,and white mice still earlier. There is no danger of confounding this bacillus with that of the plague.

**Changes in the Malaria Parasite Under the Influence of Methylene Blue.** A. IVANOFF.—Methylene blue affects the protoplasm chiefly, and quinin the chromatin. The forms of the parasite on which quinin has no effect are sensitive to the methylene blue and vice versa. The young forms contain very little protoplasm and consequently are not affected by the methylene blue while they succumb rapidly to quinin. The adult parasites are almost all protoplasm and consequently are very sensitive to the action of methylene blue. The crescentic forms are completely resistant to quinin, while they are entirely dstroyed by the action of methylene blue.

Muenchener Medicinische Wochenschrift, April 23.

**Extraction of the Detached Fetal Head.**—Knapp describes sixteen cases in which the extraction of the detached fetal head presented more or less difficulty. In one case an hour was passed in vain efforts to seize the head. Cramer also describes two cases and recommends his method of seizing the orbit with the finger, as the simplest and the only successful means in his experience. After one finger is in one orbit, the other orbit can be seized in the same way and the brain matter pushed out, thus reducing the size of the skull. In case of maceration the danger of detaching the head is imminent and every effort should be made to avoid it.

**Tuberculides.** E. KLEBS.—The cutaneous manifestations called tuberculides are probably, Klebs thinks, due to the toxins of the tubercle bacilli, and are not necessarily accompanied by the latter, although they may become associated in some cases, sooner or later, possibly by external contagion. In a case of tuberculous iritis he describes, it appeared after an indurated erythema of the face, which was evidently due to ingested tubercular toxins.

Wiener Klinische Wochenschrift, April 18.

**Gastro-Intestinal Manifestations of Renal Calculi.** M. STERNBERG.—Gastric and intestinal disturbances are among the regular symptoms of renal calculi. They consist mainly in the painful retention of wind and stools, disappear with the cessation of the renal colic, and are best controlled by opium during the attack. The arterial pressure is high when the intestinal symptoms are pronounced. The gastro-intestinal symptoms may predominate to such an extent that they alter the clinical picture and simulate an affection of the alimentary canal. In differentiating such cases, it is well to note that there may be a sensitive point in the ureter, at MacBurney's point, and also that in many cases the urine may not reveal any pathologic alterations for a long time. An important aid in the differentiation is that renal colic pains subside when the patient assumes an exaggerated Trendelenburg position. The intestinal disturbances are probably due to a reflex excitation of the inhibiting nerves of the intestine. The atypical localization of the pains in certain cases, at MacBurney's point is probably due to a sensitive point in the ureter and at the tip of the tenth rib, to a reflected cutaneous sensitive point.

**Senile Atrophy of the Brain as Basis for Focal Phenomena.** A. PICK.—A case of senile dementia is described as a further contribution to the writer's previous announcements in regard to the appearance of focal symptoms on an exclusive foundation of senile atrophy of the brain. The possibility, he adds, of the combination of a circumscribed patch of senile atrophy with a focal affection from some other cause, suggests an explanation for the hitherto puzzling cases in which, for example, a subcortical hemorrhagic focus coincided with unmistakable cortical symptoms. The clinical symptoms of paralysis have been considered a mosaic of focal phenomena, but no one deemed it possible to apply this assumption to senile dementia. Pick's experiences show that it is clinically possible to do this and that the reason why this is not more apparent is because encroaching senile atrophy usually invades a number of points at once. The mechanism is the same as in epilepsy: the limits between cortical and genuine epileptic seizures have disappeared, since it has been shown that the latter is a simultaneous, multiple appearance of symptoms of irritation.

Gazetta degli Ospedali (Milan), April 21.

**Contraction of the Pupils During Menstruation.** G. ASTOLFONI.—The pupils commence to contract during the premenstrual period and the myosis attains its maximum during the first days after the flow is established. This maximum varies in different individuals. The density of the urine is usually increased proportionately. These phenomena confirm the assumption of disturbances in the general metabolism and seem to indicate the action of some special toxic substance. It is difficult to explain them as reflex phenomena emanating from the genital organs.

**Phenol in Treatment of Acute Articular Rheumatism.** A. BALDUZZI.—The writer of this communication reports that he has treated several cases of acute articular rheumatism by injecting 1 c.c of a 3 per cent. solution of phenol. into the most tumefied joint or joints. The results were extremely encouraging and confirm the assumption of the etiologic connection between this disease and erysipelas, by the cures obtained in each from subcutaneous injections of phenol.

**Compresses of Ether in Treatment of Incarcerated Hernia.** G. B. BURZAGLI.—Compresses moistened with ether were applied to an incarcerated hernia the size of an egg, fourteen hours after the first symptoms had appeared. In thirty minutes the hernia became spontaneously reduced, with the application of less than 80 gm. of ether. Ether compresses have already a long list of successes to their credit.

# Books Received

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

THE ACUTE CONTAGIOUS DISEASES OF CHILDHOOD. By Marcus P. Hatfield, A.M., M.D., Professor Emeritus of Diseases of Children, Northwestern University Medical School. Cloth. Pp. 142. Price, $1.00 net. Chicago: G. P. Engelhard & Co.,1901.

CHIRURGIE DU FOIE ET DES VOIES BILIARIES, par F. Terrier, professeur à la Faculté de Médecine de Paris, et M. Auvray, Médicin des hôpitaux de Paris. Une vol. gr. in-8° avec 50 fig. dans le texte, 10 fr. Paris: Félix Alcan, éditeur. 1901.

PRINCIPLES OF SURGERY. By N. Senn, M.D., Ph.D., LL.D., Professor of Surgery, in Rush Medical College in Affiliation with the University of Chicago. Third edition. Thoroughly revised, with 230 wood-engravings, half-tones, and colored illustrations. Royal Octavo. Pp., xiv—700. Extra cloth, $4.50 net. Philadelphia: F. A. Davis Company.

ECZEMA, With an Analysis of Eight Thousand Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. Third Edition of Eczema and its Management entirely Rewritten. Cloth. Pp. 368. Price, $1.25. New York and London: G. P. Putnam's Sons. 1901.

POINTS OF PRACTICAL INTEREST IN GYNECOLOGY. By H. McNaughton-Jones, M.D., M.Ch., Q.U.I., Master of Obstetrics (Honoria causa) Royal University of Ireland. Reprinted from the *Edinburgh Medical Journal*, 1900. With 12 Plates. Cloth. Pp. 124. Price, $5.00. New York: William Wood & Co. 1901.

A SYLLABUS OF NEW REMEDIES AND THERAPEUTIC MEASURES, With Chemistry, Physical Appearance and Therapeutic Application. By J. W. Wainwright, M.D., Member of the AMERICAN MEDICAL ASSOCIATION. Cloth. Pp. 224. Price, $1.00. Chicago: E. P. Engelhard & Co. 1901.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Dr. Herman Eichhorst, professor of Special Pathology and Therapeutics and Director of the Medical Clinic in the University of Zurich. Translated and edited by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Two octavo volumes of over 600 pages each; over 150 illustrations. Price, per set, Cloth, $6.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

ATLAS AND EPITOME OF OPHTHALMOSCOPY AND OPHTHALMOSCOPIC DIAGNOSIS. By Prof. Dr. O. Haab, Director of the Eye Clinic in Zurich. From the Third Revised and Enlarged German Edition. Edited by Geo. E. de Schweinitz, Professor of Ophthalmology, Jefferson Medical College, Philadelphia. With 152 colored lithographic illustrations and 85 pages of text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

ATLAS AND EPITOME OF THE NERVOUS SYSTEM AND ITS DISEASES. By Professor Dr. Chr. Jakob, of Erlangen. From the Second Revised German Edition. Edited by Edward D. Fisher, M.D., Professor of Diseases of the Nervous System, University and Bellevue

Medical College, New York. With 83 plates and copious text Cloth, $3.50 net. Philadelphia and London: W. B. Saunders & Co., 1901.

ESSENTIALS OF THE DISEASES OF CHILDREN. By William M. Powell, M.D. Third Edition. Thoroughly Revised by Alfred Hand, Jr., M.D., Dispensary Physician and Pathologist to the Children's Hospital, Philadelphia. 12mo., 259 pages. Cloth. Price, $1.00 net. Philadelphia and London: W. B. Saunders & Company.

ATLAS AND EPITOME OF OBSTETRIC DIAGNOSIS AND TREATMENT. Dr. O. Shaeffer, of Heidelberg. From the Second Revised German Edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 122 colored figures on 56 plates, 38 other illustrations, and 317 pages of text. Cloth. Price, $3.00 net. Philadelphia and London: W. B. Saunders & Company. 1901.

ATLAS AND EPITOME OF LABOR AND OPERATIVE OBSTETRICS. By Dr. O. Shaeffer, of Heidelberg. From the Fifth Revised German Edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 14 lithographic plates, in colors, and 139 other illustrations. Cloth. Price, $2.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other than Drug-giving, Useful in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Volume I. Electrotherapy. By George W. Jacoby, M.D., Consulting Neurologist to the German Hospital, New York City. In two Books. Book 1. Electrophysics—Apparatus Required for the Therapeutic and Diagnostic Use of Electricity. With 163 Illustrations. Cloth. Pp. 242. Price, per set, $22.00. Philadelphia: P. Blakiston's Son & Co. 1901.

SELECT METHODS IN FOOD ANALYSIS. By Henry Leffmann, A.M., M.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, and William Beam, A.M., M.D., Formerly Chief Chemist Baltimore & Ohio Railroad. With 53 illustrations in the Text, 4 Full-page Plates and Many Tables. Cloth. Pp. 383. Price, $2.50. Philadelphia: P. Blakiston's Son & Co. 1901.

TWENTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH of the State of Rhode Island. For the Year Ending December 31, 1898. Cloth. Pp. 168. Providence, R. I.: E. L. Freeman & Sons. 1901.

UTERINE FIBROMYOMATA: Their Pathology, Diagnosis and Treatment. By E. Stanmore Bishop, F.R.C.S., Eng., President Manchester Clinical Society. With 49 Illustrations. Cloth. Pp. 323. Price, $3.50. Philadelphia: P. Blakiston's Son & Co. 1901.

APHORISMS, DEFINITIONS, REFLECTIONS, AND PARADOXES, Medical, Surgical and Dietetic. By A. Rabagliati, M.A., M.D., F.R.C.S. Ed., Late President of the Leeds and West Riding Medico-Chirurgical Society. Cloth. Pp. 291. Price, $2.50. New York: Wm. Wood & Co. 1901.

TWENTY-SEVENTH ANNUAL REPORT of the Touro Infirmary and Hebrew Benevolent Association of New Orleans, La., 1901. Paper. Pp. 99. New Orleans, La.: Jos. Levy & Bros.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY, March. Paper. Pp. 63 Philadelphia: Published by the Society. 1901.

FIFTY-SECOND ANNUAL REPORT of the Board of Trustees and Superintendent of the Central Indiana Hospital for Insane for the Year Ending Oct. 31, 1900. Paper. Pp. 65. Indianapolis: Wm. B. Burford. 1901.

# Queries and Minor Notes.

## ELECTRIC AUTOMOBILES.

CHICAGO, May 16, 1901.

*To the Editor:*—I notice a communication in THE JOURNAL of April 27, which is of general interest to the physician in active practice. It relates to the automobile. Your eastern correspondent discusses only two of the motive powers used to propel a vehicle, steam and gasolin. It is fair to assume from this fact that he is not conversant with the recent development and improvements of the electric motor and especially the electric battery. The patents recently issued to Mr. W. A. Crowdus, the distinguished electrical expert of this city, approximate the perfection of the electric automobile.

No one can gainsay that electricity is the ideal motive power. Being especially interested in this subject, I have given some time and attention to it, and have felt that the solution of the problem when it did come would be found in the battery. The battery of the machine which I have purchased weighs 350 pounds gross, which is one-third less than any other battery, and will cover on average roads, fifty miles without recharging. I also know that another battery is constructed under the same patents, weighing less than 500 pounds, which will carry the machine almost 100 miles on a single charge.

The trouble has been, heretofore, that the batteries have been too heavy, and that they lacked endurance. Under the new patents of Mr. Crowdus, the rapid disintegration that appears in the cells is done away with. Another feature is that the energy which is used in stopping the vehicle and in going down hills is employed in recharging the batteries.

These features make an electric road-vehicle far superior to any other kind of a machine employing a different motive power.

There is no class more interested in the automobile question than physicians, and this letter is written in the conviction that the profession at large is anxious to know all they can about automobiles. Your Eastern correspondent should acquaint himself with the recent improvements in other motive powers, and particularly that of the power of electricity, before he commits himself to a gasolin system and commends it generally, or even at all to his professional brethren. Yours respectfully,

CHAS. E. PADDOCK, M.D.

## TEXAS'S NEW LAW.

INTERIOR, VA., May 6, 1901.

*To the Editor:*—Please give me the name and address of the secretary of the State Board of Medical Examiners of Texas, also the present law regulating the practice of medicine in that state. Has a new law lately been enacted and from what date will it be in force? C. S. K.

ANS.—The State Board of Medical Examiners has not yet been appointed, though a number of names have been recommended by the state medical society to the governor. The new law will go into force July 9. At present the medical boards are separate in each judicial district and there is no general State Board of Medical Examiners.

## NORMAL SALT SOLUTION.

BENTON HARBOR, MICH., May 7, 1901.

*To the Editor:*—Kindly answer this question in THE JOURNAL, and please many members: Given at bedside or accident, sterilized water and common salt, a measure of one quart capacity and a teaspoon, how may one make a normal saline solution, no scales for weighing, for intravenous or subcutaneous injection? This is a matter of vast importance frequently. W. E. S.

ANS.—Normal saline solution is about 1 dram to the pint of sterilized water. Therefore, a small teaspoonful would approximately meet the requirements.

## PRACTICE IN MISSOURI.

PARAGOULD, ARK., May 7, 1901.

*To the Editor:*—Kindly give name and address of the proper person to inquire of as to the medical registration in Missouri, under the present law. When does the new registration law take effect in that state? S. M. N.

ANS.—The new law has gone into effect and examinations are required of all desiring to practice in the state. The secretary of the State Board of Health is Dr L. C. McElwee, 1113 N. Grand Ave., St. Louis, Mo.

## WEIGERT'S STAIN.

COVINGTON, KY., May 6, 1901.

*To the Editor:*—Will you publish the working formula of Weigert's stain for elastic fibers in sputa? I refer to the article on p. 1216, vol. xxxvi, No. 17. W. F. S.

ANS.—The formula is given in Lee's "Microtomist's Vade Mecum," fifth edition, 1900, as follows: Take basal fuchsin, 1 per cent.; resorcin (or carbolic acid) 2 per cent.; dissolve in water; 200 c.c. of the solution are raised to the boiling point in a capsule, and 25 c.c. of liquor ferri sesquichlorati, P. G., are added, and the whole is boiled, with stirring, for two to five minutes more. A precipitate is formed. After cooling the liquid is filtered and the precipitate remaining on the filter is brought back into the capsule and there boiled with 200 c.c. of 94 per cent. alcohol. Allow to cool, filter, make up the filtrate to 200 c.c. with alcohol and add 4 c.c. of hydrochloric acid. Stain sections (material fixed in any way) for twenty minutes to one hour. Wash with alcohol; clear with xylol (not with an essence). Elastic fibers, dark blue on light ground; nuclei generally unstained; they may be after-stained with carmin, etc.

## HOME FOR INEBRIATES.

FORT WAYNE, IND., May 9, 1901.

*To the Editor:*—Would you kindly give me information as to, or recommend, some home where an inebriate could be kept for a few years at a reasonable expense? Are there any state institutions for the purpose, and, if so, do any of them receive pay patients? J. W. K.

ANS.—We refer the inquirer to our advertising pages. We are unable to give any information as to the state institutions.

## "HOFF TREATMENT" FOR TUBERCULOSIS.

SAN JOSE, CAL., May 6, 1901.

*To the Editor:*—Will you kindly give me some light on the so-called "Hoff Treatment" for tuberculosis, as brought out by the *New York Journal*. L. J. B.

ANS.—See editorial in JOURNAL AM. MED. ASSN., Dec. 22, 1900, vol. xxxv, p. 1635.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C.: May 2 to 8, 1901, inclusive:

Roger P. Ames, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., to duty in the Division of the Philippines.

John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission to the U. S. Military Academy.

William H. Block, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba to San Francisco, Cal., en route for duty in the Division of the Philippines.

Charles C. Byrne, colonel and asst. surgeon-general, U. S. A., retired from active service by operation of law (having reached the age of 64 years.)

Herbert W. Cardwell, major and surgeon, Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

William D. Crosby, major and surgeon, U. S. A., member of a board in New York City, to examine officers of the Corps of Engineers for promotion.

William B. Davis, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission to the U. S. Military Academy.

James C. Dougherty, contract surgeon, from duty on the transport *McPherson* to report to the superintendent of the Army Transport Service for assignment.

P. Conover Field, contract surgeon, from Washington, D. C., to New Brunswick, N. J., for annulment of contract.

John F. Jones, contract surgeon, from Leroy, Ill., to duty at Fort Washakie, Wyo.

Percy L. Jones, captain and asst.-surgeon, Vols., recently appointed and now at San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Charles F. Mason, captain and asst.-surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission to the U. S. Military Academy.

Fred W. Palmer, captain and asst.-surgeon, Vols., recently appointed and now at Brooklyn, Mich., to proceed, via San Francisco, Cal., to Manila, P. I., for duty in the Division of the Philippines.

Elmer A. Scherrer, contract surgeon; former orders directing him to proceed from Fort Grant, Ariz., to Fort Washakie, Wyo., evoked.

A. B. Smith, contract surgeon, leave of absence extended.

Eugene L. Swift, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), now at San Francisco, Cal., to report in person to the surgeon-general of the Army for instructions.

Frank H. Titus, major and surgeon, Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

Wilfrid Turnbull, major and surgeon Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

Ralph W. Waddell, dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

William B. Winn, major and surgeon, Vols., honorably discharged from the service of the United States to take effect June 30, 1901.

In addition to the above orders boards were convened at certain places for the competitive examination of enlisted men and for examination of such other persons as may be properly ordered before them to determine their fitness for appointment as second lieutenants in the Army, and on these boards medical officers were detailed as follows: At Chicago, Major Timothy E. Wilcox, surgeon, U. S. A., and Major Henry L. Raymond, surgeon, U. S. A.; at Denver, Colo., Major Edward B. Moseley and Major Louis Brechemin, surgeons, U. S. A.; at San Antonio, Tex., Peter J. A. Cleary, colonel and asst. surgeon-general, U. S. A., and Charles R. Byrne, lieut.-col., and deputy surgeon-general, U. S. A.; and at Governor's Island, N. Y., William H. Corbusier, major and surgeon U. S. A., and Allie W. Williams, lieutenant and asst.-surgeon, U. S. A.

## Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending May 11, 1901:

Asst.-Surgeon J. S. Taylor, detached from the *Manila*, and ordered to the Naval Hospital, Yokohama, Japan.

Asst.-Surgeon F. L. Benton, detached from the Naval Hospital, Yokohama, and ordered to duty on the Asiatic Station.

Medical Director E. Z. Derr, detached from the Naval Academy, and ordered home to wait orders.

Surgeon F. W. F. Weber, detached from the Naval Station, San Juan, and ordered to the Naval Academy.

Surgeon C. H. T. Lowndes, detached from the *Lancaster*, May 11, and ordered to the Naval Station, San Juan, P. R.

P. A. Surgeon E. S. Bogert, ordered to the *Lancaster*, May 11.

Surgeon L. W. Curtis, detached from the *Vermont*, May 11, and ordered home and to be in readiness for sea duty.

Surgeon G. Pickrell, ordered to the *Vermont*, May 11.

Surgeon C. F. Stokes, detached from the Asiatic Station, and ordered home, via mail steamer.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine Hospital Service, during the week ended May 11, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Alaska: Sitka, April 9, prevalent among Indians.
California: Los Angeles, April 20-27, 5 cases; Oakland, April 6-27, 2 cases; San Francisco, April 20-27, 2 cases.
Florida: Jacksonville, April 20-27, 21 cases, 1 death.
Illinois: Chicago, April 27-May 5, 5 cases; Freeport, April 27-May 4, 2 cases.
Indiana: Evansville, April 27-May 4, 2 cases; Michigan City, April 22-May 6, 5 cases.
Iowa: Clinton, April 27-May 4, 1 case; Ottumwa, March 30-April 27, 5 cases.
Kansas: Wichita, April 20-May 4, 71 cases.
Louisiana: Bossier, April 1-31, 1 case; Caddo, April 1-31, 7 cases; New Orleans, April 30-May 4, 23 cases; Sabine, April 1-31, 1 case.
Maryland: Cambridge, April 1-30, 5 cases.
Massachusetts: Fitchburg, April 20-27, 2 cases; Holyoke, April 27-May 4, 1 case.
Michigan: Bay City, April 20-27, 7 cases; Detroit, April 27-May 4, 1 case.
Minnesota: Minneapolis, April 20-May 5, 4 cases; Winona, April 20-27, 3 cases.
Nebraska: Omaha, April 20-May 4, 32 cases.
New Hampshire: Manchester, April 27-May 4, 4 cases.
New Jersey: Jersey City, April 21-May 5, 23 cases; Newark, April 20-May 4, 11 cases.
New York: New York, April 27-May 4, 86 cases, 10 deaths.
North Carolina: Charlotte, April 1-30, 18 cases, 1 death.
Ohio: Cincinnati, April 26-May 3, 1 case; Cleveland, April 27-May 4, 61 cases, 2 deaths.
Pennsylvania: Lebanon, April 27-May 4, 3 cases; McKeesport, April 20-27, 1 case; Philadelphia, April 27-May 4, 2 cases, 1 death; Pittsburg, April 20-May 4, 5 cases; Steelton, April 27-May 4, 1 case; Williamsport, April 27-May 4, 1 case.
Tennessee: Memphis, April 20, May 4, 40 cases, 2 deaths; Nashville, April 27-May 4, 6 cases.
Utah, Salt Lake City, April 20-27, 18 cases.
Virginia: Roanoke, April 1,30, 42 cases, 1 death.
West Virginia: Wheeling, April 20-May 4, 8 cases, 1 death.
Wisconsin: Green Bay, April 28-May 5, 1 case; Milwaukee, April 20-May 4, 2 cases.
Porto Rico: Ponce, April 13-20, 9 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Feb. 1-28, 32 deaths.
Austria: Prague, April 6-20, 11 cases.
Belgium: Antwerp, April 6-20, 5 cases.
Brazil: Pernambuco, March 16-31, 29 deaths; Rio de Janeiro, March 16-31, 9 deaths.
Ceylon: Colombo, March 23-30, 1 case, 1 death.
China: Hongkong, March 23-30, 13 cases, 13 deaths.
Colombia: Panama, April 22-29, 5 cases, 3 deaths.
Egypt: Cairo, April 8-15, 1 death.
France: Marseilles, March 1-31, 3 deaths; Paris, April 13-20, 11 deaths.
Great Britain: England—Leeds, April 13-20, 1 case; Liverpool, April 13-20, 2 cases. Scotland: Dundee, April 13-27, 4 cases; Glasgow, April 19-26, 10 deaths.
Gibraltar: April 7-21, 2 cases.
India: Bombay, March 26-April 9, 10 deaths; Karachi, March 1-April 7, 36 cases, 7 deaths; Madras, March 16-29, 21 deaths.
Italy: Sicily, April 6-13, prevalent.
Malta: April 1-13, 6 cases.
Mexico: Mexico, April 21-28, 2 deaths; Nuevo Laredo, April 13-20, 1 death.
Yucatan: Merida, three or four deaths daily.
Netherlands: Amsterdam, April 13-29, 1 case.
Russia: Moscow, March 30-April 13, 15 cases, 4 deaths; Odessa, April 6-10, 13 cases, 3 deaths; St. Petersburg, April 6-13, 9 cases, 2 deaths; Warsaw, March 31-April 13, 14 deaths.
Straits Settlements: Singapore, March 16-23, 2 deaths.
Spain: Corunna, April 20-27, 1 death; Malaga, March 16-31, 3 deaths.
Turkey: Smyrna, March 17-April 14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 16-31, 42 deaths.
Cuba: Havana, April 20-27, 1 case.
Mexico: Vera Cruz, April 20-27, 1 death, resident for ten years.

CHOLERA.

India: Bombay, March 26-April 2, 10 deaths; Madras, March 16-29, 3 deaths.

PLAGUE.

Africa: Cape Town, April 6-13, 43 cases, 22 deaths.
China: Hongkong, March 23-30, 14 cases, 10 deaths.
India: Bombay, March 26-April 9, 1407 deaths; Karachi, March 24-April 7, 429 cases, 338 deaths.
Japan: Wakayama Ken, April 12, 1 case, 1 death.

# Association News.

## General Executive Committee.

The first meeting of the General Executive Committee of the AMERICAN MEDICAL ASSOCIATION, will be held in Parlors 2 and 3, Hotel Ryan, St. Paul, Minn., on Monday, June 3, 1901, at 5 p. m. A full attendance is requested, in order that the committee may get to work early, and be ready for business referred to it by the ASSOCIATION. Subsequent daily meetings will be held in the same place, and about the same hour daily, unless otherwise ordered by the committee. L. DUNCAN BULKLEY, M.D., secretary.

## Hotel Arrangements at St. Paul.

Interest in the St. Paul meeting of the ASSOCIATION, as shown by the large number of rooms reserved in advance, is evidently widespread and enthusiastic, and everything promises a very large gathering. The hotels are making every

effort to locate guests comfortable and without crowding, and there is every reason to believe that, however large the number of delegates, all will be comfortably accommodated. In addition to the large number who can be received in the hotels of St. Paul and her sister city, Minneapolis, the Committee on Hotel Arrangements has secured fifteen hundred rooms in private families, of St. Paul, which will be placed at the disposal of those who find the hotels crowded. With characteristic hospitality the ladies of St. Paul have opened their homes to the visiting physicians, and the best that the city has will be provided for their accommodation. The rooms in private houses are in many respects much to be preferred to rooms in hotels which are in the crowded condition customary in convention times. The rooms secured are situated in the neighborhood of the center of the city, just on the verge of the residence districts, and are convenient to the headquarters and assembly rooms. The rates for rooms vary from $1.00 to $1.50 per day, and where two persons occupy a room together from $1.50 to $2.00. In many instances breakfast will be served with a slight additional charge, and the other meals can be obtained at the restaurants. At the depots, hotels, registration room and other gathering points members of the hotel committee will be in attendance with a list of pleasant rooms and a corps of messenger boys, and when the visiting physician finds that he can not obtain quarters to his taste at the hotels, he will be provided with a room in a private family and sent under the guidance of a messenger to the place. In this way it will not be necessary to tramp from one hotel to another in vain search for a place to stay, and the Committee will do its utmost to have every visiting physician comfortably located immediately on his arrival. If those who can not find accommodations to their liking at the first hotel they visit will consult the Committee at once, they will be spared much useless effort and disappointment.

In convention times it is not unusual that every one wants to be located at headquarters. This is manifestly impossible in a meeting so large as that of the Association, and it will be necessary for visiting physicians to make arrangements at other hotels. The demand for single rooms is larger than can be supplied, and it is earnestly requested that the spirit of self-sacrifice be shown to the greatest extent consistent with reasonable comfort. If all guests were supplied with single rooms the capacity of the hotels would be cut in half, and many worthy ones would be turned away. It is consequently recommended that as far as possible each member arrange with a friend to occupy a room together. In this way many will not have to suffer through the carelessness or thoughtlessness of a few. Doubling up will be avoided as far as possible.

The Committee on Hotel Arrangements has secured rates from the hotels which are the usual and customary tariff in non-convention times, with the exception that where one person wishes to occupy a room that ordinarily accommodates two persons he will be expected to pay for two, less the charge for meals for one. For instance, if the rate for two people in a room is $3 each, the person occupying that room alone will be expected to pay $4 or $4.50. This will be seen at a glance to be fair and reasonable. In no case except as indicated above have the rates in hotels been raised. It is desired as far as possible that those members who intend to go to St. Paul shall make their reservations at once, to avoid trouble and delay on arrival. All requests for rooms should be addressed to the hotels or to Arthur Sweeney, M.D., Chairman Committee on Hotels, St. Paul, Minn.

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### Program for St. Paul Meeting.

Following are the lists of papers to be presented before the several Sections at the Meeting of the Association:

#### SECTION ON PRACTICE OF MEDICINE.

Tuesday, June 4—Afternoon Session—2 p. m.

1. Address of Chairman. J. M. Anders, Philadelphia.
2. Appendicitis; Pathological Anatomy, Diagnosis and Treatment. John B. Deaver, Philadelphia.
   Discussion opened by I. N. Love, New York; Philip D. Marvel, Atlantic City; A. A. Jones, Buffalo.
3. Inoculation of Malarial Fevers through the Agency of Mosquitos; A Further Consideration.
   E. A. Woldert, Philadelphia.
4. Some Phases of Malaria. J. B. McElroy, Stovall, Miss.
5. Clinical Observations in Malaria.
   G. W. Hudspeth, Little Rock, Ark.
   Discussion of papers 3, 4, 5, by Wm. Krauss, Memphis, Tenn.; Geo. Dock, Ann Arbor, Mich.; Whyte Glendower Owen, White Castle, La., and Wm. Britt Burns, Memphis, Tenn.

Wednesday, June 5—Forenoon Session—9 a. m.

6. The Chemical and Microscopic Value of Blood Examinations. W. D. Kelly, St. Paul, Minn.
7. Pernicious Anemia; Report of a Series of Cases.
   Thomas McCrae, Baltimore, Md.
8. The Leucocyte Count in Hemorrhage.
   George Douglas Head, Minneapolis, Minn.
9. Some Thoughts in Immunity.
   I. A. McSwain, Paris, Tenn.
10. Acromegally; Presenting Features of Interest.
    Chas. Lyman Greene, St. Paul, Minn.
11. The Oxygen Treatment in So-called Uric Acid Lesions.
    Alfred C. Croftan, Philadelphia.
12. Osmotic Pressure and its Relation to Uremic Manifestations. Heinrich Stern, New York.
13. Rheumatic Simulants. J. J. Walsh, New York.

Wednesday, June 5—Afternoon Session—2 p. m.

Symposium on some cirrhoses of the liver.

14. Circulatory Disturbances Accompanying Cirrhoses with Inoculation of the Portal Branches with Systemic Veins. Charles G. Stockton, Buffalo, N. Y.
15. Cirrhoses of the Liver in Children.
    Wm. C. Hollopeter, Philadelphia, Pa.
16. The Cause of Ascites. J. C. Wilson, Philadelphia, Pa.
17. Cirrhoses with Pigmentation.
    T. B. Futcher, Baltimore, Md.
18. Relation of Intestinal Intoxications to Hepatic Cirrhoses.
    Judson Daland, Philadelphia, Pa.
19. Cirrhoses of the Liver Due to Metallic Poisons.
    Victor C. Vaughan, Ann Arbor, Mich.
20. Treatment of Cirrhoses of the Liver.
    J. H. Musser, Philadelphia, Pa.
    Discussion: George Dock, Ann Arbor, Mich.; Frank Billings, Chicago; James Tyson, Philadelphia, Pa.; J. B. Marvin, Louisville, Ky.; B. G. Henning, Memphis, Tenn.; Alfred Stengel, Philadelphia.
    Open discussion on Etiology and Pathology of Cirrhoses: J. B. Herrick, Chicago; J. A. Witherspoon, Nashville, Tenn.; Louis F. Bishop, New York.

Thursday, June 6—Forenoon Session—9 a. m.

21. Modified Treatment of Typhoid Fever.
    T. B. Greenley, Meadow Lawn, Ky.
22. Medical Shock. O. T. Osborne, New Haven, Conn.
23. Dyspepsia as a Brain and Nerve Strain Disease.
    Chas. H. Hughes, St. Louis, Mo.
24. The Treatment of Pneumonia. Edward F. Wells, Chicago.
25. Spread of Tuberculosis by Coughing.
    E. Napoleon Boston, Philadelphia.
26. Tuberculosis as Determined by Cause and Mode of Onset.
    Louis Faugeres Bishop, New York.
27. Practical Value of Cultures from the Throat.
    M. H. Fussell, Philadelphia.
28. Genito-Urinary Examinations for the General Practitioner; with Demonstrations on Patient.
    Fred C. Valentine, New York.

Thursday, June 6—Afternoon Session—2 p. m.

Symposium on pericarditis.

29. Clinical Observations in Pericarditis.
    Frank Billings, Chicago.
30. Pathology and Pathogenesis of Pericarditis.
    Jos. McFarland, Philadelphia.
31. The General Etiology of Pericarditis.
    Robert B. Preble, Chicago.
32. Relation of Pericarditis to Endocarditis and Myocarditis.
    Alfred Stengel, Philadelphia.
33. Adherent Pericardium. Robert H. Babcock, Chicago.
34. Tuberculous Pericarditis.
    Chas. F. McGahan, Aiken, S. C.
35. Cardiac Lesions as Observed in the Negro; with Special Reference to Pericarditis.
    Frank A. Jones, Memphis, Tenn.

36. Some Points in the Treatment of Pericarditis.
FRANK PARSONS NORBURY, Jacksonville, Ill.
Discussion on Pericarditis by HENRY B. FAVILL, Chicago; J. H. MUSSER, Philadelphia; J. J. WALSH, New York; DELANCEY ROCHESTER, Buffalo, N. Y.; O. T. OSBORNE, New Haven, Conn.; D. D. SAUNDERS, Memphis, Tenn.

FRIDAY, JUNE 7—FORENOON SESSION—9 A. M.

SYMPOSIUM ON SMALLPOX.

37. A Further Report on Pseudo or Modified Smallpox.
T. J. HAPPEL, Trenton, Tenn.
38. Smallpox; the Old and the New.
W. L. BEEBE, St. Cloud, Minn.
39. Remarks Covering the Sanitary Features of Smallpox.
WM. KRAUSS, Memphis, Tenn.
40. The Diagnosis and Treatment of Smallpox.
E. H. POMEROY, Calumet, Mich.
41. The Diagnosis of Mild Smallpox as in the Present Outbreak of the Smallpox in this Country.
HEMAN SPALDING, Chicago.
42. The Distinguishing Characteristic Between Mild Discrete Smallpox and Chickenpox.
FREDERICK LEAVITT, St. Paul, Minn.
43. Smallpox. H. M. BRACKEN, St. Paul, Minn.
Discussion on Smallpox by J. J. WALSH, New York; LOUIS LEROY, Nashville, Tenn.; THOS. WM. CORLETT, Cleveland, O.; J. D. SMYTHE, Greenville, Miss., and F. S. RAYMOND, Memphis, Tenn.

The foregoing will be a joint session with the Section on Hygiene and Sanitary Science.

FRIDAY, JUNE 7—AFTERNOON SESSION—2 P. M.

SYMPOSIUM ON SERUM AND ORGANOTHERAPY.

44. Mode of Manufacture of Serums and Organo-Extracts.
CHAS. T. MCCLINTOCK, Detroit, Mich.
45. Utility of Antitoxin Serums.
JOSEPH MCFARLAND, Philadelphia.
46. Further Observations on Serum Therapy in Croupous Pneumonia. J. C. WILSON, Philadelphia.
47. Anti-Tubercle Serum.
E. A. DE SCHWEINITZ, Washington, D. C.
Informal discussion to be opened by SIMON FLEXNER, Philadelphia.
48. Theory and Practice of Organotherapy.
S. SOLIS COHEN, Philadelphia.
49. Acromegaly Treated with Pituitary Body.
SIDNEY KUH, Chicago.
50. Treatment of Graves' Disease with Thymus Gland.
JOHN M. DODSON, Chicago.
Informal discussion opened by VICTOR C. VAUGHAN, Ann Arbor, Mich.

A JOINT DISCUSSION WITH THE SECTION ON MATERIA MEDICA AND THERAPEUTICS.

## SECTION ON HYGIENE AND SANITARY SCIENCE.

MEETS IN MASONIC ARMORY.

TUESDAY, JUNE 4—2 P. M.

1. Tonsillar Inflammations; Their Diagnosis, Bacterial Pathology, Treatment, and Quarantine.
WILLIAM G. BISSELL, Buffalo, N. Y.
2. Pulmonary Fearlessness. WM. T. ENGLISH, Pittsburg.
3. A Medical Examination as a Prerequisite to Marriage.
J. C. BATESON, Scranton, Pa.
4. State Supervision of Marriage; Its Feasibility, Scope, Justification, Possibilities. W. H. HEATH, Buffalo, N. Y.

WEDNESDAY, JUNE 5—9 A. M.

5. The Limitations of Venereal Diseases.
DENSLOW LEWIS, Chicago.
To be discussed by FERD. C. VALENTINE, New York; C. A. L. REED, Cincinnati; HOWARD A. KELLY, Baltimore; and JOSEPH PRICE, Philadelphia.
6. Tuberculosis in Children.
SHERMAN G. BONNEY, Denver, Colo.
7. Tuberculosis in the Illinois Penitentiary.
T. J. O'MALLEY, Joliet, Ill.

WEDNESDAY, JUNE 5—2 P. M.

8. Tuberculosis in Prisons and Asylums.
H. M. BRACKEN, Minneapolis.
9. Tuberculosis Sanitaria. C. P. AMBLER, Asheville, N. C.
10. Tuberculosis in the Middle States, and its Curability.
JOHN A. ROBISON, Chicago.
Discussion of Institutions and Tuberculosis to be opened by A. C. KLEBS, Chicago, and S. A. KNOPF, New York City.
11. The Proper Management of the Tubercular Lung.
NORMAN BRIDGE, Los Angeles, Cal.
12. The Reation of Sputum to the Spread of Tuberculosis.
C. L. MINOR, Asheville, N. C.

THURSDAY, JUNE 6—9 A. M.

13. Tuberculosis of Animals in Some of its Relations to Human Tuberculosis.
D. E. SALMON, D. V. M., Washington, D. C.
14. The Experience of Syracuse, N. Y., with the Compulsory Tuberculin Test of all Dairies Furnishing Milk to the City. B. S. MOORE, Syracuse, N. Y.
Discussion to be opened by M. H. REYNOLDS, St. Anthony's Park, Minn.
15. The Climatology of Arizona with Reference to the Treatment of Pulmonary Tuberculosis.
R. W. CRAIG, Phoenix, Ariz.
16. Tuberculosis in its Relation to the Welfare of the People of the United States in General and Colorado in Particular. WM. M. DANNER, Denver, Colo.
Discussion to be opened by R. H. BABCOCK, Chicago.

FRIDAY, JUNE 7—9 A. M.

There will be a joint symposium held by this Section and that of Practice of Medicine on Smallpox.

## SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

FIRST DAY, TUESDAY, 2 P. M.

Address of Chairman. DR. H. P. NEWMAN, Chicago.
1. Methods of Incision for Vaginal Section.
J. CLARENCE WEBSTER, Chicago.
2. Indications for Vagino-Abdominal Hysterectomy.
RUFUS B. HALL, Cincinnati.
3. The Accidents and Complications of Pelvic Surgery/and their Treatment. J. B. DEAVER, Philadelphia.
4. Post Operative Intra-Peritoneal Hemorrhage.
A. H. CORDIER, Kansas City, Mo.
5. Contributing Factors in the Production of Peritonitis.
J. G. CLARK, Philadelphia.
6. The Advantages and Disadvantages of Drainage after Abdominal Section. HUNTER ROBB, Cleveland.

WEDNESDAY, 9 A. M.

7. Atresiahymenalis. O. THIENHAUS, Milwaukee, Wis.
8. Result Immediate and Remote of Conservative Surgery.
A. GOLDSPOHN, Chicago.
9. Electrothermic Hemostasis in Abdominal and Pelvic Surgery. A. J. DOWNES, Philadelphia.
10. The Uses and Abuses of Morphine in Abdominal Surgery.
L. H. DUNNING, Indianapolis.

WEDNESDAY, 2 P. M.

11. Fibroids. THOMAS S. CULLEN, Baltimore.
12. The Complications and Degenerations of Fibroid Tumors as Bearing on the Treatment of these Growths.
CHAS. P. NOBLE, Philadelphia.
13. How Shall we Deal with Uterine Myomata?
E. E. MONTGOMERY, Philadelphia.
14. A New Operation for Extirpation of Cancer of the Rectum.
M. D. MANN, Buffalo, N. Y. (By invitation.)
16. The Various Incisions Appropriate to Different Renal Operations. HOWARD A. KELLY, Baltimore.
17. The Relative Merits of the Different Methods of Ureteroureteral Anastomosis.
J. WESLEY BOVEE, Washington, D. C.
15. Carcinoma of the Uterus. J. M. BARDY, Philadelphia.

THURSDAY, 9 A. M.

18. Treatment of Posterior Displacements of the Uterus.
A. H. GOELET, New York.
19. Surgical Treatment of Retroversion of the Uterus.
FRANKLIN H. MARTIN, Chicago.
20. A New Operation for Retro-Displacement of the Uterus.
EMIL RIES, Chicago.
21. The Increasing Sterility of American Women.
GEORGE J. ENGELMANN, Boston.

THURSDAY, 2 P. M.

22. Obstetrics as a Specialty. JOS. PRICE, Philadelphia.
23. Position of the Patient During Delivery.
W. D. PORTER, Cincinnati.

24. Asepsis in Midwifery. E. GUSTAVE ZINKE, Cincinnati.
25. Puerperal Asepsis. J. F. MORAN, Washington, D. C.
26. Indications and Contraindications for the use of the Curette in Obstetric Practice.
H. D. FRY, Washington, D.C.
27. Advantage of Drill upon the Manikin.
ELIZA H. ROOT, Chicago.
28. A Case of Streptococcus Infection following Labor, Operation, Recovery. W. H. HUMISTON, Cleveland.
29. Ectopic Gestation. W. H. WATHEN, Louisville.
30. Extrauterine Pregnancy. F. F. LAWRENCE, Columbus.
31. Abdominal Section During Pregnancy.
W. W. POTTER, Buffalo, N. Y. (By invitation.)

FRIDAY, 9 A. M.

32. Puerperal Eclampsia: Its Etiology and Treatment.
T. J. BEATTIE, Kansas City, Mo.
33. Pregnancy Following Ventro-suspension of the Uterus.
REUBEN PETERSON, Chicago.
34. Cesarean Section as a Method of Treatment for Placenta Previa. W. J. GILLETTE, Toledo.
35. Some Results of Ovarian Surgery with Further Report Upon Intraperitoneal Implantation of Ovarian Tissue.
A. PALMER DUDLEY, New York.
36. Gall-stones and Insane Women.
W. P. MANTON, Detroit, Mich.

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## SECTION ON SURGERY AND ANATOMY.

TUESDAY, JUNE 4—AFTERNOON SESSION.

SURGERY OF THE BRAIN AND SPINAL CORD.

1. Remarks on the Surgery of the Spinal Cord, with Illustrative Cases. ANDREW J. MCCOSH, New York City.
2. Spina Bifida, with the Report of an Interesting Case.
PAUL F. EVE, Nashville, Tenn.
3. The Methodical Exploration of the Brain for Fluid.
CHRISTIAN FENGER, Chicago.
4. The Immediate and Remote Effects of Brain Injury.
D. S. FAIRCHILD, Clinton, Iowa.
5. Cases of Trephining for Pathological Lesions of the Brain.
JOHN C. MUNRO, Boston.
Discussion opened by W. W. KEEN, Philadelphia. Discussion continued by WM. L. RODMAN, Philadelphia, and ANGUS MCLEAN, Detroit, Mich.

WEDNESDAY, JUNE 5—MORNING SESSION.

6. The Mortality of Appendicitis.
JOHN B. DEAVER, Philadelphia.
7. Some Unusual Features of Appendicitis and Their Treatment. ERNEST LAPLACE, Philadelphia.
8. Abdominal Contusions Associated with Rupture of the Intestine. HOMER GAGE, Worcester, Mass.
9. The Knot Within the Lumen, in Intestinal Surgery, with Report of Eight Cases. F. GREGORY CONNELL, Chicago.
10. Surgery of the Colon. H. O. WALKER, Detroit, Mich.
Discussion opened by WILLIS G. MCDONALD, Albany, N. Y. (by invitation), D. A. K. STEELE, and F. C. SCHAEFER, Chicago.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

THE SURGICAL ASPECT OF CARCINOMA.

11. The Nature of the Cancerous Process.
ROSWELL PARK, Buffalo, N. Y.
12. The Present Status of the Carcinoma Question.
NICHOLAS SENN, Chicago.
13. Early Diagnosis of Carcinoma: Methods.
CHARLES A. POWERS, Denver, Colo.
14. The Pathology of Breast Carcinoma and its Relation to Early Diagnosis and Treatment.
WM. S. HALSTED and J. C. BLOODGOOD, Baltimore, Md.
15. Carcinoma of the Cecum. WM. J. MAYO, Rochester, Minn.
16. Improved Method for Resecting High Rectal Carcinoma.
ROBERT F. WEIR, New York City.
17. Method of Operating on Carcinoma of the Tongue.
J. COLLINS WARREN, Boston.
18. Treatment of Malignant Diseases by Surgical Operation.
FREDERIC S. DENNIS, New York City.

THURSDAY, JUNE 6—MORNING SESSION.

19. Hemostasis in Amputation at the Hip-Joint, a Résumé of 262 Cases by the Author's Method.
JOHN A. WYETH, New York City.
20. Autoplastic Suture in Hernia and other Ventral Wounds.
L. L. MCARTHUR, Chicago.
21. A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery.
L. E. SCHMIDT and G. KOLISCHER, Chicago.
22. Prostatotomy versus Prostatectomy for Prostatic Hypertrophy. RAMON GUITERAS, New York City.
23. Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction.
EUGENE FULLER, New York City.
24. A Further Report on Permanent Catheterization.
J. R. EASTMAN, Indianapolis, Ind.
25. Fallacies in the Treatment of Urethral Diseases.
ROBERT HOLMES GREENE, New York City.
Discussion opened by ROBERT H. W. DAWBARN, New York City.

THURSDAY, JUNE 6—AFTERNOON SESSION.

THE SURGERY OF THE CHEST.

26. Pneumectomy and Pneumotomy. J. B. MURPHY, Chicago.
27. Insufflation of the Lungs and its Application to Pulmonary Surgery. RUDOLPH MATAS, New Orleans, La.
28. Removal of Foreign Bodies from the Trachea and Bronchi.
DEFOREST WILLARD, Philadelphia.
29. Treatment of Empyema. JAMES H. DUNN, Minneapolis.
30. Decortication of the Lung.
GEORGE RYERSON FOWLER, Brooklyn, N. Y.
Discussion opened by Frederick W. Parham, New Orleans, La., and continued by A. C. Bernays, St. Louis, Mo.

FRIDAY, JUNE 7—MORNING SESSION.

31. Abdominal Surgery. MAURICE RICHARDSON, Boston.
32. The Indications for and Against Total Removal of the Human Stomach.
G. CHILDS MACDONALD, San Francisco, Cal.
33. Diagnosis and Treatment of Kidney Stone.
ARTHUR D. BEVAN, Chicago.
34. The Surgery of the Gall-Bladder and Gall-Ducts.
ALEXANDER H. FERGUSON, Chicago.
35. Acute Infective Cholangitis and Cholecystitis as a Complication of Gall-Stones.
DANIEL N. EISENDRATH, Chicago.
36. Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine.
JAMES B. BULLITT, Louisville, Ky.
37. Experimental and Clinical Observations on the Therapeutics of Abdominal Surgery.
GEORGE W. CRILE, Cleveland, Ohio.
Discussion opened by HOWARD A. KELLY, Baltimore, Md., and FRANK D. SMYTHE, Memphis, Tenn.

FRIDAY, JUNE 7—AFTERNOON SESSION.

38. The Roentgen Rays in Differentiating between Osseous Cyst, Osteosarcoma and Osteomyelitis with Skiagraphic Demonstration. CARL BECK, New York City.
39. Fracture of the Femoral Neck.
C. E. RUTH, Keokuk, Iowa.
40. Gynecology: Its Contribution to Surgery.
HENRY O. MARCY, Boston, Mass.
41. A Simple Operation for the Treatment of Hemorrhoids.
J. RAWSON PENNINGTON, Chicago.

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## SECTION ON NERVOUS AND MENTAL DISEASES.

MEETS IN COMMITTEE ROOM OF STATE CAPITOL.

TUESDAY, JUNE 4—AFTERNOON SESSION—2 O'CLOCK.

1. Address of Chairman. H. A. TOMLINSON, St. Peter, Minn.
2. Etiology of Paretic Dementia.
FRANK P. NORBURY, Jacksonville, Ill.
3. Symptomatology of Cerebral Hemorrhage.
F. SAVARY PEARCE, Philadelphia.
4. Treatment of Cerebral Hemorrhage.
D. R. BROWER, Chicago.
5. The Virile or Genesiac Reflex as Pudic Nerve Innervation Phenomena. C. H. HUGHES, St. Louis, Mo.
6. A Case of Alexia Caused by a Bullet Wound with Successful Location and Removal of the Latter.
G. W. MCCASKEY, Fort Wayne, Ind.
7. What Can Be Done for the Epileptic in a Medical Way.
R. H. PORTER, Chicago.
8. The Treatment of the Acute Psychoses in Private Practice.
C. EUGENE RIGGS, St. Paul, Minn.
9. Treatment of Neurasthenia.
J. G. BILLER, Cherokee, Iowa.

10. A Case of Acute Poliomyelitis Anterior in a Youth of 18 Years. Remarks on the Sensory Symptoms.
Frank R. Fry, St. Louis, Mo.

Wednesday, June 5—Afternoon Session—2 o'clock.

SYMPOSIUM ON SYPHILIS OF THE BRAIN.

(This Symposium is arranged with special reference to the needs of the general practitioner.)

11. Nervous Manifestations. Hugh T. Patrick, Chicago.
12. The Psychosis in Cerebral Syphilis.
Richard Dewey, Wauwatosa, Wis.
13. Syphilis of the Nervous System; its General Pathology, with Remarks on Treatment.
F. W. Langdon, Cincinnati, Ohio.
14. The Specific and Non-specific Lesions Resulting from Syphilis, and Their Influence upon Diagnosis, Prognosis and Treatment. J. T. Eskridge, Denver, Colo.
15. Suggestions for Lessening the Frequency of Relapse After Treatment of Morphinism.
A. J. Pressey, Cleveland, Ohio.
16. Injuries, Feigned and Real, with their Differentiation and Medicolegal Aspect. Lambert Ott, Philadelphia.
17. The Psychoses of Chorea. Harold N. Moyer, Chicago.
18. Three Cases of Paralysis of the Serratus Magnus and the Trapezius—Alar Scapula.
Augustus A. Eshner, Philadelphia.
19. Mirror Writing and Inverted Vision.
Albert B. Hale and Sydney Kuh, Chicago.
20. Fear as an Element of Nervous Diseases and Its Treatment.
John Punton, Kansas City, Mo.

Thursday, June 6—Afternoon Session.

21. Ten Cases of Multiple Neuritis.
W. A. Jones, Minneapolis, Minn.
22. A Case of Localized Amnesia with Remarks Thereon.
Edward E. Mayer, Pittsburg, Pa.
23. Dementia Following Inebriety.
T. D. Crothers, Hartford, Conn.
24. The Problem of Heredity.
James G. Kiernan, Chicago.
25. The Importance of Heredity as a Cause of Insanity.
Arthur McGugan, Kalamazoo, Mich.
26. Persistent Brachial Neuralgia from Hypodermic Injection. Incipient Lateral Sclerosis with Recovery.
Leo M. Crafts, Minneapolis, Minn.
27. Space Neuroses. John E. Purdon, Turlock Cal.
28. Autotoxemia as a Factor in the Neuroses.
George F. Butler, Alma, Mich.
29. The Circulation in the Nervous System.
Herman Gasser, Platteville, Wis.
30. Sudden and Temporary Mental Aberration—Unconscious Automatism—Temporary Irresponsible States.
Samuel Ayers, Pittsburgh, Pa.
31. A Case of Myasthenia Gravis.
Haldor Sneve, St. Paul, Minn.

## SECTION ON OPHTHALMOLOGY.

Tuesday, June 4, 1901—Afternoon Session.

1. Address of Chairman.
2. Treatment of Strabismus; Measures Other than Operative.
Dr. Edward Jackson, Denver, Colo.
3. Treatment of Strabismus; Operative Measures.
Dr. C. F. Clark, Columbus, Ohio.
4. Strabismus: Its Treatment.
Dr. A. E. Davis, New York City. (By invitation.)
5. The Cosmetic and Visual Results in Squint.
Dr. J. M. Ray, Louisville, Ky.
Discussion opened by Drs. C. M. Oliver, Frank Allport, and F. C. Todd.
6. Concerning the Check Ligament.
Dr. J. E. Colburn, Chicago, Ill.

Wednesday, June 5—Morning Session.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS—FIFTIETH ANNIVERSARY OF THE INVENTION OF THE OPHTHALMOSCOPE—EXHIBIT OF OPHTHALMOSCOPES AND OPHTHALMOSCOPIC LITERATURE.

Address on the Origin and Development of the Instrument, Together with a Description of the Historic Exhibit of Ophthalmoscopes and Publications on Ophthalmoscopy Prepared for this Meeting.
Dr. H. Friedenwald, Baltimore, Md.
Address on the Life of Helmholtz.
Dr. Casey A. Wood, Chicago, Ill.

7. The Comparative Values of Hyoscin, Atropin, Homatropin and Scopolamin as Cycloplegics.
Dr. C. H. Baker, Bay City, Mich.
Discussion opened by Drs. Leartus Connor and C. M. Cobb.
8. Tarsadenitis Meibomica.
Dr. M. F. Weymann, St. Joseph, Mo.
9. Report of a Case of Retroflexion of the Iris.
Dr. A. A. Hubbell, Buffalo, N. Y.
Discussion opened by Dr. Eugene Smith, of Detroit.

Wednesday, June 5—Afternoon Session.

10. Treatment of Heterophoria; Non-Surgical Measures.
Dr. George M. Gould, Philadelphia.
11. Treatment of Heterophoria; Surgical Treatment.
Dr. G. C. Savage, Nashville, Tenn.
Discussion opened by Dr. S. D. Risley.
12. Table of Paralyses of Ocular Muscles.
Dr. H. M. Starkey, Chicago, Ill.
Discussion opened by Drs. F. C. Hotz and Wm. Wilder.
13. The Extraction of Hard Cataract without Iridectomy.
Dr. S. D. Risley, Philadelphia, Pa.
Discussion opened by Drs. H. V. Wuerdemann and F. C. Hotz.
14. Relation of Asthenopia to Disturbances of the Digestive System. Dr. John McReynolds, Dallas, Texas.
Discussion opened by Drs. C. A. Wood and J. E. Weeks.
15. Ocular Lesions Associated with Constitutional Diatheses.
Dr. H. I. Jones, San Francisco, Cal.
Discussion opened by Dr. W. F. Southard.

Thursday, June 6—Morning Session.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS.

16. Economic Limitations of the Visual Acuity in the Various Trades and Professions.
Dr. H. V. Wuerdemann, Milwaukee, Wis.
17. Further Report on the Visual and Aural Qualifications of Transportation Employees.
Dr. Frank Allport, Chicago, Ill.
18. Mules' Operation. With Cases.
Dr. Frank C. Todd, Minneapolis, Minn.
Discussion opened by Dr. L. Webster Fox, and Frank Allport.
19. Plastic Operations for the Preservation of Sightless Stumps. Dr. Harold Gifford, Omaha, Neb.
20. Report of Two Cases of Orbital Surgery.
Dr. Adeline Portman, Washington.
21. Enucleation in Two Minutes, with Demonstration.
Dr. A. T. Mitchell, Vicksburg, Miss.

Thursday, June 6—Afternoon Session.

22. The Newer Pathology of the Retina, with Special Reference to the Changes Produced in the Ganglion Cells by Certain Toxic Agents.
Dr. H. Friedenwald, Baltimore, Md.
23. Atrophy of the Retina.
Dr. D. S. Reynolds, Louisville, Ky.
24. A Case of Blindness Due to Drinking Bay Rum Compared with Reported Cases Due to Methyl Alcohol and Jamaica Ginger. Dr. H. Moulton, Fort Smith, Ark.
Discussion opened by Dr. H. Gifford.
25. Complete Recovery from Double Neuroretinitis, Clinically Resembling Albuminuric Retinitis, in a Case of Prolonged Hematuria with Symptoms of Bright's Disease.
Dr. C. A. Veasey, Philadelphia, Pa.
26. Some Points to be Observed in the Use of the Perimeter.
Dr. Geo. F. Keiper, LaFayette, Ind.
27. A Study of the Color-Changes in Chromogenic Bacteria.
Dr. C. A. Oliver, Philadelphia, Pa.
28. The Value of Excision of the Superior Cervical Ganglion of the Sympathetic in Certain Eye Diseases.
Dr. Geo. F. Suker, Toledo, Ohio.
Discussion opened by Dr. Casey Wood.

Friday, June 7—Morning Session.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS.

29. Herpes Zoster Ophthalmicus with brief Report of Five Cases. Dr. W. C. Bane, Denver, Colo.
Discussion opened by Drs. Edward Jackson and H. M. Starkey.
30. The Corneal Lesions of Acquired Syphilis.
Dr. Wm. H. Wilder, Chicago, Ill.
Discussion opened by Dr. S. D. Risley and C. A. Wood.

31. Lachrymal Stenosis in Infants and its Treatment.
DR. DUNBAR ROY, Atlanta, Ga.
Discussion opened by DR. G. C. SAVAGE.
32. Metamorphopsia Varians with a Report of Three Cases.
DR. WM. H. DUDLEY, Easton, Pa.
Discussion opened by DRS. J. E. WEEKS and S. D. RISLEY.
33. Injuries of the Choroid. DR. E. O. SISSON, Keokuk, Iowa.
Discussion opened by DR. H. V. WUERDEMANN and CASSIUS D. WESCOTT.
34. New Instrument for Determining Position of Axes of the Eyes. DR. C. H. WILLIAMS, Boston, Mass.
35. Spontaneous Clearing of a Cataractous Lens.
DR. HIRAM WOODS, JR., Baltimore, Md.

## SECTION ON DISEASES OF CHILDREN.

MEETS IN RYAN ANNEX, BUILDERS' EXCHANGE.

TUESDAY, JUNE 4—AFTERNOON SESSION.

1. Address of Chairman.
SAMUEL W. KELLEY, Cleveland, Ohio.
2. Physiologic and Pathologic Conditions of the Alimentary Tract in Children. A. L. BENEDICT, Buffalo, N.Y.
3. Measles. J. B. GARBER, Dunkirk, Ind.
4. The Pathology of Pertussis. J. M. POSTLE, Hinckley, Ill.
5. A Case of Pyloric Spasm in an Infant.
C. HERRMAN, New York City. (By invitation.)
6. The Use of Normal Salt Solution in the Diseases of Infancy.
W. C. HOLLOPETER, Philadelphia.
7. Rheumatic Endocarditis in Children.
EDWARD F. WELLS, Chicago.

WEDNESDAY, JUNE 5—MORNING SESSION.

SYMPOSIUM ON TYPHOID FEVER IN CHILDREN.

8. Symptoms and Course of Typhoid Fever.
J. P. CROZER GRIFFITH, Philadelphia.
9. Diagnosis of Typhoid Fever in the Laboratory.
JOHN LOVETT MORSE, Boston.
10. Treatment of Typhoid Fever.
H. E. TULEY, Louisville, Ky.
11. Hydrotherapy in Typhoid Fever.
JAMES C. WILSON, Philadelphia.
12. The Treatment of Temperature by Drugs.
EDWIN ROSENTHAL, Philadelphia.
13. Dietetic Treatment of Typhoid Fever in Infants and Children. LOUIS FISCHER, New York City.
14. The Treatment of Typhoid Fever with Special Reference to the Intrarectal Injection of Normal Salt Solution.
E. STUVER, Fort Collins, Colo.
15. Multiple Gangrene Associated with Cholangitis Complicating Typhoid Fever. ISAAC A. ABT, Chicago.
Discussion opened by VICTOR C. VAUGHAN, Ann Arbor, Mich.; J. M. ANDERS, Philadelphia, and S. SOLIS-COHEN, Philadelphia.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

16. Prevention of Pulmonary Tuberculosis in Predisposed Children. JOHN A. ROBISON, Chicago.
17. The Diagnosis and Treatment of Catarrhal Pneumonia.
S. SOLIS COHEN, Philadelphia.
18. Protracted Influenzal Pneumonia in Children.
F. X. WALLS, Chicago.
19. Prolonged Intubations. EDWIN ROSENTHAL, Philadelphia.
Discussion by LOUIS FISCHER, New York; ROSA ENGELMANN, Chicago; F. X. WAXHAM, Denver, and WILLIAM M. WELCH, Philadelphia.
20. Congenital Malformations with Roentgen Ray Demonstrations. CARL BECK, New York City.
21. Membranous Colitis in Infants.
CHARLES DOUGLAS, Detroit, Mich.
22. Gonorrhea in Boys.
A. L. WOLBARST, New York City. (By invitation.)
Discussed by FERD. C. VALENTINE, New York City.
23. A Case of Ureteral Calculus in a Boy of Ten.
W. W. KEEN, Philadelphia.
24. Diabetes Mellitus in Children. A. C. COTTON, Chicago.
25. Albuminuria in Disease of the Kidneys in Infancy and Childhood. JOHN R. RATHMELL, Chattanooga, Tenn.
26. Congenital Cystic Kidney.
WILLIAM JEPSON, Sioux City, Iowa.

THURSDAY, JUNE 6—AFTERNOON SESSION.

SYMPOSIUM ON SCHOOL HYGIENE.

27. The Introduction and Management of School Hygiene.
LEIGH K. BAKER, Cleveland, Ohio.
28. School Hygiene and its Problems.
WILLIAM H. BURNHAM, Worcester, Mass.
29. Physical Culture in Children and the Objects to be Attained. JOHN MADISON TAYLOR, Philadelphia.
30. The Pubescent School Girl.
WILLIAM EDGAR DARNALL, Atlantic City, N. J.
31. Diagnosis of the Backward Child.
A. W. WILMARTH, Chippewa Falls, Wis.
32. Speech as a Factor in the Diagnosis of the Backward Child.
G. HUDSON MAKUEN, Philadelphia.
33. A Plea for the Backward Child.
C. F. WAHRER, Fort Madison, Iowa.
34. Some Considerations Regarding the Medical Criticisms of the Hygiene of Early School Life.
J. NOER, Stoughton, Wis.
Discussion opened by JOSEPH B. MARVIN, Louisville; W. C. HOLLOPETER, Philadelphia, and LOUIS FISCHER, New York City.

## SECTION ON STOMATOLOGY.

TUESDAY, JUNE 4—2 P. M.

Chairman's Address. R. R. ANDREWS, Cambridge, Mass.

SYMPOSIUM ON STATE BOARDS OF DENTAL EXAMINERS IN THEIR RELATION TO THE PROFESSION AND THE COLLEGES.

Methods of Appointment: 1. By State Universities—New York. 2. By State Boards of State Officials ex-officio, Nebraska. 3. By Governors on Recommendation of the Profession.
WILLIAM CARR, New York City.
Revenue for Conducting the Work of the Boards of Examiners: 1. By Taxation of the People. 2. By Fees from Examination of Candidates. 3. By Taxation of the Profession.
GEORGE L. PARMELE, Hartford, Conn., and V. E. TURNER, Raleigh, N. C.
The Dental College Standard: 1. Is it What it Should Be? 2. If Not, What Improvements Should Be Made? 3. How May the Requirements be Improved?
CHARLES CHITTENDEN, Madison, Wis.
Licensing: 1. By Examination. 2. By Diploma.
J. A. LIBBY, Pittsburg, Pa.

WEDNESDAY, JUNE 5—2 P. M.

SYMPOSIUM ON DEGENERACY OF THE PULP.

Preliminary Work. EUGENE S. TALBOT, Chicago.
Literature of the Pulp. VIDA A. LATHAM, Rogers Park, Ill.
Cutting, Staining and Mounting.
MARTHA ANDERSON, Moline, Ill.
Local Anesthesia. A. H. PECK, Chicago.
Paradental Atrophy. W. E. WALKER, Pass Christian, Miss.
Periods of Stress and their Dental Marks.
JAS. G. KIERNAN, Chicago.
Surgical Treatment of Cleft Palate.
G. V. I. BROWN, Milwaukee, Wis.
Infectious Diseases. ALICE STEEVES, Chicago.
Simple Gingivitis. GEO. T. CARPENTER, Chicago.

THURSDAY, JUNE 6—2 P. M.

Military Dental Practice: Its Modifications and Limitations.
HENRY D. HATCH, New York City.
The Tongue as a Breeding Place for Bacteria.
M. H. FLETCHER, Cincinnati, Ohio.
Pathology of the Alveolar Process.
EUGENE S. TALBOT, Chicago.
Tuberculosis of the Alveolar Process and Surrounding Tissues and a Few Methods of Differential Diagnosis.
V. A. GUDEX, Milwaukee, Wis.

## SECTION ON CUTANEOUS MEDICINE AND SURGERY.

MEETS IN MASONIC BANQUET HALL.

TUESDAY, JUNE 4—2:30 P. M.

1. Address of Chairman: Ancient and Modern Conception of Syphilis. WILLIAM L. BAUM, Chicago.
2. The Relations of the Menstrual Function to Tertian Diseases of the Skin.
L. DUNCAN BULKLEY, New York City.
3. Pathology and Treatment of Cutaneous Cancer, with Special Reference to its Non-parasitic Nature.
M. L. HEIDINGSFELD, Cincinnati, Ohio.

4. The Increasing Prevalence of Contagious Skin Diseases.
Henry W. Stelwagon, Philadelphia.
5. Syphilis and its Relations to Blastomycetic Dermatitis.
Henry G. Anthony, Chicago.
6. Adenoma Sebaceum of the Non-symmetrical Type of Darier.
William S. Gottheil, New York City.
7. Notes on a Case of Keratosis Follicularis (Porospermosis).
Joseph Zeisler, Chicago.

Wednesday, June 5—2:30 p. m.

8. Lantern Slide Demonstration on Skin Cancer.
M. L. Heidingsfeld, Cincinnati, Ohio.
9. Lantern Slide Exhibition Showing the Clinical, Pathological and Bacteriological Features of Eleven Cases of Blastomycosis of the Skin.
James Nevins Hyde and Frank Hugh Montgomery, Chicago.
10. Lantern Slide Demonstration of the Exanthemata, from Original Photographs.
William Thomas Corlett, Cleveland, Ohio.
11. Demonstrations of Case: Lupus Erythematosus Treated by Hot Air. A Case of Leprosy in a Man born in and who has never been outside of Minnesota.
Burnside Foster, St. Paul, Minn.
12. Epidermolysis Bullosa Hereditaria.
Louis E. Schmidt, Chicago.
13. Report of a Case of Epithelioma of Long Duration and Beginning in Early Manhood.
William Frick, Kansas City, Mo.
14. Notes on Recent Cases of Extra-genital Chancres.
L. Duncan Bulkley, New York City.

Thursday, June 6—2:30 p. m.

15. Rhinoscleroma.
Chas. Warrenne Allen, New York City. (By invitation.)
16. Dermatomycoses in their Relation to Allen's Iodid Test.
Jacob Sobel, New York City. (By invitation.)
17. Squamous Erythroderma.
Augustus Ravogli, Cincinnati, Ohio.
18. Phototherapy in Cutaneous Medicine. A Preliminary Communication. William S. Gottheil, New York City.
19. Lichen Hypertrophicus. David Lieberthal, Chicago.
20. Feigned Skin Diseases.
George W. Davis, Kansas City, Mo.
21. Clinical Features of Blastomycetic Dermatitis as Observed in Three Cases by the Author.
A. W. Brayton, Indianapolis, Ind.
22. Treatment of Psoriasis. T. P. Whaley, Charleston, S. C.

## SECTION ON LARYNGOLOGY AND OTOLOGY.

Tuesday, June 4—2 p. m.

1. Address of Chairman. John N. Mackenzie, Baltimore, Md.
2. Remarks on the Treatment of Laryngeal Tuberculosis.
P. S. Donnellean, Philadelphia, Pa.
3. The Treatment of Laryngitis. O. T. Freer, Chicago.
4. Edematous Laryngitis with Report of Case.
J. S. Gibb, Philadelphia.
5. Types of Membraneous Pharyngitis.
W. E. Casselberry, Chicago.
6. Total Extirpation of Thyroid Gland. G. F. Cott, Buffalo.
7. Foreign Bodies in the Bronchi.
F. J. Quinlan, New York City.

Wednesday, June 5—9 a. m.

8. The Manifestations of Luetic Disease in the Upper Respiratory Passages and Ear.
W. Scheppergrell, New Orleans, La.
9. Observation on Intranasal Contract and its Consequences.
J. E. Schadle, St. Paul, Minn.
10. The Relation of the Middle Turbinate Body to Chronic Nasal Diseases. C. S. Baker, Bay City, Mich.
11. The Pathology of Inflammation of the Posterior Part of the Nasal Septum. J. L. Goodale, Boston.
12. Asthma as a Result of Nasal Conditions: Treatment, etc.
J. H. Farrell, Chicago.
13. The Effect which the So-called "Catarrhal" Disease of the Nose and Throat may have upon the General Health.
C. M. Cobb, Lynn, Mass.

Wednesday, June 5—2 p. m.

14. Empyema of the Frontal Sinus.
E. Fletcher Ingals, Chicago.
15. Diseases of Accessary Sinuses.
E. L. Shurly, Detroit, Mich.
16. Anomalies of the Frontal Sinus and their Bearing on Chronic Sinusitis.
Redmond W. Payne, San Francisco, Cal.
17. Carcinoma of the Nasopharynx.
Chevalier Jackson, Pittsburg, Pa.
18. Sarcoma of Nasal Passages, with Report of Case.
Dunbar Roy, Atlanta, Ga.
19. Case of Epithelioma of Upper Respiratory Tract.
S. A. Oren, Lanark, Ill.
20. The Supratonsillar Fossa. J. Homer Coulter, Chicago.
21. An Unusual Anomaly Affecting the Faucial Tonsil.
George L. Richards, Fall River, Mass.
22. Traumatic Affection of the Uvula.
H. Seymour Oppenheimer, New York City.
23. The Pathology of Adenoids in the Adult.
A. T. Mitchell, Vicksburg, Miss.

Thursday, June 6—9 a. m.

24. The Diagnosis and Treatment of Mastoiditis.
E. B. Dench New York City.
25. Mastoiditis After Subsidence and Without Recurrence of Tympanic Disease. Hiram Woods, Jr., Baltimore, Md.
26. Experiments on Fresh Cadaver in Relation to Suppurative Otitis Media and Mastoiditis.
F. C. Todd, Minneapolis, Minn.
27. Gelles's Test. Norval H. Pierce, Chicago.

Thursday, June 6—2 p. m.

28. Report of a Case of Suppuration of the Parotid Gland with Suppuration of External Auditory Canal.
F. A. Packard, Philadelphia.
29. Report of Case of Unusual and Interesting Tertiary Manifestations. G. Hudson Makuen, Philadelphia.
30. Dangerous Hemorrhage after the Removal of Enlarged Tonsils and Adenoids, with Report of a Case.
A. C. Getchell, Worchester, Mass.
31. The Rationale and Technic of Pneumatic Aural Massage.
B. Alex. Randall, Philadelphia.
32. Title to be announced.
C. W. Richardson, Washington, D. C.
33. Adrenalin Chloride in Surgery of the Nose and Throat.
W. W. Bulette, Pueblo, Colo.

## SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

MEETS IN SENATE CHAMBER, STATE CAPITOL.

Tuesday, June 4—2 p. m.

1. Modern Therapeutics. George F. Butler, Chicago.
2. Experimental Work in Intra-organic and Venous Injections and Blood Extracts in the Cure of Acute Organic Diseases. W. Byron Coakley, Chicago.
3. Therapeutic Indications Presented by the Conditions of the Blood in Disease. O. T. Osborne, New Haven.
4. Chronic Myocarditis. J. H. Musser, Philadelphia.
5. Treatment of Obesity. Heinrich Stern, New York City.
Discussion on Preceding papers to be opened by A. R. Edwards, Chicago.
6. Treatment of Cancer by Roentgen Rays.
Francis Willliams, Boston.
7. Treatment of Neurasthenia. Harold N. Moyer, Chicago.

Wednesday, June 5—9 a. m.

8. The Importance of an Established Plan of Treatment in Chronic Cases and How it may be Attained by a Patient who must Travel. L. F. Bishop, New York City.
9. A Plea for More Uniformity and Strength in our Armamentarium. C. F. Wahrer, Fort Madison.
10. Standardization of Crude Drugs and Galenical Preparations. A. B. Lyons, Detroit.
11. Report on Medicines Used by One Hundred St. Louis Physicians. H. M. Whelpley, St. Louis.
12. Analysis of Cascara Sagrada. L. L. Solomon, Louisville.

Wednesday, June 5—2 p. m.

SYMPOSIUM ON TREATMENT OF PULMONARY TUBERCULOSIS.

13. Indication for and Utility of Altitude Treatment of Pulmonary Tuberculosis S. E. Solly, Colorado Springs.
14. Adaptability of Southern California and Similar Climates to the Needs of Consumptives.
Norman Bridge, Los Angeles.

15. Specific Treatment of Pulmonary Tuberculosis.
E. L. SHURLY, Detroit.
16. Tuberculin Treatment of Pulmonary Tuberculosis, with Statistics. CHARLES DENNISON, Denver.
17. Specific Therapeutics in Pulmonary Tuberculosis.
ARNOLD C. KLEBS, Chicago.
18. Title not given. J. EDWARD STUBBERT, Liberty, N. Y.
19. Nineteen Years' Experience with Creosote in Tuberculosis
A. BURROUGHS, Asheville, N. C.
Discussion of Treatment of Tubercular Disease of the Lungs to be opened by R. H. BABCOCK, Chicago.
20. Treatment of Lobar Pneumonia.
DE LANCEY ROCHESTER, Buffalo.
21. The Abortion Treatment of Pneumonia; a Plea for the Use of Cardiac Depressants in the Treatment of the Congestion Stage of Pneumonia.
W. L. DICKERSON, St. Louis.

THURSDAY, JUNE 6—9 A. M.

SYMPOSIUM ON GASTRIC DISORDERS.

22. Influence of Certain Common Remedies upon Gastric Functions. BOARDMAN REED, Philadelphia.
23. Treatment of Gastric Ulcer. GUSTAV FUETTERER, Chicago.
24. Muriatic Acid in Gastric Diseases.
FRANK BILLINGS, Chicago.
25. Treatment of Gastric Hyperesthesia.
CHARLES C. STOCKTON, Buffalo.
26. On Therapeutic Management of Dyspepsia from the Neurologist's Standpoint. C. H. HUGHES, St. Louis.
Discussion of Gastric Disorders to be opened by JAMES B. HERRICK, Chicago.

THURSDAY, JUNE 6—2 P. M.

SYMPOSIUM ON ORGANOTHERAPY.

27. Mode of Manufacture of Serums and Organ Extracts.
CHARLES T. MCCLINTOCK, Detroit.
28. Theory and Practice of Organotherapy.
S. SOLIS-COHEN, Philadelphia.
29. Acromegaly Treated with Pituitary Body.
SYDNEY KUH, Chicago.
30. Treatment of Graves' Disease with Thymus Extract.
JOHN M. DODSON, Chicago.
31. Pharmacology of the Suprarenal Gland and a Method of Assaying its Products. E. M. HOUGHTON, Detroit.
32. The Active Principle of Suprarenal Glands.
JOKICHI TAKAMINE, New York.
Discussion on Organotherapy to be opened by VICTOR C. VAUGHAN, Ann Arbor.
33. The Future of Serum Therapy.
JOSEPH MCFARLAND, Philadelphia.
34. Further Observations on Serum Therapy in Croupous Pneumonia. J. C. WILSON, Philadelphia.
35. Antituberele Serum. E. A. DE SCHWEINITZ, Washington.
Discussion on Serumtherapy to be opened by SIMON FLEXNER, Philadelphia.

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## SECTION ON PHYSIOLOGY AND DIETETICS.

MEETS IN BUILDERS' EXCHANGE, RYAN ANNEX.

TUESDAY, JUNE 4.—AFTERNOON SESSION.

*2 o'clock.*

1. Address of Chairman. Food as a Principal Factor in the Causation of Disease.
ELMER LEE, New York City.
2. Artificially Prepared Foods.
L. BREISACHER, Detroit, Mich.
3. Unsolved Problems in Physiological Chemistry.
A. L. BENEDICT, Buffalo, N. Y.
4. A Study of Tea and Coffee Intoxication.
HEINRICH STERN, New York City.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

*2 o'clock.*

5. The Evaluation of Anthropometric Data.
WINFIELD S. HALL, Chicago.
6. The Education of the Degenerate—A Physicobiologic Study. JOHN MADDEN, Milwaukee, Wis.
7. The Nervous Relation in Diseases of the Nutritive System.
H. S. DRAYTON, New York City.
8. Isolation of the Active Principles of the Suprarenal Gland —A Review of the Work.
T. B. ALDRICH, Detroit, Mich.

THURSDAY, JUNE 6—AFTERNOON SESSION.

*2 o'clock.*

9. ———. GEO. P. DREYER, Chicago.
10. Food Products from Diseased Animals.
D. E. SALMON, Washington.
11. The Teaching of Practical Dietetics in Medical Schools.
R. O. BEARD, Minneapolis.
12. Some Problems of Nutrition.
ALEXANDER HAIG, London, Eng.

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## SECTION OF PATHOLOGY AND BACTERIOLOGY.

MEETS IN RYAN ANNEX.

1. Giant Cell Embolism of Pulmonary Capillaries.
ALFRED S. WARTHIN, Ann Arbor, Mich.
2. Effect of Direct, Alternating and Tesla Currents and X-Rays on Bacteria. F. ROBERT ZEIT, Chicago.
3. Demonstration of Specimens, Slides, and Photomicrographs of Uretero-Intestinal Anastomosis.
F. ROBERT ZEIT, Chicago.
4. Primary Sarcoma of the Esophagus and Stomach.
WILLIAM TRAVIS HOWARD, Cleveland, Ohio.
5. Demonstration of the Van Gehuchten-Nelis Histologic Resection for Hydrophobia and Remarks on Hydrophobia in Ohio.
A. P. OHLMACHER, Gallipolis, Ohio.
6. A Case of Complete Agenesia of the Central Visual System.
WM. G. SPILLER, Philadelphia.
7. Carcinoma of the Lung. E. R. LE COUNT, Chicago.
8. The Influence of Structure and Locality on Pathological Processes. J. S. FOOTE, Omaha, Neb.

WEDNESDAY, JUNE 5—9 A. M.

SYMPOSIUM ON THE ROLE OF CERTAIN OF THE NON-GRANULAR AND GRANULAR SOMATIC CELLS IN INFECTION.

9. Technics. The Origin, Fate and Significance of these Morphologic Elements. H. F. HARRIS, Atlanta.
10. The Plasma Cells in Acute and Chronic Infection.
W. T. COUNCILMAN, Boston.
11. The Endothelial Cells in Acute and Chronic Infection.
E. R. LE COUNT, Chicago.
12. The Eosinophilic Cells in Acute and Chronic Infection.
MAXIMILIAN HERZOG, Chicago.
13. The Mast Cells in Acute and Chronic Infection.
HERBERT U. WILLIAMS, Buffalo, N. Y.
14. Isolation of Bacillus Typhosus from Unusual and Interesting Localizations. M. DANIEL, Minneapolis.
15. Notes on the Bacteriology and Morbid Histology of Cerebrospinal Meningitis. L. B. WILSON, Minneapolis.

WEDNESDAY, JUNE 5—2 P. M.

16. Report on Cultures from two Cases of Dysentery.
F. F. WESTBROOK, Minneapolis.
17. A Study of a Fetal Stomach with Special Reference to the Origin of Acid-secreting Cells.
W. A. EVANS and WILLIAM BECKER, Chicago.
18. Some Studies of Venoms and Antivenin.
JOSEPH MCFARLAND, Philadelphia.
19. Some Unusual Adeno-carcinomas of the Breast.
J. CLARK STEWART, Minneapolis.
20. An Undescribed Abnormality of the Bile Ducts.
J. CLARK STEWART, Minneapolis.
21. Reports of a Case of Primary Carcinoma of the Appendix, and a Case of Lympho-Sarcoma of the Intestine, with a Discussion of the Etiology of the Latter.
S. M. WHITE, Minneapolis.
22. On the Outgrowth of Epithelium. LEO LOEB, Chicago.
23. On the Etiology of Carcinoma. G. FÜTTERER, Chicago.

THURSDAY, JUNE 6—9 A. M.

24. On the Nature and Significance of Granular Degeneration of Red Corpuscles.
ALFRED STENGEL, C. Y. WHITE and WILLIAM PEPPER.
25. Study of an Epidemic among Guinea-pigs in the Laboratory.
V. C. VAUGHAN, Ann Arbor, for LOUIS M. GELSTON.
26. The Influence of Boric Acid and Borax on Milk Bacteria.
V. C. VAUGHAN, Ann Arbor, for WILLIAM H. VEENBOER.
27. The Influence of Formaldehyde on Milk Bacteria.
V. C. VAUGHAN, Ann Arbor, for ARTHUR J. HOOD.
28. Streptothrix Infections of Human Lung; a General Consideration of the Subject.
SIMON FLEXNER, Philadelphia.

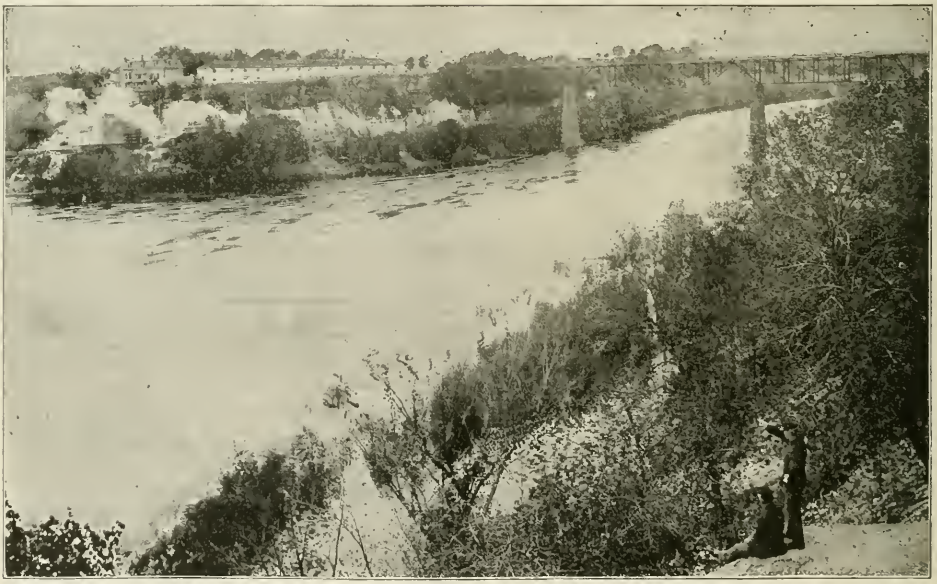
# THE ST. PAUL MEETING.

HISTORICAL.

The Republic of the United States was already more than sixty years old when the first settlement was made upon the site of the present city of St. Paul, the capital of the State of Minnesota. This event, which happened in the month of September, 1838, occurred some eighteen years later than the first settlement in that part of the country, the military post now Fort Snelling having been established in 1820. The first settler of St. Paul built his cabin some four miles below and on the opposite bank of the river from the fort, and history, truthful but not poetic, records that the spot was selected not on account of the romantic beauties of the situation but because it was the most convenient place outside of military jurisdiction from which to sell whisky to the soldiers and Indians. The fact that it was at the head of navigation on the Mississippi was undoubtedly the chief reason why the little claim shanty of 1838 was the forerunner of the city of 163,000 people in the year 1900.

GEOGRAPHICAL.

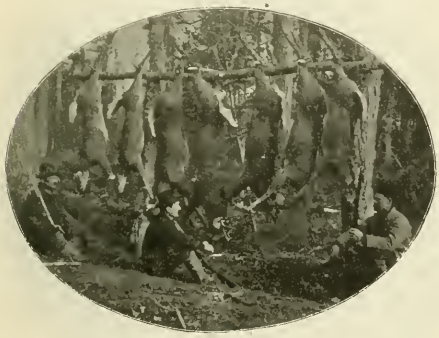
The city of St. Paul is built for the most part upon the left bank of the Mississippi river; having due regard to the general course of the stream, the left bank should be the east bank, but owing to a bend in the river the current runs east opposite the city making the left bank a north bank at this point. The river valley at St. Paul is narrow and deep, the surface of the stream being some 200 feet below the level of the prairie through which it runs. The city is built upon three different levels or plateaus, which mark the various steps in the process of erosion that dug out the channel. The lowest plateau, raised but little above the river, contains the railroads, the Union Depot and most of the wholesale district; upon the second level is a mixture of business houses and dwellings, while the chief residence portion of the town occupies the highest plateau, that is the prairie itself, on the general level of the surrounding country. A narrow river valley with high banks suggests picturesque scenery and the promise is amply fulfilled



**Birds-eye View of Fort Snelling.**

by the superb views obtained from every point of vantage in the city; up and down or across the river there is an endless variety of pictures of flowing stream, of green meadow, of wooded slope, of rocky cliff, or rounded bluff, of deep ravine, pictures to which the hand of man has added a touch by stretching here and there an airy bridge across stream or chasm.

St. Paul has a right to beautiful scenery, for the state of which it is the capital is one of the fairest spots on earth. Covering an area greater than that of the whole of New England with Maryland and Delaware added, Minnesota presents a great variety of scene in its different parts. In the North are almost boundless pine forests, the home of the moose, deer and bear. The center of the state is covered by an extensive belt of hard-wood timber, much of it still virgin forest. Southern Minnesota is greatly diversified, here a level and there a rolling prairie, interspersed with numerous groves and areas of timber. Everywhere there are streams and lakes, streams varying in size from the mighty Mississippi to the tiny trout brooks; lakes of an



DEER-HUNTERS' CAMP IN NORTHERN WOODS.

infinite variety of size and shape, seven thousand of them within the state, from Red Lake in the north, the largest sheet of fresh water except Lake Michigan that is wholly within the boundaries of the United States, to little sheets of water just large enough to be "meandered," that is excluded from the surveyor's estimate of acreage. It is to all these lakes and streams that the state owes its name, made up of Indian words describing the reflection of clouds in water.

## CLIMATE.

The average temperature of St. Paul is considerably below that of the cities farther east. Albany, N. Y., for instance, has an average temperature of 48 degrees, while that of St. Paul is but 42 degrees. It is to the much greater coldness of the winters that the lower temperature of the northwest is chiefly due. The average period between killing frosts is a long one, from May 5 to October 6, while the warm months contain many days when the temperature is high. The summer climate is delightful, for the air is fresh and free from moisture, making even the hot days agreeable. On this account Minnesota has been much visited as a summer resort by the inhabitants of the cities lower down the Mississippi. June may always be counted upon for warm and pleasant weather. The records of the past thirty years show that the month has a mean temperature of 67 degrees, with an average of twenty-three fair days, making the chances of pleasant weather better than three out of four. Although warm days may be looked for at this season, the evenings are often cool, and light overcoats are frequently in demand after dark.

The healthfulness of its climate is so great that Minnesota has long been regarded as a sanatorium, particularly by those whose lives are threatened by phthisis. A generation ago, before the advantages of California, Arizona, New Mexico and Colorado were known or, at least, available, thousands of consumptives came to Minnesota, and many of them are still alive to testify to the beneficence of the climate. It is a wonderfully healthy place. There are absolutely no endemic diseases. Malaria is unknown, and when epidemics like la grippe invade this territory they assume a milder form than that known elsewhere. There is not on the globe a healthier place of its size than St. Paul, with a death-rate in 1900 of but 9.63, calculated on the census population. Its situation makes perfect drainage easy, and it is almost the only considerable city in the west whose water and ice may be used by strangers with absolute safety. Water and ice are taken from inland lakes whose shores are free from settlement, making pollution by drainage impossible. Consequently typhoid is but little prevalent, and it would be almost unknown were it not for imported cases and for the fact that those living on the outskirts of the city still drink from wells. At the present time of writing, for instance, there is not a single case of typhoid in the two hundred and twenty-five beds of the City Hospital.

## TRANSPORTATION.

Of the ten railroads running into St. Paul, seven come from the east, one of them, the "Soo Line," running trains to Boston and New York by way of Montreal; the other six are Chicago lines, namely, the Chicago, Milwaukee & St. Paul; the Northwestern; the Chicago, Burlington & Quincy; the Wisconsin Central; the Minneapolis & St. Louis (part of the Rock Island system); and the Chicago Great Western. From the west comes the Great Northern and the Northern Pacific railways, together with the western division of the "Soo," which, by its connection with the Canadian Pacific, reaches the west coast. The Pacific may also be reached by way of the Chicago, St. Paul, Minneapolis & Omaha Railway connecting with the Union Pacific. Duluth at the head of navigation on the Great Lakes is connected with St. Paul by branches of the Great Northern and Omaha roads and by the Northern Pacific. During the open season for navigation there are always two or three steamboats a week carry-

ing passengers on the river between St. Paul and St. Louis.

Arrangements have been made with the roads running into St. Paul by which those attending the meeting of the Association will be carried at reduced rates. The roads belonging to the Western Passenger Association will sell round-trip tickets to St. Paul for the fare one way plus two dollars. These tickets will be on sale on May 27, 28, 29 and 31, and June 1, 2 and 3. In a general way the roads embraced by the Western Passenger Association extend south to St. Louis and Denver, west to Salt Lake City, north to Duluth and West Superior, and east to Chicago. Special rates have been made from Butte and Helena of $30.00 for the round trip; from Spokane $40.00; from Seattle, Tacoma, and Portland, Ore., $50.00, and from San Francisco $67.50. Railroads outside the Western Passenger Association will sell round trip tickets to St. Paul from May 27 to June 3 for one fare and one-third, on the certificate plan, under the following rules:

COLONNADE HOTEL.

1. A first-class one way ticket, together with a certificate properly filled out and signed by the ticket seller, must be procured at the starting point.

2. The certificate must be presented during the meeting to Dr. J. A. Quinn, to be countersigned by him and by the joint agent of the railroads at St. Paul.

3. On presenting the certificate, duly countersigned, to the ticket seller, a ticket for the return trip may be purchased at one-third the regular fare.

The reduced rates will be good for thirty days after the close of the meeting of the association; this limit may be extended to sixty days by the payment of a fee of fifty cents. It has also been arranged that those who pass through Chicago on the return trip may buy through tickets in St. Paul, and so save themselves any trouble about the exhibition of their certificate in Chicago.

ACCOMMODATIONS.

The visitor arriving in St. Paul finds this great advantage, that all railroads, with one exception, arrive and depart at a single station, the Union Depot. The exception is the Minneapolis & St. Louis, or Rock Island, line. Moreover, not only is the station close to the heart of the city, but it is so situated that on coming out of its doors the traveler is at no loss which way to turn, since there is but one direction in which he can go. A walk of one block brings him to a street car track over which run the Union Depot cars, passing in succession the Ryan, the Clarendon and Astoria hotels. Continuing on another block the visitor comes to the Sherman House, on the corner of Fourth street, on which run the cars of the Selby Avenue Line, carrying him to the Windsor, the Metropolitan and the Aberdeen hotels.

ABERDEEN HOTEL.

A list of hotels, giving their capacity and rates, will be found below. Further accommodations may be had in Minneapolis, distant but an hour's ride by electric cars running at short intervals over two lines.

| | Capacity. | Rates. |
|---|---|---|
| Aberdeen | 450 | $4.00-7.00 |
| Ryan | 800 | 3.00-6.00 |
| Merchants | 400 | 3.00-5.00 |
| Windsor | 400 | 3.00-5.00 |
| Metropolitan (American plan) | 350 | 2.50-4.00 |
| Metropolitan (European plan) | | 1.50-3.00 |
| Clarendon | 200 | 1.50-3.00 |
| Sherman | 150 | 1.00-2.50 |
| Astoria | 175 | 1.00-2.50 |
| Colonnade | 100 | 1.00-3.00 |
| West (Minneapolis) | 600 | 3.00-6.00 |
| Nicollet (Minneapolis) | 400 | 3.00-5.00 |
| Allen (Minneapolis) | 250 | 2.00-4.00 |

Many rooms havve been secured in private houses to be used in case the hotel accommodations should prove insufficient. Visitors will find at the Union Depot and at each hotel members of the local committee on accommodations provided with lists of desirable rooms that may be secured by means of a special corps of messengers.

MEETING PLACES.

Although St. Paul is a much spread out city, covering some fifty-five square miles of ground, the meeting places of the Association and its sections, as well as most of the hotels, lie within an area comprising but a few blocks. The headquarters of the meeting will be at the Hotel Ryan, which, with its annex, occupies the block on Robert streets betwen Sixth and Seventh streets.

RYAN HOTEL.

On the fifth floor of the Annex will be found the Bureau of Registration and the exhibits. Half a block from the Ryan Hotel, on Sixth street, is the Metropolitan Opera House, where the general sessions will be held. The theater has excellent acoustic properties and a seating capacity of 2,500.

The meeting places of the sections will be as follows: In the old State Capitol Building, on Wabasha street, between Exchange and Tenth streets, reached by the Interurban electric cars which start from in front of the Ryan Hotel every five minutes, will meet three Sections, namely: Practice of Medicine, in the House of Representatives; Materia Medica, Pharmacy and Therapeutics, in the Senate Chamber; Mental and Nervous Diseases, in the Committee Room.

In the Masonic Temple, Lowry Arcade Building, St. Peter street, between Fourth and Fifth streets, entrance on Fifth street, will meet the Section on Surgery and Anatomy in the large Masonic Hall; Obstetrics and Diseases of Women in the small Masonic Hall; Hygiene and Sanitary Science in the Masonic Armory; Cutaneous Medicine and Surgery in the Masonic Banquet Hall.

The address on Pathology, by Dr. Flexnor, on Wednesday, at 7 p. m., will also be delivered in the Masonic Temple. This building is three blocks west and one block south of the Ryan Hotel.

In the Elk's quarters, also in the Lowry Arcade Building, entrance on Fourth street, will meet the Section on Ophthalmology in the Elk's Hall; Laryngology and Otology in the Elk's dining room.

In the Ryan Annex will meet the Sections on Diseases of Children; Physiology and Dietetics; Pathology and Bacteriology.

The Section on Stomatology will meet in the Ryan Hotel.

THE CITY.

Buildings that are interesting on account of their age will be looked for in vain in a place where the first house was built but sixty years ago. It is to its newer buildings that St. Paul points with special pride. Fore-

most among these are the new state capitol, to the exterior of which the finishing touches are just being put. Built of white marble, upon the high land back of the center of the city, it is a conspicuous object for miles around, a prominence that is fully justified by the beauty of its proportions, the grace of its outlines, and the delicacy and appropriateness of its ornamentation. It is easily in the front rank of handsome buildings in this century, and a visit to it will be well repaid by the opportunity to study a rare work of art. The Interurban cars run within two blocks of the capitol grounds. Another prominent building is the new government building, built of Minnesota granite, occupying the square bounded by Market, Washington, Fifth and Sixth streets, and containing, besides the post-office, the customs and internal revenue offices and the

THE NEW CAPITOL.

Federal courts. The combined Court House and City Hall, occupying the block bounded by Fourth, Fifth, Wabasha and Cedar streets, is a striking building built of a Minnesota stone. Conspicuous among structures devoted to hotel purposes are the buildings of the Ryan and Aberdeen hotels. The wholesale district contains many fine blocks of mercantile houses, while among railroad buildings the offices of the Great Northern and Northern Pacific railroads are massive and extensive.

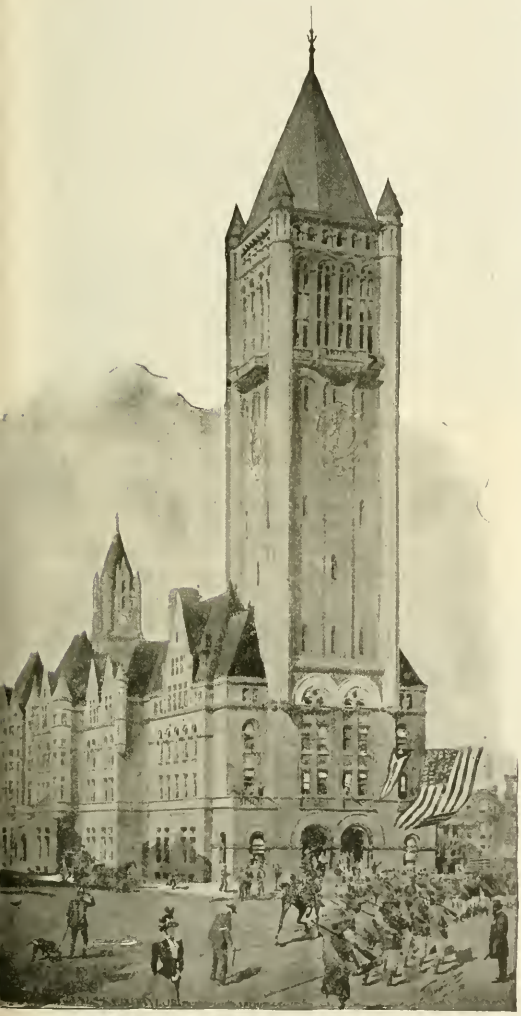
The business of St. Paul is largely derived from its position as a railroad, financial and distributive center, but it has many large manufacturing concerns which put out a great variety of articles.

An unusually pleasing feature of the city is its residences, of which the more pretentious are grouped on what is known as St. Anthony Hill, really not a hill at all, but a natural level of the prairie, with the business portion of the town lying in the valley below, between it and the river. Here are a number of square miles of attractive houses, on clean, well shaded streets, Summit Avenue, running along the bluff, being justly famed throughout the country for its fine places. The opportunity is seldom offered to build a house upon a broad and beautiful street and with such a view as that from the windows of the Summit Avenue houses overlooking the river valley. The avenue is easily reached by the Fourth Street electric line, whose cars cross it. Upon one or two of the salient points of the street lookouts have been established, from which extensive views may be had.

The visitor to St. Paul is usually impressed by the number and variety of its bridges, which are more than usually picturesque because of a considerable difference in the height of the banks upon the two sides of the river, so that the three wagon bridges opposite the town are all sloping, and, moreover, do not all slope the same way.

The high bridge, so called, that farthest up the river, is remarkable for its length, a full half mile, and its height above the river, which in one span is a clear two hundred feet. At Fort Snelling, five miles above the city, is another very high bridge spanning the Mississippi and giving a most picturesque outlook. The Marshall Avenue bridge, a few miles above the fort, is a most graceful structure, an embellishment of the beautiful river scenery at this point.

There are within the limits of the city many small squares devoted to park purposes, while in the outskirts are several larger pieces of ground, of which the Indian Mounds and Como Park deserve special mention. The Indian Mounds are reached in a twenty-minute ride in the Maria Avenue line of electric cars, which may be



NEW POST OFFICE.

taken on Fifth street, one block south of the Ryan Hotel. As its name suggests, the site of the park was chosen by the aborigines for the location of a number of their curious mounds, the spot chosen being one of the highest and boldest points in the neighborhood, at an angle of the cliffs overhanging the Mississippi, and commanding a most extensive view. A pathway from the mounds leads down to the fish hatchery, where much that is curious and interesting may be found.

Como, the largest of the city parks, covers some 396 acres, of which a considerable part is occupied by a picturesque lake. It is reached by the Como-Interurban electric cars, starting in front of the Ryan Hotel, and offers to the visitor a great variety of interest in the way of beautiful flowers and plants, shady walks and sparkling waters. A pretty and not over long drive takes one from the city past the new capitol, out Como avenue through the park, a drive that may be pleasantly extended from the park on past the state fair grounds and the buildings and grounds of the state agricultural college.

### FORT SNELLING AND MINNEHAHA.

History and poetry are at once suggested by the names of the old fort and the picturesque falls that Longfellow has immortalized. The fort is reached by the Fort Snelling line of electric cars, running west on Seventh street, which may be taken at the corner of the Ryan Annex, with a caution to be sure and get on the car running in the right direction.

The line ends at the river bank opposite the fort, but the view from the bridge is so fine as to well repay the trouble of crossing. A picturesque old blockhouse is almost the first object encountered on reaching Fort Snelling. The government reservation is a large one, and the officers' quarters are now in comparatively new buildings half a mile from the bridge. The part next the bridge, the "lower post," as it is called, is most interesting from the historical standpoint; for here was built the original outpost in 1820, upon what was then so remote a part of the frontier that the first steamboat did not come up the river until three years later.

To reach Minnehaha by electric car it is necessary to take the Interurban line to Minneapolis and there, on the outskirts of the city transfer to a Minnehaha car making a ride of about an hour and a quarter. Besides the waterfall there is a very pretty little park about the picturesque stream, and adjoining are the buildings and grounds of the Minnesota Soldiers' Home.

A most delightful drive is out Summit avenue four miles to the river, then over Cleveland avenue to Fort Snelling, through the fort, and on two miles to Minnehaha, from which point the return may be made the same way, or the drive may be continued on by way of Minnehaha avenue to Lake street, across the picturesque Marshall avenue bridge, past the buildings and golf links of the Town and Country Club, and back to town over Marshall avenue.

### TROLLEY RIDES.

A ride in an open electric car on a pleasant summer day is no mean substitute for a carriage drive, and it has the great advantage that it allows the sightseer to cover much ground in a short time. One of the finest trips of this kind may be had by taking a Como-Interurban electric car, starting in front of the Ryan, and passing in succession the new capitol, Como Park, the state fair grounds, the state agricultural college, through Minneapolis and on by Lake Calhoun to Lake Harriet, the end of the route, a ride of fifteen miles. This ride gives a very good glimpse of Minneapolis,

**View on Summit Avenue, St. Paul.**

crossing the river just above the Falls of St. Anthony, giving a sight of the extensive lumber and flour mills for which that city is famous, and after passing the business district, taking the visitor by some of the parks and fine residences.

Another trolley ride is on the swift cars that run to Stillwater, crossing Robert street at Fifth, one block from the Ryan, and leaving every half hour. The ride is through a beautifully wooded farming country, and after touching at Wildwood, on White Bear Lake, it takes the visitor to the high bluffs of Stillwater, from which may be had a fine view of the valley of the St.

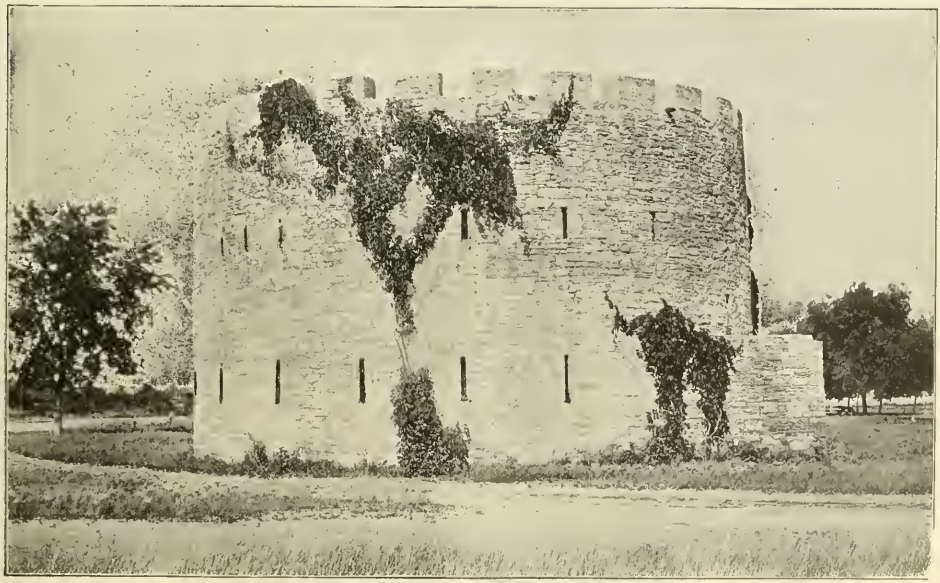
**The "High Bridge" and Birds-eye View of St. Paul.**

**Cozy Lake, Como Park, St. Paul.**

Croix. The Minnesota State Prison is situated here, and a visit to it will repay those who are interested in seeing a model penal institution.

THE YELLOWSTONE PARK.

Arrangements have been made for a trip to this delightful region, to accommodate those who come to the meeting. The Northern Pacific Railroad announces that it is intended to have a special train leave St. Paul on the evening of June 7, shortly after the adjournment of the meeting, arriving at Cinnabar, Mont., about 10



**The Round Tower, Fort Snelling.**

**Erected as a Guard-house; subsequently Loop-holes were pierced for Musketry.**

a. m. on the 9th. which will enable the Park Transportation Company to reach Mammoth Hot Springs Hotel with their guests not later than 12 o'clock (noon), in time for luncheon. The regular tour of the Park will begin the following morning.

The train will be composed of a baggage-car, dining-car. and Pullman first-class sleeping-cars.

stage fares, meals on dining-cars and meals and lodging at the Park hotels, for the Park tour, which will occupy five and one-half days in the Park itself. If the road over the Continental Divide between the Upper Geyser Basin and the Lake Hotel is not passable at this earlier date. an extra day's time will be allowed at the Grand Canyon of the Yellowstone.

The condition upon which this train will run is that at least 100 tickets be sold for the round trip to and through the Park, at the price of $85 per ticket. This rate is an unusually low one, and the special train can be justified only upon the sale of the number of tickets specified. This special ticket will include railroad fares.

Tickets for this occasion will be on sale only at St. Paul and on June 7; good for use from St. Paul on that day, but not later.

For reservations call on or address any Northern Pacific Railway General or District Agent, or write to Chas. E. Fee, General Passenger Agent, St. Paul, Minn.

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## Original Articles.

### MOVABLE KIDNEY—ITS CAUSE AND TREATMENT.*


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CHICAGO.


The kidneys are usually classed as fixed organs. They, however, are not fixed but possess normally quite a range of motion. This varies from 2 to 4 cms. in a longitudinal direction and corresponds to the rise and fall of the diaphragm during respiration. As a rule the normal kidney can not be palpated through the intact body walls in men, but in women the right can be distinctly felt in a majority of the cases and the left in a smaller proportion. A kidney may often be easily palpated by one with much practice when another with less experience would fail to perceive it.

In palpating a kidney the patient, with all clothing about the body removed, should lie on the side opposite the organ sought with the head and shoulders slightly higher than the hips and the thighs gently flexed. Standing at the back of the patient the fingers of one hand are firmly pressed against the abdominal wall just below the costal arch and to the outer side of the rectus muscle while, with the fingers of the opposite hand, firm counter-pressure is made against the small triangular space just below the 12th rib behind. The patient should take a deep breath during the somewhat rapid exhalation of which, the kidney, if palpable, may be grasped between the two hands. This lateral position has been found preferable as a rule to the standing position for the reason that many patients, even with the body bent forward and the weight resting on a table, are unable to relax the abdominal muscles as completely as when lying on the side. It is often possible to palpate a kidney in the lateral position which could not be felt with the patient lying on the back.

For the sake of clearness, it is necessary to define what is meant by a palpable and movable kidney. In almost every individual not possessed of more than the average amount of subcutaneous fat the kidney may be felt in the sense that, with one hand firmly pressed in the triangular space below the 12th rib behind while deep pressure with the other hand is made in front and the patient takes a deep breath, an indistinct mass will be felt to impinge against and recede from the hand placed posteriorly. Such a kidney, however, is not said to be palpable. Only when a portion of the kidney can be distinctly grasped and outlined between the two hands is it said to be palpable. One-third, one-half or two-thirds of the kidney may thus be palpated. In case more than one-half the organ can be outlined and it can be caused to recede out of reach during exhalation, it is said to be movable to the first degree. In case both hands can be brought together above the organ, it is movable to the second degree, and if it can be depressed to the pelvic brim or moved to or beyond the midline, it is movable to the third degree.

This classification is, of course, arbitrary but of value in facilitating clearness of description. The great frequency of movable kidney in women has only recently been realized owing to a more systematic examination of patients with this point in view. Küster[1] found that 4.41 per cent of the women in his general surgical practice had movable kidneys, while Edebohls in an exclusively gynecologic practice estimates that 20 per cent. are thus afflicted. As will be seen from the subjoined table, both of these figures are very much too low, as my figures show that 56 per cent. of the women had distinctly movable kidneys on one or both sides. What are the causes of this large percentage of movable kidneys in women? The etiologic factors usually mentioned are the following: 1. Repeated pregnancies which are supposed to act by producing a relaxation of the anterior abdominal walls, thus diminishing the abdominal pressure against the kidneys, as well as by the enlarged uterus directly displacing these organs. 2. Prolapse of the uterus and vagina with lacerations of the perineum by contributing to the reduction of intra-abdominal tension. 3. Retrodisplacements of the uterus by drawing on the ureters. 4. The rapid absorption of the perirenal fat as may occur in acute wasting diseases. 5. Drawing on the kidneys by the transverse mesocolon in enteroptosis of Glenard's disease. 6. The relaxation of the abdominal walls which follows the removal of intra-abdominal tumors or ascitic accumulations.

That these factors have very little or no influence in giving rise to movable kidneys will be clearly shown.

The fallacy of supposing that pregnancy, lacerations of the perineum, displacements of the uterus, etc., are instrumental in causing movable kidneys is unanswerably shown by the fact that over 40 per cent. of the cases of movable kidneys were found in unmarried women, in women who have thus never been pregnant, who have intact perineal floors and whose uteri are in normal position. That these factors may, and perhaps, at times do, aggravate the condition caused by other influences is admitted.

The fallacy of the theory of the absorption of the perirenal fat has been shown by Heller, and of the traction theory by Ewald. The influence of traumata both internal and external will be considered later. What then is the fundamental cause of movable kidney? This is found in the relation which exists between the location of the kidney and the body form.

The exhaustive work of Wolkow and Delitzin renders it unnecessary to enter into a study of the location of

* Read at the annual meeting of the American Surgical Association, held at Baltimore, Md., May 7-9, 1901.

1. Deutsch. Chir. Lief., B. lii.

the kidney as found in the dead-house. Conclusions, however, based entirely on dead-house findings are erroneous for the reasons that when the body is in the recumbent position the kidney assumes its highest or most cephalad location; that this location is moved still further cephalad by the final contraction of the chest at death and last because the kidney loses much of its mobility owing to the postmortem solidification of the perirenal fat.

These studies are, therefore, based upon observations made on the living subject in the examining room and on the operating table. While systematically examining patients in Litten's clinic Becker and Lenhoff[2] became convinced that they were able to predict from the general appearance of the body form of a woman whether the kidneys would be found palpable or not. In order to reduce this conviction to some tangible shape a series of measurements of the women examined was made which eventuated in what they termed the index of the body form. This index was obtained by dividing the distance from the suprasternal notch to the upper edge of the symphysis pubis by the least circumference of the abdomen and multiplying it by 100. They found that in women with high index the kidney was usually palpable, while in those with low index it was not palpable. The average index was 77.

They therefore divided the patients into positive or those with an index above 77, in whom the kidney could be felt, and negative or those whose index was below 75, and whose kidneys could not be felt. Before the appearance of Becker and Lenhoff's article I had made some observations on the body form in its relation to the kidney which were inspired by Küster's article in 1895, on the cause of subcutaneous lactrations of the kidney and of movable kidney.[3] Küster's observations I was able to confirm many times during my courses on operative surgery on the cadaver as well as by observations on the living subject. I then began a more systematic study of movable kidneys and the location of the kidney in its relations to the body form or rather the influence of the body form on the location of the kidney.

In this study certain measurements of the body were taken together with certain other data, which were supposed might have a bearing on the subject. It was soon found that the measurements taken by Becker and Lenhoff, namely the jugulo-symphysis and the least abdominal circumference, were not sufficient to give one a correct idea of the body form nor did these measurements offer, in any way, an explanation of the fact that in certain cases the kidney would be found palpable while in other cases it could not be felt. Numerous exceptions to their rule, as shown by themselves, also indicated that there were other factors which should be taken into consideration. In order to determine what those other factors were additional measurements of the body were taken, together with the following data: Sex; age; married or single; number of children; weight; height; condition of the 10th rib; accidents, such as severe falls or injuries to the body, and the condition of the pelvic organs and perineum.

For the purposes of this study the body cavity may be subdivided into three portions or zones, the upper of which contain chiefly the lungs and heart; the middle zone the liver, stomach, spleen, pancreas, and major portion of each kidney, while the lower zone contains the intestinal canal and a minor portion of each kidney. The true pelvis may be disregarded. A transverse plane passing through the body at the lower end of the sternum proper, not the xiphoid appendix, forms the lower boundary of the upper zone, and a similar plane, which cuts the lowermost point of the 10th ribs, forms the lower boundary of the middle zone. While the plane forming the boundary between the upper and middle zones does not, of course, accurately separate the chest from the abdomen, it may be taken as such for practical purposes and has been found to be of great importance in determining the body form and in estimating the capacity of the middle zone, as will be shown in the table of measurements.

After measuring the least abdominal circumference in a number of individuals it was found that this plane was not fixed in regard to its location; thus, in women, while it usually cuts the 10th ribs, it often passed below this point and occasionally was as high as the 9th rib; in children it usually passes entirely below the ribs, often as much as 1 cm., and in men it usually passes just below the tips of the 11th and 12th ribs. It, therefore, soon became evident that this measurement should be taken at some fixed point in order to obtain reliable comparative results. As the middle zone includes that portion of the body cavity which is partially enclosed by the lower ribs, its lower boundary should correspond with the lowest point of these ribs. The 10th rib is the one which forms the lowest point laterally and in measuring the circumference of the body at this point, the tape should always rest on the lower edge of the 10th rib at its lowest part, instead of measuring the least abdominal circumference without regard to its location.

In taking these measurements the patient should lie flat on the back. If the shoulders are raised any it is very easy to shorten the jugulo-symphysis distance 1 to 3 cms., owing to the forward curve of the body. The circumference of the body at the 10th rib is first taken, and the point where this line crosses the midline is marked with a pencil. The lower end of the sternum or apex of the costal arch is marked and the circumference of the body at this point measured. The breasts should be drawn upward so as not to include the lower part of them in the measurements. Both of these measurements should be taken at the end of expiration during ordinary respiration. The jugulo-symphysis is the distance from the upper end of the sternum or suprasternal arch to the upper border of the symphysis pubis. In taking this measurement the length of each zone, upper, middle and lower should also be separately recorded. By dividing the jugulo-symphysis by the circumference at the 10th rib an "index" was obtained which in the table is marked "Index No. 1."

In measuring the circumference in the manner just mentioned several sources of error were observed which vitiated somewhat the results and occasionally made them appear contradictory. Thus it was found in measuring the abdominal circumference that the deposit of fat which rounds out the female form above the hips was occasionally so great that the circumference was increased out of proportion to the inner capacity. The same effect was produced by the muscles of the loin in some women in whom marked constriction of the lower ribs is present. The measure is increased if taken when the stomach is full or distended.

In women with a lax or pendulous abdomen with visceral ptosis the lower ribs spread considerably when the patient is lying down and the circumference is thus

2. Deutsch. Med. Woch., 1898, xxiv, S. 508.
3. Arch. f. Klin. Chir., 1895, No. 50, S. 676.

increased from 2 to 5 cms. over the same when standing. In a well-built person with firm muscles the circumference when lying differs little or not at all from the same when standing. In case the breasts are quite large, even when drawn up as much as possible, the circumference of the body at the lower end of the sternum is increased out of proportion to the inner capacity.

As the object of the measurements is to form therefrom an idea of the relative capacity of the middle zone of the body, it may be readily seen that in the cases just mentioned an erroneous conclusion may be drawn. Some method of measuring was therefore sought which would eliminate these errors. This was found in the use of a graduated calipers. By means of the calipers certain diameters of the body could be measured opposite fixed points which are less influenced by varying amounts of adipose tissue and other conditions of the body. The measurements taken with the calipers are five in number namely:

No. 1. Lateral diameter of the body on a plane corresponding with the lower end of the sternum. This plane at its widest lateral diameter usually cuts the 7th rib and the ends of the calipers are therefore pressed against these ribs and the widest diameter recorded. This measurement is called the upper lateral diameter.

No. 2. Is the middle lateral diameter and is the greatest distance between the lower edge of the 10th ribs. Care should be taken to place the ends of the calipers against the lower portion of the 10th ribs and avoid the muscular folds often present in this region.

No. 3. The lower lateral diameter is the widest distance between the crests of the ilia.

No. 4. The upper antero-posterior diameter extends from the lower end of the sternum to the spinous process directly opposite and in the same plane as the upper lateral diameter.

No. 5. The middle antero-posterior diameter extends from the midline in front to the spinous process opposite and in the same plane as the middle lateral diameter.

These measurements should be taken with the patient standing.

The cases in which these last measurements were taken in women are placed by themselves and labeled "Second Series." These five measurements present a formula which may be said to represent each a particular body form. By dividing the middle lateral diameter by the upper lateral and multiplying by 100 is obtained what is called "Index No. 2." By a careful consideration of these tables it is found that many important and interesting conclusions may be deduced therefrom.

As women are the most frequent sufferers from movable kidney they will be considered first. The cases are arranged in order, based on "Index No. 1," beginning with the lowest index and ascending to the highest. In the "Second Series" the same order is maintained, and next to "Index No. 1" is placed "Index No. 2." The indices are simply attempts to reduce to single figures the relations between certain of the body measurements, and thus represent at a glance the body form.

"Index No. 1" shows the relation which exists between the length of the body cavity and its circumference at the lower edge of the 10th rib; "Index No. 2" refers entirely to the middle zone of the body, and shows the relation which exists between the lateral diameter of the lower end of this zone and that of the upper end or, in other words, the amount of constriction or diminution of the capacity of the lower end as compared with the upper.

It will be observed that the column marked "Index No. 1," is arranged in ascending order and that the location or condition of the kidneys, as noted in the proper columns, is found to be "negative" or not palpable until the index reaches 77 to 78. In those cases in which the index is above this point either one or both kidneys are found to be palpable or movable to a greater or less degree. The exceptions to this rule will be noted later. If all cases be divided into "negative" and "positive," there will be found among the women 55 negative and 71 positive.

That all cases with a low index are uniformly negative and those with a high index uniformly positive can not be due to chance. An explanation of this fact will be found in a study of the other measurements given in the table. Weight is found to favor the negative cases, their average weight being 58.7 kgs., while that of the positives is 54.5 kgs. In height the positives exceed the negatives by 2.4 cms., their average heights being respectively 160.4 cms., and 162.8 cms. Of this increase in height one-half, or 1.2 cms., lies in the length of the body or jugulo-symphysis, and the remainder in the extremities. Average jugulo-symphysis 50.82 negative and 52.03 positive.

The interesting point in this connection is the distribution of this 1.2 cms. in the different zones of the body. The average length of the different zones are, upper zone 14.55 cms. for the negative and 14.58 cms. for the positive; middle zone 14 cms. negative and 15.1 cms. positive; lower zone 22.27 cms. negative and 22.33 cms. positive;. It will thus be seen that the lengths of the upper and lower zones remain about the same in the two classes of cases, while practically the entire increase in the length of the jugulo-symphysis in the positive cases over the negative is found to lie in the middle zone.

If we now consider the average circumference of the middle zone at its upper and lower portion we find this to measure 77.1 cms. for the upper and 69.5 cms. for the lower in the negative cases, and 73.46 cms. for the upper and 64.9 cms. for the lower in the positive cases. This is a difference of 7.6 cms., or 9.8 per cent., in the negatives, and 11.56 cms., or 15.7 per cent. in the positives. This shows that there is a marked increased contraction or diminution in size of the lower portion of the middle zone in the positive cases over that in the negative. This will be still better shown when we consider the diameters taken with the calipers.

If the middle zone were a true conic section with a greater and smaller circumference, as above given, the middle zone in the positive cases would contain nearly 800 c.cs., or 13.2 per cent., less than the same in the negative cases. This would be equivalent to the space occupied by both kidneys and the spleen. Of course, in this estimate no allowance has been made for the thickness of the body wall, nor for the marked difference between the configuration of this section of the body cavity and the external surface. It simply demonstrates that there is a marked contraction of this space in the positive cases as compared with the negative. As already pointed out, certain slight errors may occur in measuring circumferences which are practically eliminated by measuring the diameters with graduated calipers.

If we consider now these diameters, we find that in the negative cases the average upper lateral diameter is 23.62 cms.; average middle lateral diameter 20.2 cms.; average lower lateral diameter 28.7 cms.; average

upper antero-posterior diameter 16.9 cms.; average middle antero-posterior diameter 15.67 cms. In the positive cases the average corresponding diameters are:

| | |
|---|---|
| Upper lateral | 23.85 cms. |
| Middle lateral | 17.44 cms. |
| Lower lateral | 29.06 cms. |
| Upper antero-posterior | 17.03 cms. |
| Middle antero-posterior | 14.26 cms. |

The difference between the upper lateral and the middle lateral in the negatives is 3.42 cms., or 14.4 per cent., and the difference between the upper antero-posterior and middle antero-posterior is 1.23 cms., or 7.28 per cent., while the difference between the upper and middle laterals in the positives is 6.41 cms., or 27 per cent., and between the upper and middle antero-posterior 3.04 cms., or 17.5 per cent. This shows that the middle zone diminishes in size from above downward nearly 100 per cent. more from side to side and 140 per cent. more from before backward in the positive cases than it does in the negative.

If we compare corresponding diameters in the two classes of cases, we find that the upper laterals are practically the same, while the positive middle lateral is 2.76 cms., or 13.6 per cent., smaller than the negative. In the upper antero-posterior there is a slight increase, 2.3 per cent., in favor of the positive and in the middle antero-posterior a diminution of 1.41 cms., or 9 per cent., in favor of the positive. If we figure the area of the lower end of the middle zone we find that it is 21 per cent. smaller in the positive cases than it is in the negative. This diminution in size is equivalent to displacing downward the contents of this space 2.6 cms. at its lower end.

It will thus be seen that these measurements, however figured, demonstrate beyond dispute that in those cases in which we find movable kidneys there is a marked diminution in the capacity of the middle zone in which the major portion of the kidney should lie, and that this diminution increases in ratio from above downward.

As the chief and characteristic peculiarity of these cases lies in the marked difference in size between the upper and lower ends of the middle zone the ratio which one bears to the other may be used as an index to express the particular body form. The ratio of the areas would be more correct. However, as it requires considerable figuring to determine this, it has been found much simpler to use the ratio of the middle lateral diameter to that of the upper lateral. It corresponds very closely to the ratio of the areas, and is determined by dividing the middle lateral by the upper lateral diameter and multiplying by 100. This constitutes what I have called "Index No. 2," and is more reliable than "Index No. 1." The average index No. 2 for the negative cases is 85.26, and for the positive 73.23.

In consulting the tables, we find that all cases with an index above 81.8 are negative and all below this number are positive. We find in the table two cases, Nos. 100 and 121, with the same index, namely 81.8, one ofwhich is positive and the other negative. In looking at the antero-posterior diameters, however, we find a contraction of from 18 to 14, or 22 per cent., in the positive, and only from 17 to 16, or 6 per cent. in the negative, which explains the difference very nicely. Had the areas been used instead of simply the lateral diameters the indices would not have been the same. These two cases also illustrate the fact that while the index represents briefly, and in a general way the body form, it does not take into consideration all the points and is, therefore, not entirely reliable. If all the measurements be considered, and particularly the five taken with the calipers, a formula will be obtained which represents accurately the body form.

Case No. 98 shows an error which may arise in measuring the circumference and relying on index No. 1. In this case the deposit of fat above the hips was very marked and the circumference correspondingly large. This gave a low index No. 1, namely, 73.7, which should indicate a negative case. The right kidney, however, was very easily found and freely movable to the second degree. If we consider the diameters as taken by the calipers, which eliminate the error of fat, we find the middle zone contracted from 28 cms. above to 20 below, a difference of nearly 28 per cent., and explains at once the cause of the movable kidney. Other apparent exceptions are thus readily explained when all the measurements are taken into consideration.

In what manner does a diminution of the capacity of the middle zone bring about a movable kidney? As already shown, the upper zone remains on the average practically the same in the two classes of cases. Any lessening of the capacity of the middle zone must, therefore, result in a displacement of the contents of this space downward. The liver is affected first and as it is depressed its posterior border acts immediately upon the right kidney, tending to displace its superior pole forward or to depress the entire organ. The presence of the liver explains the great predominance of involvement of the right kidney. The left kidney is not only somewhat more firmly fixed, but has pressing upon it only the small spleen and the soft yielding stomach. Although this depression of the kidney is always present as the principal determining cause, it is not the entire cause of movable kidney. The kidney is so far depressed that the constricted and narrow outlet, as it may be called, of the middle zone is above the center of the organ, so that every movement or action of the body which tends to still further contract this outlet by adducting the lower ribs, produces pressure on the upper portion of the kidney and constantly tends to press it downward. The amount or degree of mobility depends therefore not alone on the amount of constriction of the middle zone, but on the many conditions, such as heavy lifting, hard work, straining, coughing, flexions of the body, etc., which act more or less continuously by pressing the organ downward.

These various influences, which are quite numerous and so well understood that they need not be further detailed, may be summed up under the term "internal traumata." As they may vary considerably in different individuals they offer a ready explanation of the fact that different degrees of mobility may be present in individuals of practically the same body form.

It may be well now to analyze our table of women as to the etiologic influence of other factors. Measurements were made of 126 women. No attempt was made to select these cases except excessively fleshy women in whom nothing within the abdomen can be distinguished were excluded. They were examined as the occasion presented itself regardless of whether symptoms were complained of or not.

Of the 126 women 71, or a little over 56 per cent., were found to have distinctly palpable or movable kidneys. Of the 71 cases, in 35, or 50 per cent., the left kidney was also palpable or movable but seldom to the same degree as the right. In only one case was the left alone movable, and in this case, although

the abdomen was very lax and easily palpable, no evidence of a right kidney could anywhere be felt. Of the cases 81 were married and 43 single; 2 not stated. Of the 81 married women, 41, or 50 per cent., and of the 43 single women, 28, or 65 per cent., had movable kidneys. Concerning the number of children born, the negative cases show that

| | | |
|---|---|---|
| 6 had | 0 children | 0 children. |
| 4 had | 1 child | 4 children. |
| 3 had | 2 children | 6 children. |
| 3 had | 3 children | 9 children. |
| 3 had | 4 children | 12 children. |
| 4 had | 5 children | 20 children. |
| 1 had | 8 children | 8 children. |
| 1 had | 11 children | 11 children. |
| 25 women had | | 70 children. |

or an average of 2.8 children to each woman. In 12 cases the number of children was not known. Of the positive cases:

| | | |
|---|---|---|
| 6 had | 0 children | 0 children. |
| 2 had | 1 child | 2 children. |
| 10 had | 2 children | 20 children. |
| 4 had | 3 children | 12 children. |
| 4 had | 4 children | 16 children. |
| 2 had | 6 children | 12 children. |
| 1 had | 7 children | 7 children. |
| 1 had | 10 children | 10 children. |
| 30 women had | | 79 children. |

or an average of 2.6 children to each woman. In 12 cases the number of children was not known.

These facts point to the conclusion that child-bearing does not produce movable kidney and has no influence in that direction in the absence of that particular body form. That repeated pregnancies, by producing relaxation of the abdominal walls and deterioration of the general health, may induce symptoms or aggravate those already present is very probable and will be admitted. The same may be said concerning lacerations of the perineum and displacements of the uterus. In three of the negative cases complete procidentia was present. In one of the positive cases there was complete procidentia, and in one prolapsus with rectocele and vesicocele.

A most important question in this connection is the possibility of producing a movable kidney by external violence, such as a fall or a blow or injury in the region of the kidney. The importance of this question from a medicolegal standpoint makes it necessary to enter into it somewhat in detail. It is usually stated in textbooks, and it is a common belief, that movable kidneys are frequently the result of an injury. This is but another of the numerous post hoc propter hoc errors. An individual falls or meets with an accident in which the body is bruised or injured in some manner and an examination sometime thereafter reveals the presence of a movable kidney. It is immediately concluded that the accident bears a causal relation to the movable kidney without stopping to consider whether the movable kidney may not have been present long before the accident and in no manner influenced thereby. Several facts have contributed in giving origin to this belief.

1. The fact may be mentioned that the large majority of physicians are still unfamiliar with the great frequency of movable kidney in women. A physician of considerable experience recently stated it was a very rare condition and in all of his experience he had seen but four cases.

2. In many cases movable kidney gives rise to no appreciable symptoms, and in a large majority of those in whom distinct symptoms are undoubtedly due to the movable kidney the patients themselves are unaware of the cause of their symptoms and often, unfortunately, the attending physician as well.

3. There is no means of determining how long a kidney has been movable.

For the same reasons many writers on this subject have over-estimated the causal influence of trauma. Most of the cases recorded as due to trauma will not stand criticism. Sulzer,[4] in regard to this relation, says: "However, one will have to be very careful in judging of these relations for, on the one hand, we know from other diseases how readily people in general refer their troubles to a particular injury and, on the other hand, we shall see later, that upon the occasion of a fall or exertion, etc., a movable kidney which is already present may suddenly present severe so-called strangulation symptoms and thus becomes first known to the patient or physician after it has existed without symptoms for months or years." After considering the anatomic fact of the looseness of the peritoneum covering a movable kidney, he says: "The acute origin of a movable kidney, if it occur at all, is, then, only possible when owing to a congenital or acquired looseness of the peritoneum the disposition to the trouble already exists." He further states: "The question whether an acute traumatic origin of a movable kidney be possible may be very important in a medicolegal relation or in insurance business and I believe that without the acceptance of a particular abnormal body condition a movable kidney can never be the immediate result of a trauma." Sulzer arrived at these conclusions after a study of the cases in which a movable kidney was supposed to have resulted from an accident, and owing to the fact that the peritoneum which covers the kidney in front and aids in holding it in place is very much relaxed in movable kidney and this relaxation or pouching is so great that it can not be produced suddenly any more than a large hernial sac can be produced suddenly. Keller[5] is also of the opinion that this condition can not be produced suddenly, but requires a considerable time for its development and, therefore, a kidney with a distinct range of motion discovered immediately or soon after the receipt of an injury must have been movable before and its mobility can not thus have been caused by the injury.

Concerning the traumatic origin of movable kidney, Büdinger[6] says: "When the kidney is fixed they (traumata) are able to produce only the first step, while the formation of the typical movable kidney requires still other conditions. A sudden marked dislocation presupposes an extensive loosening of the kidney, and not only that, but a space below the kidney with a considerable change in the relations of the peritoneum."

Güterbock (quoted by Büdinger) concludes from a study of injuries to the kidney, "that a typical movable kidney does not occur as a result of trauma, but only a loosening of the organ which later may lead to mobilization unless the kidney becomes fixed by adhesions. But even if one disregards the demand that a traumatic movable kidney must show relations analogous to the anatomic findings of the classical movable kidney, the number of such cases is very small in which, in the living subject, a connection between the injury and the mobility with certainty can be demonstrated. The pain

4. Deutsche Zeit. f. Chir., 1891, B. xxxi, S. 506.
5. Deutsch. Chir., Lief. 67.
6. Mittheil. aus d. Grenzgebiet, 1898-9, No. 4, S. 265.

| Number. | FEMALES. | Age. | Married or single. | No. of children. | Weight. | Height. | Circumference at lower end of sternum. | Circumference at lower edge of 10th rib. | Jugulo symphysis. | Length of upper zone. | Length middle zone. | Length of lower zone. | Lateral diameter, upper. | Lateral diameter, middle. | Lateral diameter, lower. | Anterior-post. diam., upper | Anterior-post. diam., mid. | Condition of 10th rib. | Index No. 1. | Index No. 2. | | Right kidney. | Left kidney. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | N. McL. | 27 | S. | | 66 | 161 | | 78 | 50 | 5 | 25 | 12 | 23.5 | | | | | L. | 64 | 7 | | N. | N. | Abdominal wall quite lax. |
| 2 | Maude F. | 36 | M. | 1 | 92 | 7 166 | 88 | 79 | 52 | | 16 | 13 | 23 | | | | | F. | 65.8 | | | " | " | Abd. wall loose; Lac. cervix; u. normal. |
| 3 | Emme S. | 35 | " | 5 | 73 | 156 | 84 | 76 | 51 | | 14 | 13 | 24 | | | | | " | 67.1 | | | " | " | Abd. very lax; tip of R. K. can be felt but not movable. |
| 4 | Mary H | 54 | " | 11 | 60.5 | 154 | 73 | 69 | 47 | | 15 | 13.5 | 18 | 5 | | | | | | | | | | |
| 5 | J. K. | 40 | " | 2 | 79 | 164 | 91 | 83 | 57 | | 17.5 | 12 | 27.5 | | | | | L. | 69 | | | " | " | Operation for gall-stones. |
| 6 | K. W. | 21 | " | 3 | 67 | 159 | | 72.5 | 51 | | 13 | 13 | 24.5 | | | | | " | 70 | | | " | " | |
| 7 | Josie S. | 27 | S. | | 68 | 160 | 80 | 71 | 49 | | 16 | 11 | 22 | | | | | | 69 | | | " | " | Lax abdomen; easily palpable. |
| 8 | L. V. | 31 | M. | | 59 | | | 70 | 49 | | 14 | 12 | 22.5 | | | | | L. | 70 | | | " | " | Complete procidentia uteri. |
| 9 | F. D. | 25 | " | 0 | 55 | 157 | 76 | 68 | 49 | | 13 | 15 | 21 | | | | | F. | 72 | | | " | " | Abdomen soft, palpable; muscles firm; great wheeler. |
| 10 | D. A. | 30 | " | 1 | 66 | 157 | | 72 | 52 | | 15 | 13 | 24 | | | | | L. | 72 | | | " | " | |
| 11 | H. A. M. | 42 | " | 0 | 73 | 160 | | 73 | 53 | | 15 | 11 | 27 | | | | | " | 72 | | | " | " | Never pregnant. Small sub-serous fibroid. Operated. |
| 12 | Mrs. C. | 35 | " | | 54.5 | 155 | | 69 | 49.5 | | 13 | 17 | 19.5 | | | | | " | 71.7 | | | " | " | Prolapsus uteri; varicocele; hemorrhoids. |
| 13 | O. B. | 49 | " | | | 161 | | 74 | 54 | | 16 | 15 | 23 | | | | | " | 73 | | | " | " | Perineum and uterus normal. |
| 14 | A. A. | 35 | " | | 66 | 164 | | 68 | 50 | | 13.5 | 15.5 | 21 | | | | | " | 73.5 | | | " | " | Standing 65; End 76.9; tip of R. K. can be felt but is not movable. |
| 15 | Nellie K. | 30 | " | | 61 | 160 | 75 | 68 | 50 | | 16 | 13.5 | 20.5 | | | | | F. | 73.5 | | | " | " | |
| 16 | Mrs. W. | 34 | " | | 61 | 165 | | 68 | 50 | | 15.5 | 15 | 19 | 5 | | | | L. | 73.5 | | | " | " | Tip of R. K. felt on deep inspiration. |
| 17 | M. C. | 37 | " | | 62 | 157 | | 68 | 50 | | 14 | 5 12 | 23.5 | | | | | " | 73.5 | | | " | " | |
| 18 | J. H. M. | 30 | " | 0 | 65 | 164 | 79 | 74 | 54.5 | | 16 | 14 | 24.5 | | | | | " | 73.6 | | | " | " | Abd. very lax; large fibroid of uterus; removed; tip R. K. palpable on deep insp. |
| 19 | May M. | 40 | " | | | 164 | 85 | 72 | 53 | | 16 | 14 | 23 | | | | | " | 73.6 | | | " | " | Had fall; thrown forward, then on back; miscarried. |
| 20 | A. C. L. | 56 | " | | 4 95 | | | 76 | 56.5 | | | | | | | | | | 74 | | | " | " | Complete procidentia uteri. Operated. |
| 21 | E. H. L. | 51 | " | | | 167 | | 70.5 | 52 | | 17 | 12 | 24 | | | | | | 73.7 | | | " | " | |
| 22 | Hulda S. | 32 | S. | 0 | 49 | | 74 | 64 | 47.5 | | 14 | 15 | 18 | | | | | F. | 74.2 | | | 2d | 1st | Both kidneys enlarged from tuberculous pyelonephrosis. |
| 23 | C. S. | 22 | " | 0 | 71 | 169 | 79 | 71 | 53 | | 13.5 | 16.5 | 23 | | | | | L. | 74.5 | | | N. | N. | |
| 24 | G. P. | 34 | M. | | 66 | 166 | | 72 | 54 | | 15 | 11 5 | 22.5 | | | | | | 75 | | | " | " | No corset worn. |
| 25 | E. L. | 31 | " | 0 | 50 | 151 | | 64 | 48 | | 13.5 | 15 | 19.5 | | | | | L. | 75 | | | " | " | |
| 26 | Mrs. N. | 24 | " | | 62 | 163 | 75 | 68 | 51 | | 14 | 14 | 23 | | | | | " | 75 | | | " | " | Pregnant 3 mo.; abd. lax; easily palpable. |
| 27 | A. A. S. | 34 | " | | 57 | 154 | | 67 | 51 | | 13 | 15 | 23 | | | | | " | 76 | | | " | " | Laceration of perineum and cervix; abd. very lax; tip of R. K. felt, standing. |
| 28 | E. E. M. | 39 | " | | 61 | 162 | 75 | 67 | 51 | | 13.5 | 16 | 21.5 | | | | | F. | 76 | | | " | " | Perineum and uterus normal; abdominal walls firm. |
| 29 | Annie A. | 31 | " | 0 | 65 | 165 | 82 | 71 | 54 | | 15.5 | 15 | 24.5 | | | | | F. | 76 | | | " | " | Hard worker; chronic salpingitis; one miscarriage. |
| 30 | I. L. M. | 37 | " | 0 | | | 78 | 68 | 52 | | 14.5 | 14.5 | 24 | | | | | | 76.4 | | | " | " | Had fall, striking on head and back. |
| 31 | Mrs. C. | 35 | " | 6 | 77 | 164 | 85 | 72 | 55 | | 15 | 15 | 25 | | | | | 9-10 L. | 76 4 | | | 2d | " | Six miscarriages; lacerated perineum, rectocele, cystocele; 3 years ago fell six feet from stepladder. |
| 32 | Mrs. H. | 27 | " | | 63 | 165 | | 66 | 51 | | 15.5 | 14.5 | 21 | | | | | | 77.3 | | | " | " | |
| 33 | Kate F. | 31 | " | 1 | 52 | 159 | 77 | 66 | 51 | | 15 | 17 | 19 | | | | | | 77.2 | | | ½ | " | Three miscarriages; pulmonary tuberculosis; has lost much weight. |
| 34 | Sigrid P. | 22 | S. | 0 | 68 | | 77 | 66 | 51 | | 15 | 15 | 21 | | | | | | 77 2 | | | N. | " | |
| 35 | M. B. | 57 | M. | | 67 | 162 | 82 | 68 | 52 | | 14 | 14 | 24 | | | | | | 76.4 | | | 2d | 2d | Marked visceral ptosis; abdomen quite fat; fall on back 1½ years before. |
| 36 | Augusta F. | 27 | S. | 0 | 53 | 165 | 77 | 65 | 50 | | 15 | 14 | 21 | | | | | F. | 77 | | | ½ | N | |
| 37 | F. S. | 21 | " | 0 | | | | 68 | 53 | | 16 | 12 | 25 | | | | | | 78 | | | 2d | " | Fall on buttocks 8 mo. before; operated for append. 6 mo. before; nephropexy. |
| 38 | Miss E. | 26 | " | 0 | 69 | 5 170 | 76 | 69 | 54 | | 16 | 14 | 23 | | | | | F. | 78.2 | | | 1-t | " | Chest deformed; marked projection forward of ribs on right side. |
| 39 | A. B. | 27 | M. | | 54 | 5 159 | | 62 | 50 | | 14 | 16 | 20 | | | | | L. | 80.6 | | | " | ½ | Procidentia uteri. |
| 40 | D. McL. | 25 | " | | 55 | | 79 | 67 | 53 | | 12.5 | 18 | 5 22 | | | | | " | 80 | | | 2d | N. | R. K. operated in 1899, in New York; tip of R. K. only palpable in 1900. |
| 41 | Mary McC. | 38 | S. | 0 | 57 | 2 162 | 73 | 65 | 52 | | 14 | 13 | 25 | | | | | F. | 80 | | | 1st | " | One year ago kidney more fully movable than at present; much pain in back. |
| 42 | P. D. R. | 41 | M. | 4 | | 162 | 74 | 62 | 50 | | 15 | 15.5 | 19 | 5 | | | | " | 80.6 | | | " | ½ | Had fall in 1898. |
| 43 | Carrie L. | 41 | " | 10 | 45 | 5 156 | 79.5 | 60.5 | 49 | | 13 | 14 | 22 | | | | | " | 81 | | | 2d | 1st | Abdomen very lax; standing, 58. |
| 44 | L. A. | 29 | " | 0 | 58 | | 75 | 65 | 53 | | 15 | 16 | 22 | | | | | L. | 81.5 | | | 1st | N. | Uterus and perineum normal. |
| 45 | Mrs. D. | 40 | " | 2 | 58 | | 75 | 61 | 52 | | 14.5 | 15 | 5 22 | | | | | L. | 81.2 | | | 2d | " | Pregnant three months. |
| 46 | M. C. | 21 | S. | 0 | 54 | 162 | | 63 | 52 | | 16 | 12.5 | 23.5 | | | | | " | 82 5 | | | ⅓ | ⅓ | |
| 47 | H. B. | 40 | M. | 0 | | 162 | | 61 | 50.5 | | 14.5 | 17 | 19 | | | | | " | 82.1 | | | 3d | N | Never pregnant; hysterectomy two years before; severe symptoms. |
| 48 | L. W. | 54 | " | | | | | 64 | 53 | | 14 | 14.5 | 24.5 | | | | | | 82.1 | | | 1st | " | Right inguinal hernia for years; fall on back one year before. |
| 49 | W. C. W. | 31 | " | 2 | 51 | 159 | 70 | 69 | 48.5 | | 12 | 15 | 22 | | | | | F. | 82.5 | | | 2d | " | Perineum normal, uterus retroverted; nephropexy and shortening round liga. |
| 50 | H. S. | 60 | " | 2 | | 167 | | 65 | 53 | | 15 | 16.5 | 21.5 | | | | | L. | 81.5 | | | 1st | " | |
| 51 | C. A. | 30 | S. | 0 | 44 | 153 | | 57 | 47 | | 13 | 15 | 19 | | | | | " | 82 4 | | | 2d | " | Neurasthenia. |
| 52 | A. L. | 22 | " | 0 | 64 | 165 | | 66 | 54 | | 15 | 15 | 24 | | | | | " | 81 8 | | | 1st | " | |
| 53 | E. H. | 37 | M. | | | | | 61 | 50 | | 16 | 5 14.5 | 19 | | | | | | 82 | | | 1st | " | Retroflexio-uteri. |
| 54 | T. H. B. | 26 | " | 0 | 16 | 154 | 70.5 | 58 | 48 | | 13.5 | 14 | 20.5 | | | | | L. | 82.7 | | | ½ | " | One miscarriage at seven months from fall; left salpingitis. |
| 55 | Annie J. | 29 | S. | 0 | 62 | 166 | | 67 | 55.5 | | 15.5 | 13 | 27 | | | | | " | 82.8 | | | 1st | " | |
| 56 | Mrs. P. | 38 | M. | | 45 | 4 156 | | 59.5 | 49.5 | | 14 | 14.5 | 27 | | | | | " | 83.2 | | | 2d | 1st | Perineum and uterus normal. |
| 57 | Mamie C. | 27 | " | 0 | 58 | 161 | | 61 | 51 | | 15.5 | 13.5 | 22 | | | | | " | 83 6 | | | 1st | N. | Perineum and uterus normal. |
| 58 | Miss B. | 37 | S. | 0 | 50 | 162 | 73.5 | 63 | 53 | | 14 | 14 | 25 | | | | | " | 84 | | | " | ½ | Salpingitis, small fibroid of uterus; salpingectomy and myomectomy. |
| 59 | N. K. | 40 | M. | 4 | | 164 | | 65.5 | 55 | | 14 | 14 | 27 | | | | | " | 84 | | | 2d | 2d | Perineum and uterus normal; fall 1¼ yr. before, fracturing left 10th rib. |
| 60 | F. G. | 34 | " | 3 | 63 | 168 | | 68 | 57 | | 16 | 16.5 | 24.5 | | | | | " | 83 8 | | | " | ½ | Slight laceration of perineum; ut. norm. |
| 61 | Mrs. S. | 32 | " | | 59 | 157 | | 59 | 49 | 5 | 13 | 15.5 | 21 | | | | | " | 84 | | | 1st | N | |
| 62 | I. S. | 38 | " | | 48 | 156 | | 57 | 48 | | 15 | 13 5 | 19.5 | | | | | | 84.2 | | | " | ⅓ | Perineum and uterus normal. |
| 63 | N. S. | 28 | S. | 0 | | | | 59 | 50 | | | | | | | | | | 85 | | | 2d | N | Nephropexy. |
| 64 | Mrs. G. | 37 | M. | | 66 | 177 | 77 | 66 | 56 | | 15 | 16 | 25 | | | | | F. | 84.8 | | | " | 2d | Two years before fell down stairs; had right perirenal abscess. |
| 65 | Mrs. S. | 24 | " | 1 | 52 | 157 | 67 | 56 | 48 | | 13 | 14 | 21 | | | | | " | 85.7 | | | " | " | Abd. muscles firm; worked in dry goods store 4½ years; lifting overhead boxes. |
| 66 | Miss F. | 21 | S. | 0 | | 163 | 71 | 57.5 | 49.5 | | 13 | 17 | 19.5 | | | | | L. | 86 | | | " | N | Nephropexy, May, 1898; Dec., 1900, kidney still in place. |
| 67 | Fl'r'nce H. | 31 | " | 0 | 53 | 6 163 | 73 | 61 | 53 | | 13.5 | 15 | 24 5 | | | | | F. | 86.8 | | | " | 1st | Worked in dry goods store for several years. Quite severe symptoms. |
| 68 | Mrs. B. | 39 | M. | 4 | 66 | 172 | 77.5 | 63 | 55 | | 16 | 18 | 21 | | | | | " | 87 | | | " | N. | Uterus normal at times; slight laceration of perin.; perineorrhaphy, nephropexy. |
| 69 | S. S. | 39 | " | 2 | 57 | 163 | 5 | 59 | 51 | | 15 | 13.5 | 22.5 | | | | | | 86.4 | | | " | 1st | Laceration of cervix, perineum; epilepsy. |
| 70 | Cora N. | 26 | S. | 0 | 54 | 5 170 | 69 | 57 | 50 | | 13 | 17 | 20 | | | | | F. | 87 7 | | | " | " | Fall on back 4 mo. before; been troubled with urinary symptoms long before fall. |
| 71 | A. H. | 44 | M. | | 49 | 155 | 68 | 56 | 49 | | 13 | 15 | 21 | | | | | " | 87 5 | | | " | " | Hysterectomy for fibroids. |
| 72 | W. A. M. | 33 | " | 2 | 51 | 165 | | 60 | 53 | | 19 | 13 | 21 | | | | | L. | 88 | | | 1st | N. | Laceration, cervix and pelvic floor; retroversion and prolapse of uterus. |

| Number. | Females. | Age. | Married or single. | No. of childr'n. | Weight. | Height. | Circumference at lower end of sternum. | Circumference at lower edge of 10th rib. | Jugulo-symphysis. | Length of upper zone. | Length middle zone. | Length of lower zone. | Lateral diameter, upper. | Lateral diameter, middle. | Lateral diameter, lower. | Anterior-post. diam., upper | Anterior-post. diam., mid. | Condition of 10th rib. | Index No. 1. | Index No. 2. | | Right kidney. | Left kidney. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73 | R. L. | 37 | S. | 0 | 165 | . . . | 60 | 53 | 15 | 17.5 | 20.5 | . . | . . | . . | . . | . . | . . | F. | 88 | . . | . . | 2d | " | Cystitis. |
| 74 | Mrs. E. | 21 | M. | 44 5 | 160 | . . . | 56 | 49.5 | 14 | 16 | 19.5 | . . | . . | . . | . . | . . | . . | L. | 88 4 | . . | . . | " | " | |
| 75 | Miss R. | 33 | S. | 0 47.5 | 161 | . . . | 56 | 49.5 | 14 | 15.5 | 20 | . . | . . | . . | . . | . . | . . | " | 88.5 | . . | . . | 1st | ½ | |
| 76 | L. C. | 20 | M. | 2 | 160 | 67 | 56 | 50 | 14 | 16.5 | 19.5 | . . | . . | . . | . . | . . | . . | F. | 89 3 | . . | . . | 2d | " | Laceration cervix; retroflexio-uteri. |
| 77 | M. H. W. | 31 | " | 2 53 | 165 | 71 | 59 | 53 | 15 | 15 5 | 23.5 | . . | . . | . . | . . | . . | . . | " | 90 | . . | . . | 2d | " | One miscarriage, uterus norm.; had fall. |
| 78 | A. L. | 29 | " | 3 52 | 163 | . . . | 61 | 55 | 14 | 15.5 | 25.5 | . . | . . | . . | . . | . . | . . | L. | 90 | . . | . . | 1st | ½ | Left ovary prolapsed and tender. |
| 79 | H. A. P. | 25 | S. | 0 52 | 169 | . . . | 58 5 | 53 | 15.5 | 13.5 | 24 | . . | . . | . . | . . | . . | . . | " | 90 5 | . . | . . | " | ½ | |
| 80 | Mrs. J. | 26 | M. | 0 51 5 | 161 | . . . | 58 | 53 | 13.5 | 15 5 | 24 | . . | . . | . . | . . | . . | . . | " | 91 3 | . . | . . | " | ½ | |
| 81 | Miss S. | 23 | S. | 0 47 | 164 | 68 | 57 | 54 | 14 | 16 5 | 23 5 | . . | . . | . . | . . | . . | . . | L. | 91 7 | . . | . . | 2d | 1st | |
| 82 | Miss B. | 36 | " | 0 53 | 162 | 72 | 61.5 | 55 | 15 | 15 | 25 | . . | . . | . . | . . | . . | . . | " | 89 4 | . . | . . | " | " | Right kidney somewhat enlarged. |
| 83 | D. R. | 28 | " | 0 42 | 153 | 66 | 51 | 51 | 14 | 16 | 21 | . . | . . | . . | . . | . . | . . | " | 100 | . . | . . | 1st | " | Pyelitis of R. K.; probably tuberculous. |

SECOND SERIES.

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84 | A. N. | 43 | M. | 8 53 | 160 | 76.5 | 71 | 49 | 14 | 13 | 22 | 23 | 21 | 29.5 | 17.5 | 16 | F. | 69 | 91.3 | 83.4 | N. | N. | |
| 85 | M. C. | 53 | " | 2 65 | 157 | 83 | 72 | 51 | 14 | 13 | 24 | 24 | 20 | 32 | 17 | 17 | " | 70.8 | 83.3 | 88.3 | " | " | |
| 86 | C. P. | 69 | S. | 0 45 | 155 | 74.5 | 65.5 | 46.5 | 14.5 | 12 5 | 19 5 | 25 | 21 | 30 | 17.5 | 15 | L. | 71 | 84 | 72 | " | " | |
| 87 | A. S. | 34 | S. | 0 51.7 | 160 | 78 | 70 | 50 | 13 | 15 5 | 21.5 | 23 | 20 | 30 | 17.5 | 16 | F. | 71 4 | 87 | 79.5 | " | " | |
| 88 | J. C. | 33 | M. | 3 50 7 | 155 | 74 | 67 | 48 | 14 | 13.5 | 20.5 | 24 | 20 | 29 | 17 | 15 | L. | 71.6 | 83.3 | 73.5 | " | " | |
| 89 | E. M. | 32 | " | 64 | 170 | 83 | 73 | 53 | 15.5 | 13.5 | 24 | 26 | 21 | 30 | 18 | 16.5 | F. | 72 6 | 80.8 | 74 | " | " | |
| 90 | T. N. | 30 | " | 4 48 6 | 155 | 78 | 70 | 51 | 14 | 15 | 22 | 26 | 22 | 29 | 16 | 17 | " | 72.8 | 84.6 | 89.9 | " | " | |
| 91 | S. F. | 45 | " | 5 53 | 165 | 75 | 68.5 | 50 | 15 | 14 | 21 | 23 | 20 | 29 | 17 | 14 | L. | 73 | 87 | 71.6 | " | ½ | |
| 92 | G. P. | 45 | S. | 0 45 | 152 | 74.5 | 64 | 47 | 14.5 | 12 | 20.5 | 24 | 20 | 25.5 | 17 | 15.5 | F. | 73 4 | 83.3 | 76 | " | " | Hystero-myomectomy for immense fibroids filling abdomen. |
| 93 | A. L. | 30 | M. | 3 45 | 162 | 71 | 68 | 50 | 15 | 14 | 21 | 24 | 21 | 29 | 18 | 17 | " | 73.5 | 87.5 | 82.6 | " | " | |
| 94 | M. J. | 36 | S. | 0 48 | 167 | 80 | 74 | 54.5 | 14.5 | 14.5 | 25.5 | 23 | 20 | 29 | 18 | 16 | F. | 73 6 | 87 | 77.5 | N. | N. | |
| 95 | S. A. | 43 | " | 0 44.7 | 152 | 71 | 66.5 | 49 | 14 | 15 | 20 | 23 | 20 | 29 | 15 | 14 | L. | 73.6 | 87 | 81.1 | " | " | |
| 96 | A. G. | 38 | " | 0 51 | 162 | 72 | 66.5 | 49 | 14 | 13.5 | 21.5 | 22 | 17.5 | 27 | 17 | 15 | " | 73.6 | 79.5 | 70.2 | ½ | " | Very lax abd. wall; palpable, not movable. |
| 97 | E. G. | 42 | M. | 5 44 | 157 | 70 | 64.5 | 47.5 | 15 | 14.5 | 18 | 24 | 20 | 28 | 16 | 14 | F. | 73.6 | 83.3 | 73 | ½ | " | " " " " " |
| 98 | J. D. | 38 | " | 7 57 | 162 | 81 | 70.5 | 52 | 16 | 15.5 | 21.2 | 28 | 20 | 30 | 19 | 15 | " | 73.7 | 71 4 | 56.4 | 2d | " | |
| 99 | S. B. | 59 | " | 4 43 9 | 155 | 68 | 65 | 48 | 14 | 12.5 | 21.5 | 22 | 20 | 27 | 16 | 15 | L. | 73 8 | 90.9 | 85.2 | N. | " | |
| 100 | I. C. | 44 | " | 1 51.8 | 157 | 73 | 65 | 48 | 13 | 14 | 21 | 22 | 18 | 27 | 17 | 16 | F. | 73.8 | 81.8 | 77 | " | " | |
| 101 | N. W. | 41 | S. | 0 55.6 | 162 | 71 | 67.5 | 50 | 15 | 15 | 20 | 22 | 19.5 | 28 | 15 | 15 | " | 74 | 88.6 | 88.6 | " | " | |
| 102 | J. T. | 36 | " | 0 53 | 152 | 79.5 | 67 | 50 | 13 | 15 | 22 | 26 | 21 | 28 | 16 | 15 | L. | 74.6 | 80.8 | 75.7 | " | " | |
| 103 | G. B. | 55 | " | 0 53 | 163 | 75 | 65 | 49 | 14.5 | 13.5 | 20 | 23 | 17 | 30 | 17.5 | 14 | " | 75.3 | 73.9 | 59.2 | 2d | " | Lax abd.; lower ribs flaring. |
| 104 | M. W. | 28 | M. | 5 55 | 160 | 76.5 | 67.5 | 51 | 13 | 17 | 21 | 25.5 | 22 | 28 5 | 15 | 16 | " | 75.5 | 86 2 | 86.8 | N. | " | Very lax; viscera easily palpable. |
| 105 | R. H. | 46 | S. | 0 53 | 170 | 76 | 68 | 52 | 14 | 16 | 21 5 | 22 | 20 | 30 | 19 | 16 | F. | 76 4 | 90.9 | 76.5 | " | " | |
| 106 | E. S. | 33 | " | 0 50 | 160 | 71 | 64.5 | 50 | 13 | 15.5 | 21.5 | 23 | 20 | 29 | 17 | 16 | " | 77.5 | 87 | 81.8 | " | " | |
| 107 | D. B. | 44 | M. | 3 61 | 162 | 78 | 68 | 53 | 16 5 | 15.5 | 21 | 27 | 20 | 30 | 17 | 15 | L. | 77.8 | 74 | | 2d | ½ | Enlarged gall-bladder filled with stones; well defined Riedel's lobe; cholecystostomy, nephropexy. |
| 108 | M. B. | 29 | " | 55 | 162 | 75 | 67.5 | 53 | 15.5 | 15 | 22.5 | 23 | 19 | 27 | 18 | 16 | F. | 78 5 | 82.6 | 73.4 | N. | N. | |
| 109 | T. O'B. | 32 | " | 2 57 | 165 | 77 | 66 | 52 | 15 | 15 | 22 | 24 | 20 | 30 | 18 | 17 | " | 78.8 | 83.3 | 78.7 | " | " | |
| 110 | H. S. | 27 | S. | 0 61 | 158 | 82 | 67 | 53 | 14 | 17 | 22 | 27 | 20 | 34 | 18 | 15 | L. | 79.1 | 74 | 61.7 | 2d | " | Received severe jar against back 1 month before. |
| 111 | H. J. | 47 | M. | 2 48 | 162 | 70 | 63 | 50 | 13 | 15 | 22 | 23 | 16 | 28 | 17 | 14 | " | 79.3 | 69.5 | 57.3 | Tip | 1 | R. K. movable; nephropexy was done a year before. (60 standing.) |
| 112 | M. W. | 32 | S. | 0 | 161 | 73 | 63 | 50 | 16 | 14 | 20 | 25 | 20 | 29 | 16 | 15 | F. | 79.3 | 80 | 75 | . . | 1st | Abd. lax; nothing in location of R. K. can be felt; has vent. hernia fol. laparotomy. |
| 113 | K. C. | 43 | M. | 2 62 | 167 | 81 | 70 | 56 | 16 | 16 | 24 | 25 | 17 | 29.5 | 15 | 15 | L. | 80 | 68 | 49 4 | 2d | N. | Marked visceral ptosis. |
| 114 | E. H. | 37 | " | 0 47 | 162 | 71 | 61 | 49 | 14 | 14 | 21 | 22 | 17 | 28 | . . | . . | " | 80.3 | 77.2 | . . | 2d | " | Had fall from tree at 18; was laid up 5 mo. |
| 115 | M. L. W. | 30 | S. | 0 56 | 157 | 71.5 | 65 | 53 | 14 | 16.5 | 22.5 | 22 | 16 | 28 | 18 | 15 | " | 81.5 | 72.7 | 60.6 | 2d | " | Had fall from street car 1½ years before; was doubled up by footboard. |
| 116 | Lucy W. | . . | M. | 2 57 | 153 | 73 | 62.5 | 51 | 13 | 14 | 24 | 22 | 5 | 16 | 28 | 17 | 15 | F. | 81.6 | 71.1 | . . | 2d | ½ | |
| 117 | A. L. | 37 | " | 6 60 | 170 | 77 | 68.5 | 56 | 14 | 16 | 26 | 25 | 5 | 18 | 32 | 16 | 16 | L. | 81.7 | 70.5 | 70.5 | 3d | 1 | |
| 118 | B. S. | 34 | " | 4 54 | 165 | 76 | 61 | 50.5 | 16.5 | 14.5 | 19.5 | 24 | 17 | | 27.5 | 17 | 14 | F. | 82 8 | 70 8 | 58.3 | 1st | N. | |
| 119 | C. B. | 31 | S. | 0 45 | 165 | 74 | 59 | 50 | 13.5 | 14.5 | 22 | 22 | 16.5 | 26 | 18 | 13 | L. | 84.7 | 75 | 54.4 | " | ½ | |
| 120 | M. McK. | 47 | " | 0 48 | 172 | 72.5 | 61 | 52 | 14.5 | 16 5 | 21 | 23 | 18 | 30 | 17 | 13 | F. | 85 2 | 78 2 | 60 | " | N. | |
| 121 | F. Van D. | 40 | M. | 3 65 | 167 | 72.5 | 62 | 53.5 | 15 5 | 14 | 24 | 22 | 18 | 30 | 18 | 14 | L. | 86 3 | 81 8 | 63.6 | " | " | |
| 122 | A. S. | 32 | " | 1 51 | 160 | 77.5 | 61 | 53 | 14 | 15.5 | 23 5 | 25 | 17 | 29 | 17 | 12 | " | 86.9 | 68 | 55 3 | 2d | " | |
| 123 | J. A. | 32 | S. | 0 47 | 172 | 70 5 | 58 5 | 51.5 | 15.5 | 16 | 20 | 23 | 17 | 30 | 16 | 13 | F. | 88 | 73 9 | . . | 1st | " | |
| 124 | E. K. | 31 | " | 0 72.2 | 177 | 73 5 | 63 5 | 56 | 16 5 | 17 | 22 5 | 23 | 17 | 32 | 18 | 15 | " | 88 2 | 73 9 | . . | 3d | ½ | |
| 125 | K. H. | 28 | " | 0 47 | 167 | 69 5 | 56 | 52 | 15 | 14.5 | 22 5 | 25 | 17 | 27 | 17 | 14 | L. | 92 8 | 68 | . . | 1st | N. | |
| 126 | H. V. | 23 | " | 0 45 | 152 | 66 | 56 | 52 | 14 5 | 16 | 21 5 | 20 | 15 | 26 | 16 | 14 | F. | 92 8 | 75 | . . | " | " | |

| Number. | Children. | Sex. | Age. | Weight. | Height. | Circumference lower end of sternum. | Circumference lower edge of 10th rib. | Jugulosymph | Length of upper zone. | Length middle zone. | Length lower zone. | Lateral diam eters, upper. | Lateral diam. eters, middle. | Lateral diam. eter, lower. | Ant.-post. diameter, upper. | Ant.-post. diam., middle. | Condition of 10th rib. | Index No. 1. | Index No. 2. | Right kidney. | Left kidney. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | G. O'C. | F. | 3.5 | 13 | 89 | . . . | 42 | 29 | 8 5 | 9.5 | 11 | . . | . . | . . | . . | . . | . . | 70 | . . | . . | . . | |
| 2 | C. E. | M. | 12 | 38 | 154 | 73.5 | 65 | 45.5 | 14 | 12.5 | 19 | 25 | 22 | 26 | 18 | 17 | L. | 70 | 88 | . . | . . | |
| 3 | G. S. | M. | 4 | 14 | 91 5 | . . . | 43 | 31 | 9.5 | 10.5 | 11 | . . | . . | . . | . . | . . | . . | 72 | . . | . . | . . | |
| 4 | E. B. | F. | 8 | 17 | 113 | . . . | 46 | 33 | 9 | 9 5 | 14.5 | . . | . . | . . | . . | . . | . . | 72 | . . | . . | . . | |
| 5 | C. Y. | M. | 10 | 26 | 129 | . . . | 53 | 39 | 11 | 12 | 15.5 | . . | . . | . . | . . | . . | . . | 74 | . . | . . | . . | |
| 6 | H. S. | " | 9 | 25.4 | 124 | . . . | 52 | 39 | 11 | 14 | 14 | . . | . . | . . | . . | . . | . . | 75 | . . | Negative | . . | |
| 7 | W. K. | " | 14 | 56 | 173 | 75 | 68 | 51 | 16 5 | 16 5 | 18 | . . | . . | . . | . . | . . | F. | 75 | . . | . . | . . | |
| 8 | J. F. | " | 11 | 31 | 140 | 67 | 59 | 45 | 12 5 | 13 | 19.5 | . . | . . | . . | . . | . . | " | 76 | . . | . . | . . | |
| 9 | H. E. | " | 7.5 | 21 | 112 5 | . . . | 50 | 38 | 10 | 15.5 | 12.5 | . . | . . | . . | . . | . . | . . | 76 | . . | . . | . . | |
| 10 | A. M. | F. | 6 | 20 | 115 | . . . | 51 | 39 | 10 5 | 14 5 | 14 | . . | . . | . . | . . | . . | . . | 76.5 | . . | . . | . . | |
| 11 | H. G. | " | 16 | 53 | 167 | 73 | 63.5 | 50 | 13 | 15 | 22 | . . | . . | . . | . . | . . | F. | 78 | . . | . . | . . | Chronic appendicitis; operation. |
| 12 | E. M. | " | 16 | . . | 149 | . . . | 61 | 49 | 13.5 | 14 | 21.5 | . . | . . | . . | . . | . . | . . | 80 | . . | $\frac{1}{2}$ | . . | |
| 13 | M. S. | M. | 6 5 | 17 | 107 | . . . | 47 | 37.5 | 11 | 13 | 13.5 | . . | . . | . . | . . | . . | . . | 80 | . . | N. | . . | |
| 14 | C. S. | F. | 9 | 22 | 126 | . . . | 49 | 39 | 10 | 16 | 13 | . . | . . | . . | . . | . . | . . | 80 | . . | . . | . . | Colored. |
| 15 | M. H. | " | 11 | 29 | 141 | 62 | 54 | 44 | 12 | 13 | 19 | . . | . . | . . | . . | . . | F. | 84.5 | . . | . . | . . | |
| 16 | R. S. | M. | 6 | 15 | 106 | . . . | 43 | 35 5 | 10 | 13 5 | 12 | . . | . . | . . | . . | . . | . . | 82 | . . | . . | . . | |
| 17 | A. E. J. | " | 16 | 54 | 166 | 71 | 63 | 52 | 16 | 16 | 20 | . . | . . | . . | . . | . . | L. | 82.4 | . . | $\frac{1}{2}$ | $\frac{1}{2}$ | Thrown out of wagon; broke leg. |
| 18 | M. G. | F. | 16 | 63 | 163 | 72 | 64 | 53 | 14.5 | 15 5 | 33 | . . | . . | . . | . . | . . | " | 82.8 | . . | 1st. | N | Two falls. Three years ago, fell, striking side on sled; two years ago, fell down stairs |
| 19 | M. O'C | " | 12 | 36.3 | 151 | 69 | 59 | 49 | 13.5 | 14 5 | 21 | 21 | 19 | 23 | 17 | 17 | " | 83 | 90.5 | N. | . . | |
| 20 | M. B. | " | 10 | 27 | 132 | . . . | 51 | 43 | 10 5 | 14 5 | 18 | . . | . . | . . | . . | . . | . . | 84 | . . | . . | . . | |
| 21 | W. H | M. | 11 | 35 | 148 | 67 | 57 | 48 5 | 13 5 | 14 5 | 20.5 | . . | . . | . . | . . | . . | L. | 84.3 | . . | . . | . . | |
| 22 | H. W. | F. | 10 | 25 | 129 | 57.5 | 51 5 | 44 | 10 | 16 | 19 | . . | . . | . . | . . | . . | " | 85 | . . | $\frac{1}{2}$ | . . | |
| 23 | E. P. | " | 13 | 37 | 153 | 61 | 51.5 | 44 | 12 | 15 | 17 | . . | . . | . . | . . | . . | . . | 85 | . . | Tip | . . | |
| 24 | G. H. | " | 16 | 48 | 162 | . . . | 58.5 | 50 | 12 | 16 | 22 | . . | . . | . . | . . | . . | " | 85 | . . | $\frac{1}{2}$ | . . | Chronic appendicitis. |
| 25 | A. P. | " | 14.5 | 40 | 155 | . . . | 55.5 | 48 | 11 | 16 | 18 | . . | . . | . . | . . | . . | . . | 86 | . . | Tip | . . | |
| 26 | S. N. | " | 9 | 26 | 132 | . . . | 50 | 43 | 11 5 | 14 5 | 17 | . . | . . | . . | . . | . . | . . | 86 | . . | N. | . . | |
| 27 | H. G. | " | 14 | . . | 159 | . . . | 54.5 | 47.5 | 13 5 | 5 | 19 | . . | . . | . . | . . | . . | L. | 87 | . . | . . | . . | Tall, slim; rapid growth. |
| 28 | I. T. | M. | 7 | 21 | 116 | . . . | 46 | 40 | 11 | 6 | 13 | . . | . . | . . | . . | . . | Tip | 87 | . . | . . | . . | |

| Number. | Males. | Age. | Weight. | Height. | Circumference lowest part of sternum. | Circumference lower edge of 10th rib. | Jugulo-symph. | Length of upper zone. | Length middle zone. | Length lower zone. | Lateral diam. upper. | Lateral diam. middle. | Lateral d am. lower. | Antero-post. diam., upper. | Antero-post. diam., middle. | Condition 10th rib. | Index No. 1. | Index No. 2. | Right kidney. | Left kidney. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | G. H. . . | 32 | 89 | 177 | 91 | 89 | 56 | 15 | 18 | 23 | . . | . . | . . | . . | . . | . . | 63 | | | | |
| 2 | Mr. —. . | 50 | 83 | 170 | 90 | 83 | 53 | 16 | 15 | 22 | 29 | 25 | 29 | 19 | 20 | . . | 63 8 | 86 | | | |
| 3 | W. C. S. . | 39 | 67 | . . . | . . . | 76 | 49 | 15 | 13 | 21 | . . | . . | . . | . . | . . | . . | 64 4 | | | | |
| 4 | Mr. L. . | 45 | 84 5 | 177 5 | . . . | 88 | 58 | 16 | 18 | 24 | . . | . . | . . | . . | . . | . . | 66 | | | | |
| 5 | C. W. M. . | 23 | 88 | 181 | . . . | 87 | 58 | 18.5 | 16 | 23.5 | . . | . . | . . | . . | . . | L. | 66 | | | | |
| 6 | Mr. J. . . | 41 | 77.3 | 175 | 89 | 79 | 55 | 17 | 16 | 22 | . . | . . | . . | . . | . . | F. | 69 6 | | | | |
| 7 | F. E. . . . | 30 | 67 7 | 172 | 84 | 74 | 52 | 18 | 15 | 19 | . . | . . | . . | . . | . . | F. | 70 2 | | | | |
| 8 | J. F. . . | 33 | 70 | 173 | 86 | 75 | 53 | 18 | 16 | 19 | . . | . . | . . | . . | . . | . . | 70.6 | | | | |
| 9 | L. B. F. . | 36 | 69 | 176 | 81 | 76 | 54 | 16 | 17.5 | 20 5 | . . | . . | . . | . . | . . | . . | 71 | | | | Chronic appendiciti-. |
| 10 | V. E. R. . | 22 | 77 | 170 | 87 5 | 72 5 | 52 | 15.5 | 18.5 | 18 | . . | . . | . . | . . | . . | L. | 71.7 | | | | Chronic appendicitis; operation. |
| 11 | T. C. . . | 30 | 66 | 178 | 80 | 71 | 52 | 17 5 | 18.5 | 17 | . . | . . | . . | . . | . . | F. | 73 2 | | | | L. A. C. 73. Professional tumbler. well d-veloped. |
| 12 | C. C. . . | 40 | 62 | 166 | . . . | 75 | 55 | 17 | 16 | 20 | . . | . . | . . | . . | . . | . . | 73 3 | | | | |
| 13 | J. F. W. . | 31 | . . | 171 | 80 5 | 69.5 | 51 | 15 | 17 | 19 | 25 | 22 | 27 | 19 | 19 | Tip | 73 3 | 88 | | — | |
| 14 | B. M. . . | 35 | 61 | 164 | . . . | 70 | 52 | 16.5 | 17 5 | 18 | . . | . . | . . | . . | . . | . . | 74 2 | | | | |
| 15 | F. H. V. . | 40 | 60 | . . . | . . . | 68 | 51 | 18 | 14 | 19 | . . | . . | . . | . . | . . | . . | 67 | | | | |
| 16 | C. C. . . | 30 | 70 | 172 | 85 | 73 | 55 | 18 | 15 | 22 | 29 5 | 25 | 28 | 18 | 17 | L. | 75.3 | 84.7 | | | L. A. C. 71. |
| 17 | C. K. . . | 25 | 62 | 172 | 75 | 66 | 50 | 16 | 17 | 17 | . . | . . | . . | . . | . . | L. | 75.7 | | | | |
| 18 | H. F. . . | 38 | 70 | 180 | 80 | 71 | 54 | 15 | 18 | 21 | . . | . . | . . | . . | . . | . . | 76 | | | | Chronic appendicitis. Operation. |
| 19 | Mr. P. . . | 36 | 55 4 | 165 | . . . | 68 | 50 | 16 | 16 | 18 | . . | . . | . . | . . | . . | . . | 75.7 | | | | [bloody urine. |
| 20 | E. R. . . | 28 | 68 | . . . | 81 | 71 | 54 | 16 5 | 19 | 18 5 | . . | . . | . . | . . | . . | . . | 76 | . . | 2nd | | In 1882 fell 8 ft. on buttocks; in 1900 fell 6 ft. Had |
| 21 | B. E. V. . | 42 | 66 | 184 | 80 | 73 | 56 | 18 | 18 | 22 | 26 | 22 | 29 | 19 | 18 | F. | 76 7 | 84 6 | ½ | | ½ of kidney felt, but not movable, slender, chronic |
| 22 | G. H. . . | 27 | 73 | 180 | 83 | 72 | 56.5 | 18 | 17 | 21 5 | . . | . . | . . | . . | . . | . . | 78 4 | | ¼ | | [appendicitis. |
| 23 | R. A. C. . | 43 | 75 | 176 | . . . | 74 | 58 | 17 5 | 21 | 19.5 | . . | . . | . . | . . | . . | L. | 78 4 | | ½ | | Valvuler heart disease. En'arged liver and spleen. |
| 24 | G. C. A. . | 20 | 55 | 175 | 73 | 66 | 52 | 15 | 17 | 20 | . . | . . | . . | . . | . . | . . | 78 8 | | ½ | | |
| 25 | L. O. B. . | 19 | 55 | 178 | . . . | 70 | 55 | 16 | 20 | 19 | . . | . . | . . | . . | . . | L | 78 6 | | ¼ | | Very thin. Rapid growth. Chronic appendicitis. |
| 26 | J. B. . . | 45 | . . | 177 | . . . | 68.5 | 55 | 18 | 19 | 17 | . . | . . | . . | . . | . . | . . | 80.8 | | ¼ | | Emaciated. Carcinoma of stomach. |
| 27 | M. T. M. . | 23 | 64 | 175 | | 67 | 57 | 16 | 21 5 | 19 | . . | . . | . . | . . | . . | . . | 85 | . . | ½ | | |

in a movable kidney which was discovered immediately after an accident is not the slightest proof of any connection between the accident and the movable kidney, nor are all other subjective symptoms of any proof so long as it can not be demonstrated with unequivocal certainty that the kidney before that time was not movable."

A simple fall is insufficient to give rise to a movable kidney in the presence of normal relations. The injury must be severe enough to produce a rupture or laceration of the tissues which normally surround and fix the organ, in which case symptoms sufficiently marked to direct attention to the nature of the injury will always be present. The kinds of injuries most liable to produce such lacerations are:

1. Severe falls upon the buttocks in a sitting position.

2. The body is thrown violently against some object striking the region of the kidney so as to forcibly adduct the lower or loose ribs. The same effect is produced if the object be movable and the body stationary.

3. This region of the body is compressed between two opposing forces. Such injuries may produce lacerations of the perirenal adipose tissue with the formation of a perirenal hematoma which may vary much in size. These hematomata are retroperitoneal and it is the exception when the peritoneum is torn. Symptoms of sufficient severity to direct immediate attention to the region of the kidney are always present in case of laceration with the formation of a hematoma of any material size. The swelling produced by the hematoma may also be usually felt on palpation, although the tenderness may be so severe as to interfere in this direction. Accompanying the absorption of such an hematoma an increased amount of connective tissue usually forms in the adipose capsule which may fix the kidney more firmly than before. On the other hand the hematoma may dissect up the perirenal fat or lead to the formation of a perirenal serous cyst in the loose space of which the kidney may move about and thus an injury may be the direct cause of a movable kidney.

The symptoms which immediately follow the injury will direct attention to this possibility, but such cases are rare. Of course an injury may produce a laceration of the kidney proper without the formation of a perirenal hematoma or the two conditions may co-exist. When the kidney substance is lacerated or the pelvis opened the presence of hematuria will direct attention to the fact.

It should be remembered that in the presence of a movable kidney a slight injury, such as a fall, or jarring of the body, or straining at lifting, may produce a slight hematuria for a few days without the occurrence of a material lesion in the kidney or other symptoms particularly referable to this organ. In fact this is so common that the presence of such an hematuria following a slight injury should at once suggest the possibility of a movable kidney and lead to an examination with this point in view. The more often such examinations are made immediately following such injuries the less often will it be found that the injury had aught to do with causing the movable kidney.

The fact that a movable kidney is surrounded by a loose peritoneal and connective tissue pouch which must necessarily be of slow formation, precludes the possibility of a movable kidney being produced suddenly by an injury. It is in just this class of cases that the value of correctly estimating the body form by the measurements as herein mentioned is so apparent. Thus if a woman with an unmistakable body form of the positive type present herself with a movable kidney which is said to have followed an injury it may with practical certainty be asserted that the movable kidney is the result of the body form and arose independently of the injury. The injury but calls attention to a condition already present but perhaps unrecognized. Of course it is not denied that a movable kidney may be aggravated by an injury or that such a kidney may be injured by external violence as well as a kidney that is fixed.

Of the cases comprising the table there were two belonging to the negative type in which a history of an accident, such as might have injured a kidney, was present, but in neither of these could the kidney be felt.

Of the positive cases, 7 gave a history of a fall or other injury. One, No. 70, was not aware she had a movable kidney, but gave a history of unmistakable symptoms referable to the urinary organs and stomach which antedated the injury, thus clearly eliminating the injury as a causal factor in the movable kidney.

In Case No. 110 the injury, a jarring of the back, was claimed as the cause of the movable kidney. She

was examined within a month after the injury, when the kidney was found so freely movable and so devoid of tenderness and the injury was so slight as to preclude the possibility of a causal connection.

Case No. 42 had a fall, injuring the knee, but the region of the kidney was not involved and the presence of the movable kidney not suspected.

In Case No. 59 the injury was undoubtedly instrumental in producing the mobility of the left kidney. The right kidney was also very movable, but this was an old condition. Following a rather severe injury to the left side in which the left 10th rib was fractured there developed a large swelling, hematoma, about the left kidney which was very painful, was accompanied by hematuria and confined the patient to bed for several weeks. The swelling was several months in disappearing and a year after the accident the kidney was still somewhat enlarged, tender and movable. In this case there was no question as to the injury to the kidney and its surroundings.

In Case No. 37 it was first thought that the injury bore a causal relation to the movable kidney. A chair was removed from behind the patient as she was about to sit down. She sat down on the floor very heavily. Considerable pain and tenderness in the right side with light fever followed for some time. The tenderness was so limited to the region of the cecum that chronic appendicitis was diagnosed. Some two months later the appendix was removed. It was not found to be directly involved but recent adhesions were found between the cecum and ascending colon and the abdominal wall. Six months later the patient returned, still complaining of pain in the back and right side. The freely movable kidney was now recognized and nephrorrhaphy performed with relief from the symptoms. It seems probable, after reviewing this case with the knowledge furnished by the two operations, that the kidney was movable at the time of the fall and that the sudden motion given to it by the fall produced the mild traumatic peritonitis about the cecum and colon which produced the symptoms. At the operation on the kidney there were no evidences found of an old hematoma nor of unusual formation of connective tissue.

In Case No. 114 the injury, a fall from a tree, occurred twenty years ago and the history was too indefinite and remote to be considered at this date.

Case No. 35 was a poor, hard-working woman with a pendulous abdomen and marked visceral ptosis. A year and a half before, she fell on her side on the street. Both kidneys were movable to the second degree, and it was claimed that the fall was responsible for this condition. The fall, however, was not a severe one: no complaint was made at the time of any trouble in the region of the kidneys; the pendulous abdomen and visceral ptosis were present for a long time before the fall. It is more than probable therefore that the kidneys were movable at the time of the fall and that the injury had no effect whatever on them. Thus of the 7 cases in only one had the injury any causal relation to the movable kidney and in this case a material lesion in the shape of a large perirenal hematoma was present which was distinctly recognized at the time and which produced severe symptoms confining the patient for several weeks to bed.

Based upon these facts it may be concluded that the popular belief in the traumatic origin of movable kidney is not supported by the evidence, and that it is highly improbable that a single injury, such as a fall, which does not produce a material lesion of the perirenal tissues recognizable by well-defined symptoms is ever the immediate cause of a movable kidney.

It would be of considerable interest to know at what age or period of life the body form becomes established and how soon it influences the location of the kidney. I have not sufficient data at present upon which to base an opinion on this point, and it can only be determined after a systematic examination of a large number of individuals during the developmental period.

The measurements of a number of children are contained in the table, but the number is too small to permit of an analysis. It is evident, however, that in early childhood there is no material difference in the body form of the two sexes. The number of men upon whom measurements have been made is also too small to establish normal averages, and as there was but one case of movable kidney in the number no differences can be drawn between negative and positive cases. The measurements taken, however, show that the lower zone is much smaller than in women, while the middle and upper zones are larger. The increased size of the middle zone is particularly suggestive, inasmuch as movable kidney is so rare in men compared with women. The tendency is to a low index No. 1, and a high index No. 2, which is characteristic of the negative body form. The man in whom the movable kidney was found had two or three severe falls of several feet, one of which was followed by hematuria and distinct evidences of a lesion of the kidney.

Stiller has somewhat recently called attention to the association of a loose or floating 10th rib and movable kidney. He claimed the association was so constant as to establish a relation between the two, and a floating 10th rib was therefore called the "Stiller stigma," or the Stiller sign of a movable kidney.

The condition of the 10th rib was noted in 110 of my cases, 49 of which were negative and 61 positive. Of the negative cases the 10th rib was found loose in 26 and fixed in 23. In the positive it was loose in 38, fixed in 22, and in one case both the 9th and 10th were loose. By the term "loose" is not necessarily meant absolutely free and floating, as are the 11th and 12th ribs, as this condition is not common, but in case the attachment of the rib to the costal arch was so slight as to permit considerable free motion independent of the costal arch it was said to be "loose." In case the attachment was so firm as to prevent any material independent motion it was said to be "fixed." From my examinations, therefore, Stiller's observations can not be confirmed. While a loose 10th rib is the rule in women it bears no definite relation to the presence or absence of a movable kidney.

The contraction of the middle zone explains the great frequency with which the so-called vertical stomach is associated with movable kidney as the pylorus and upper duodenum descend more or less with the kidney while the cardia remains fixed by the œsophagus.

It is not the intention to discuss the clinical aspect of movable kidney, hence the symptomatology, diagnosis, etc., will be passed without further remarks.

Concerning the treatment, attention will be briefly directed only to the method of operating, but it is not to be understood by this that it is necessary to operate all cases, as such is far from being the case. However, when it is decided that the symptoms with which a patient suffers are due to the movable kidney there is little reason to hope for permanent relief by any other

method than that of operative fixation of the organ. The tendency in recent times has been to fix the kidney too high up, apparently from the idea that the disturbances were due rather to the fact that the kidney was too low than that it was too freely movable. If the points brought out in this contribution are correct, the descent of the kidney has been brought about by the fact that the middle zone of the body cavity, in which the major portion of this organ normally should lie, is too small to contain it. It would therefore appear unreasonable to attempt to fix the kidney in a cavity too small for it and from which it had been ejected.

Should this be done, however, the same factors which caused the kidney to become movable in the first place are again brought into action with the probabilities of a recurrence. Or should the kidney be so firmly fixed in a high position that it can not again be displaced, symptoms even more severe than those for which the operation was undertaken may result. The author has recently seen two such cases operated on by most excellent surgeons, one in Chicago and the other in New York, with perfect operative result. The kidneys were high and firmly fixed, yet in both cases suffered infinitely more after the operation than they did before, and in one case the suffering became so intense that about two years after the first operation relief was obtained by removing the kidney entirely.

The principle then that should guide us in fixing a movable kidney is to take into consideration the body form and fix the organ in a location where it will not again be subjected to the same influences which caused its descent. This means that the kidney should not be crowded up to the highest point, but fixed lower down, in an easy position and so the ureter will escape at the most dependent part. If this be done the chief cause of relapse will be removed. The method of operating is as follows:

A muscle splitting incision is made, beginning a little in front of the tip of the 12th rib and extending downward, forward and inward in the line of the fibers of the external oblique muscle. These are separated bluntly and then the fibers of the internal oblique and transversalis, which cross the line of incision at almost a right angle, are separated in the same manner. The peritoneum is carried inward and the perirenal space entered. All the perirenal fat is removed, but the prerenal fascia is carefully preserved. The upper portion of the ureter should be examined to see that it is not fixed and thus become flexed or kinked by moving the kidney. The prerenal fascia with the peritoneum covering it, and to which it is usually quite firmly attached throughout its anterior and inner portions, forms the pouch or sac in which the kidney moves. This space, bounded by the prerenal and retrorenal fasciæ, sometimes called "Gerotta's space," is somewhat triangular in shape, with its apex extending downward toward the brim of the pelvis.

The object of the operation is to so close this space and contract the pouch or sac that the kidney will no longer have a free space in which to move. This is accomplished by closing this space from before backward with catgut sutures. The colon lies just anterior to this space and should not be injured. Should the pouch in which the kidney moves be very large and bulge the peritoneum to the inner side of the colon, a small opening may be made into the peritoneal cavity just to the outer side of the colon and the sutures passed through the mesocolon from within, thus approximating this layer to the posterior abdominal wall and obliterating or diminishing the pouch. By passing the sutures in this manner the danger of including the colica dextra or sinistra artery, as the case may be, in them is avoided. The branches of the lumbar plexus of nerves on the posterior wall should also be remembered and care taken not to include them in the sutures.

The effect of suturing in this manner is to obliterate the space in which the kidney has been moving up and down. The outer edge of the prerenal fascia is then sutured to the lumbar fascia posterior to the line of incision through the walls. By drawing more on the upper or lower portion of the fascia the kidney may be rotated on its antero-posterior axis as may be necessary in order to bring the ureter at a proper dependent position. When the operation is finished the kidney will be found firmly held in position, yet not so fixed that it can not move up and down slightly, as a normal kidney should during respiration. All abnormal excursions of the kidney, however, are completely arrested although the organ occupies a lower position than normal. No stitches involve the kidney substance. This operation was not of sudden birth, but of gradual development during the past three or four years. Clinically the results have been good, and in patients examined as long as two years after the operation, the kidney has been found still in the location in which it was fixed, and without any increase in its range of motion. In closing, the following conclusions are presented.

1. The essential cause of movable kidney lies in a particular body form.

2. The chief characteristics of this body form are a marked contraction of the lower end of the middle zone of the body with a diminution in the capacity of this portion of the body cavity.

3. This diminution in the capacity of the middle zone depresses the kidney so that the constricted outlet of the zone comes above the center of the organ and all acts, such as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs press on the upper pole of the kidney and crowd it still further downward.

4. It is the long continued repetition, in a suitable body form, of these influences, which collectively may be called internal traumata, that gradually produces a movable kidney.

5. A distinctly movable kidney is never the immediate result of a single injury or external trauma.

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## THE APPENDIX VERMIFORMIS AND CECUM. A COMPARATIVE STUDY. (1814-1901.)

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It will be the province of this paper to deal rather extensively with the comparative study of the appendix vermiformis and cecum of a few of the members of each of the four divisions of the sub-kingdom, Vertebrata. It will be shown that the appendix vermiformis is not found exclusively in the mammals, but is also found in birds, reptiles and fish.

### MAMMALS.

The colon is largest in mammals, and its junction with the ileum generally has a single cecum. The anthropomorphous apes, such as Hylobates (gibbons), Simius satyrus (orang), Troglodytes (chimpanzee and gorilla), each possess a cecum, with a processus vermiformis or appendix, while the cynomorphous apes,

(dog-like) babboon, and mandril, etc., each have a small cecum without an appendix, as do also the Platyrrhina (flat nose) monkeys. The long-tailed monkey has a cecum of pyramidal form. In the other order of mammals the cecum is generally present, but the appendix vermiformis is absent with but few exceptions. In the various prosimials—earlier ancestors of monkeys—and in many rodents, the cecum gradually narrows into a vermiform appendix. In the carnivora, the cecum is short, and even absent in the bear, hedgehog and weasel. It is large in the herbivora, while the lagomys has one large and one small cecum. The small intestine in the camel is 71 feet long, the colon and rectum 56 feet and the cecum 3 feet long. The cecum is capacious at first, then narrow to form spiral convolutions which taper off. The small intestine of the elephant is 38 feet in length, the colon and rectum 20½ feet and the cecum 1½ feet long. The horse has a small intestine 56 feet long, the colon and rectum 21 feet and the cecum 2½ feet long; the cecum in the young graminivorous mammalia, while in the suckling stage, is as little developed as it is in the carnivora throughout their lives.

The hog, cow, sheep, and rhinoceros each possess a very large cecum, while that of the tapir is small. That of the hog is one-sixth the capacity of the stomach, and is that portion of the alimentary tract used for sausage casings.

None of these animals, from the camel to the hog, just mentioned, possess an appendix vermiformis, although the carnivora, as a rule, have an appendix. In the dog and cat it is especially large, even though Huxley has stated to the contrary concerning the dog, in which there is an appendix as great in diameter as the gut to which it is attached. The whale has a cecum but no appendix. The manitee has two vermiform appendices, while the seal has only a cecum. The beaver has a cecum 2 feet long. In the rat the cecum is as long as the stomach, while in the hare there is a glandular structure near the valve of the colon, which corresponds to the vermiform appendix. The cecum itself is enormous in size. The galeopithecus and koala, like the Indris, also have enormous ceca. The ceca of the mammalia depend on the required amount and kind of food. In man, various apes, and monkeys the cecum is at first as large as the colon, or it grows wider until, at last, it contracts to form a vermiform appendix. The opossum has a very simple and short cecum in proportion to its size.

Among the marsupials the wombat is found to possess an appendix very much like that in man. While the kangaroo has a large cecum without an appendix. The Dasyuridæ, another family of the marsupials, has no cecum at all. The monotremes possess small worm-like ceca which suggest the belief that the appendix of the wombat is an abruptly atrophied form of the free end of the cecum. This is borne out by the fact that the lemuroids have a very long cecum, drawn out into an elongated conical termination. The armadillo and hyrax have more than one cecum, the former having two and the latter three. The myrmecophaga didactyla, one of the ant-eaters, has two ceca. This fact not only bears out the allegations of some writers that the ant-eaters are nearly related to the birds, but, in connection with the fact that other animals also have more than one cecum, proves the truth of evolution.

In general the digestive organs in man in the healthy state resemble those of the carnivora in youth, and in later years those of the herbivora.

Those animals which live upon highly nutritious food that requires but comparatively few changes to prepare it for absorption into the body have small rudimentary cecum or none at all, while those that feed on vegetable matter possess a rather large one. It is highly probable that the cecum in the vegetable eaters plays an important part in the digestive process. The continued presence of the cecum in the higher orders of vertebrates is evidence of Nature's attempt to make use of an organ that has lost its original functions. Nature does not believe in idleness; there can be no existence without work.

### BIRDS.

The ceca (or vermiform appendix) opening into the rectum of birds are particularly long in domestic fowls, such as the pheasant, peacock, turkey, goose, swan, and others that live on vegetables. It is less so in the owl, cuckoo, crane, snipe, and pelican. It is still shorter in the dove, and hoopoos. The ostrich has a cecum possessed of a spiral valve, as have also the raven, thrush, finches, etc. It is shortest of all in the diurnal birds of prey, such as eagles, hawks, and falcons. The cecum is single in the titmouse, storks, and gulls, but spirally convoluted in the heron, bittern (shitepoke—Indian hen), and divers in general. It is wanting in parrots, pickers, king-fishers, and cormorants. In birds the ceca are generally paired and vary in extent from short papillæ to long tubes. These long tubes are found in the chicken, duck, and in the lowest of all recent birds, namely, the kiwi-kiwi (apteryx), a wingless bird found in Australia only. Two rectal appendices are found in the guinea-hen, while all birds generally have two ceca. The owl's cecum is longer than any of the carnivorous or piscivorous birds—two ceca. Common ducks have two ceca—eight and nine inches long, widest at the middle, forming a cone. A duckling three weeks old has a cecum three inches long. The common pigeon—Columba livia—has two small ceca.

### REPTILES.

Reptiles as a class have no cecal appendix; some snakes have a cecum, others have but a rectal cecum. A long cecum was found in a large African snake. The chameleon differs from lizards that live upon animal food in having a short cecum. The iguana also has a short cecum. The land tortoise of South Carolina has a cecum immediately behind the stomach, which is simply a pouch with an oblique valvular opening.

### FISH.

In many instances there are a great number of appendices known as pancreatic ceca, about the stomach of fish, as shown in the white salmon (Stizostidium Americanum), commonly called the wall-eyed pike, in which seven appendices pylori are found, tassel-like in appearance. These are especially found in the salmon and common trout. They are numerous in the sturgeon, and in the sword-fish they are consolidated into a mass glandular in appearance. But in the polyodon sturgeon they are separate. They are numerous in the gar pike and many higher fishes. They are, however, more numerous and very long in the ling, cod-fish and mackerel, and still more numerous in the Teleosteans in which the number of appendices varies from 1 to 200. The pilchard has 50 and the whiting about 120. They also vary in size and width. The narrowest serve only as secretory organs; the wider are frequently filled with the same contents as the intestines. The secretion of

these appendices corresponds to that secreted by the pancreas in man, and is just as important in the process of digestion. The Bicher, found in the Nile, possesses only one appendix, while several of the soles have but two small pyloric ceca. The food-fish has two large ones. Bony fishes as a rule have several or many cecal pouches attached to the commencement of the alimentary canal. The cecum is absent in the carp, eel, lamphrey, ray, shark, and many others; however, they are extremely numerous in the electric eel.

It is interesting to know that pyloric ceca have been found in types of still lower subkingdoms.

The common cockroach (Pesiplaneta orientalis) has a whorl of eight ceca arranged around the commencement of the chylific stomach, the function of which is probably analogous to that of the liver.

The cellar slug (Limnea flavus S. varagatus) has a cecal projection at the pyloric end of the stomach.

The starfish are the lowest class of animals in which a distinct cecum is found. The radial arrangement of the digestive or hepatic ceca may be found in the first ray.

### CECUM AND VERMIFORM APPENDIX IN MAN.

#### ANATOMY.

The minute structure of the appendix offers a wide and unbroken field for research. There is very little literature on the histology of the appendix, either normal or pathologic. It is known, however, that the appendix resembles in a general way the other intestines in structure. The little that is known can be comprised in the statement that the fibers are arranged spirally, and that adenoid tissue is found in its structure. A fold of peritoneum forming a mesentery is often found, the blood supplied by a branch of the superior mesenteric artery which varies in size. The nerve supply to the superior mesenteric artery extends from the small intestine and large bowel and from the appendix to the splenic flexure.

#### APPENDIX VERMIFORMIS.

This is attached to the lower and back part of the cecum. It is a long, narrow, worm-like tube. It varies from one to sixteen inches in length, and its normal diameter also varies greatly. Usually it points upward and inward behind the cecum. It has been found absent but five times in 10,000 autopsies. This is probably due to it being covered by peritoneum, for when so concealed its presence can not be detected by sight or the sense of touch. Its length, diameter, position and caliber of its lumen greatly vary. An infant at the time of birth may have an appendix as large in every particular as a giant. The valve of Gerlach is proportionately larger in infancy than in old age, the after-stenosis is probably due to prolonged irritation.

#### THE CECUM.

In man the cecum is 2¼ inches in length and 3 inches wide. It is the most dilated part of the tube, measuring 2½ inches in the vertical and transverse diameters. It varies in position, but usually rests upon the psoas muscle, placed so that the apex projects beyond the inner border of that muscle in the male. In the female the apex lies internal to the psoas muscle as the pelvis is broader, thus causing that muscle to deviate more to the right than in the male.

The apex may be internal or external to Poupart's ligament, upon the pelvis brim, or within the pelvis and covered entirely by the peritoneum, a condition not infrequently found.

In the new-born child the cecum is quite undeveloped and the difference in size between the large and small intestine is nearly imperceptible. This is true in health during youth. In the middle age only does the cecum become much more extended than the small intestine.

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## ZOOLOGY IN THE MEDICAL SCHOOL CURRICULUM.

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Let it be admitted from the start that this paper is written from the standpoint of a zoologist, hence that it is not entirely free from the charge of being a biased statement; let it also be admitted that the medical school curriculum is already full to overflowing; further, that it is not the function of a medical faculty to give to a man a general education, but rather to teach him to diagnose diseases and prescribe treatment.

In order to avoid misunderstanding, the writer makes these admissions at the outset; yet he nevertheless contends that zoology should have its place in the medical curriculum, just as much as should chemistry and botany. It is not contended that elementary or general zoology should be taught, any more than it would be contended by a chemist or by a botanist that elementary or general chemistry or botany has an inherent right to representation. All fair-minded men will, however, admit that a medical curriculum which failed to recognize certain specialties of chemistry and botany, for instance toxicology and bacteriology, would indeed appear strange and would not be entirely free from criticism.

To the writer, as a zoologist, it seems no less strange that few medical schools in this country recognize medical zoology as one of the subjects to be taught. Nor does this fact appear to be explained by any requirements of a general or special knowledge of zoology before beginning to study medicine. On comparing the medical schools of America with those of Europe, it may be noticed that the transatlantic faculties, almost as a rule, either require zoology of a student before he begins medicine, or require it during his course, or offer it to him as an elective. Of American medical faculties —not including the veterinary schools—there are only three, so far as my personal knowledge goes, which recognize medical zoology in the curriculum.

I do not refer in this paper to histology and embryology, which all medical schools teach more or less, nor even to teratology and evolution; but reference is made to the practical and intimate relation which zoology bears to disease and to public hygiene. And it is submitted that since medical schools prepare students to practice medicine, medical zoology should be included in this preparation, with just as equal right as medical chemistry or medical botany. It is submitted

that just as we give special lectures on the chemicals (poisons—biochemistry and toxicology) and plants (bacteria—bacteriology) which cause disease, so if our instruction is not to be one-sided, we should also give courses on the animals which produce pathologic conditions.

Such a course should be placed in the third or fourth year of medical studies. Experience has, in fact, taught that it is not altogether satisfactory to give these lectures to the second and still less to the first year men. The course should be composed of both lectures and laboratory work. Text-book work is not entirely satisfactory, because the works on medical zoology thus far published are either treatises which are more suited as works of reference than they are as text-books, or are too brief and "too zoological" to be of much practical use. Moreover, with all the new work in this line, the subject advances from day to day, so that at present text-books published prior to 1900 are already more or less out of date. The instructor should not spend his time discussing the newest theories of cytology and heredity, but should bring forward practical zoologic information of which the physician can make practical use. The amount of such data will depend primarily on the amount of time allotted to him and on his own experience in the zoologic groups in question. The ideal plan is that followed by the Paris School of Medicine, where there is a regular chair of medical natural history, now occupied by Raphael Blanchard, who takes up such biological subjects as in his judgment are useful to the students. He can, for instance, give a course on parasitic diseases one term for the entire class, a more special one on teratology another term, while during a third he may take up some other special field, of interest perhaps only to a few students, hence only a few will attend.

Such an arrangement is scarcely feasible at present in the majority of American medical schools. Some instruction is, however, feasible, and as a basis for this I would present the following as a general outline: Two to six lectures may be given as an introduction, according to the time allotted. In these may first be discussed the different degrees of parasitism, and the relation of parasitism to climate, seasons, age, sex, race, personal habits, etc.; the different ways in which parasites affect their hosts; the general and public hygienic measures; the classification of parasites. At this point an hour should be given to a discussion of the classificatory names and the rules which govern them—rules of nomenclature. The object of presenting this rather special subject to medical students is to show them the methods of nomenclature followed in a science where we deal with hundreds of thousands of technical names, basing their use on a certain system; by so doing we can give to some of the future bacteriologists the experience of a century and a half of nomenclatural work in zoology, so that they may some day succeed in rescuing the nomenclature of bacteriology from the frightfully chaotic state into which it is falling, or has already fallen.

From this subject the lecturer can pass to the lowest animals, and discuss Amiba coli, described as the cause of amibic dysentery; after reviewing the various other amibæ reported for man—for instance, Amiba intestinalis, A. urogenitalis, A. buccalis, etc., he can take up the three parasites of malaria—Plasmodium malariæ, P. vivax, P. præcox—and discuss the disease from a zoologic standpoint, its transmission by Anopheles, but not by Culex, etc. Next, reference would naturally be made to Texas fever, caused by another sporozoon—Piroplasma bigeminum—for which a tick known as Boophilus bovis is the intermediate host. The national economic importance of and quarantine against the disease can be referred to; also the economic importance of diseases of fish produced by the Myxosporidia, and of silkworms, produced by Microsporidia; the Sarcosporidia, as well as Gilchrist's Coccidioides, and the parasitic theory of cancer should, of course, be mentioned.

Passing up in the animal kingdom, the various ciliate and flagellate parasites of man—none of them of much medical importance—can be touched on; then the medicinal sponges should be exhibited, while they and the coelenterata can be described in the various medical relations—as accessory instruments, as instruments for murder, as cause of urticaria, as producing shock, as treatment used in various countries.

Next naturally follow the trematode worms, which are parasitic in man—Monostomulum lentis, Agamodistomum ophthalmobium, Fasciola hepatica, Fasciolopsis Buskii, Paragonimus Westermanii, Dicrocoelium lanceatum, Opisthorchic felineus, O. sinensis, Heterophyes heterophyes, Schistosoma hæmatobium, Amphistoma hominis. Most of these parasites have been unimportant for the American medical profession, up to the present time, but now that Paragonimus is established in this country, it becomes of no little importance as a cause of parasitic hemoptysis and Jacksonian epilepsy. Furthermore, our troops being in Asia, now make Opisthorchis and Fasciolopsis important genera for us.

The tapeworms come next: Tænia solium, T. saginata, T. confusa, T. africana, Dipylidium caninum, Hymenolepis murina, H. diminuta, Davainea madagascariensis, Dibothriocephalus latus, D. cordatus, Diplogonoporus grandis, Ligula Mansoni, and the troubles they produce; also hydatid disease and pseudotuberculosis caused by larval tapeworms.

It seems remarkable to me that most physicians do not appear to go beyond the fact that a patient has a tapeworm. What particular species is present does not interest him. This lack of detail is a natural result of not presenting to the students the difference in medical importance represented by the various species.

Following the tapeworms, the round worms of man may be discussed: Ascaris lumbricoides, Oxyuris vermicularis, Strongylus longevaginatus, Uncinaria duodenalis and its relation to anemia, Dioctophyme renale, Trichuris trichiura, Trichinella spiralis—as cause of trichinosis—Filaria and elephantiasis, Strongyloides in diarrhea, Gordius, Mermis, and Gigantorhynchus.

After the worms come the parasitic arachnoidea: Sarcoptes, the cause of itch; the national economic importance of Psoroptes; Demodex; the ticks; and Linguatula and Porocephalus. Here are also discussed the poisonous spiders, scorpions, etc. Then the insects, both as pests and as transmitters of disease; finally the poisonous snakes.

I do not insist that every physician should keep the above scientific names in mind, but I do submit that with so many American troops in the East, every physician who pretends to know that tuberculosis is produced by the Bacillus tuberculosis should also know that parasitic hemoptysis—so common in Asia, and already introduced into this country—is caused by Paragonimus; I will not insist on his being able to recall all the various liver-flukes by their eggs or names, but it is not unreasonable to maintain that he should know that quite a common liver disease in Asia is caused by

Opisthorchis sinensis, while the Russian troops—with whom our troops have been associated—are subject to O. felineus (O. tenuicollis); hence some of the liver troubles of which our returning troops are likely to complain can be diagnosed only by recognizing the eggs of these worms in a microscopic examination of the feces. I do not argue that our medical students should be able to distinguish the millions of insects in the world, or that they should make a collection of beetles instead of bones, but in view of the demonstration that certain species of mosquitoes, belonging to the genus Anopheles, transmit malaria, other mosquitoes belonging to the genus Culex transmit filarial elephantiasis, and Culex fasciatus is now alleged to transmit yellow fever, it does not appear extreme to advance the view that physicians should know something about the breeding habits of these insects. It is not the intention to try to introduce abstract zoologic work into medical colleges, but when we consider how often patients are treated for worms when they have none, and how often they have some which for a long time escape diagnosis it seems justifiable to suggest that if medical students were taught how to distinguish the eggs of various orders by a microscopic examination of the feces, the liability to error in diagnosis would be diminished.

The time will probably never come when our professors of practice will think it best not to discuss malaria, dysentery, trichinosis, and other diseases associated with animal parasites, and we should in fact be opposed to having the clinical side of these maladies turned over entirely to zoologists. Still, the subject of practice is so broad that no one man—not even an Osler—can hope to keep up to date in the entire literature bearing on all its phases. By common consent the chair of practice surrenders the phytoparasites to a botanist or a bacteriologist, and my contention is that if our medical schools are to keep abreast of the times in practice, pathology, and hygiene, the subject of animal parasitism should be treated in a special course, by a special man, preferably by a professional zoologist, if the services of one who has worked in the groups in question can be obtained, otherwise by a physician who has had a general zoologic and special helminthologic training.

Such a course as outlined above should be allotted between twenty and thirty lectures and at least three laboratory exercises, although under pressure the field may be covered—though with less satisfaction to the instructor—in about eighteen lectures.

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## ANTIPNEUMOCOCCIC SERUM TREATMENT OF PNEUMONIA, WITH REPORT OF CASES.*

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DENVER, COLO.

### DISCOVERY.

In 1888 Netter rendered mice and rabbits immune to pneumonia by injecting them with a fluid prepared from the dried spleen of infected animals. Later he used an old pneumococcus pleuritic exudate, and still later the sputum of a pneumonia patient after the crisis.

Foa was able to produce, in animals, an immunity lasting several months, by injecting a serum made by a precipitation of a bouillon culture of the pneumococcus with ammonium sulphate and repeated filtration. His method was to inject the filtrate intravenously into rabbits for three or four days. Later he made an extract of the muscles and viscera of a rabbit, dead of pneumonia; precipitated it in the same way, used it in the same manner, and was able to produce the same immunity; though a similar extract from a healthy rabbit produced no effect.

Klemperer Brothers experimented with a pneumococcus pleuritic exudate which was demonstrated, by cultural methods, to contain no living organisms. They injected two rabbits with 20 c.c. each, and fourteen days later they inoculated both these animals with a virulent culture of the pneumococcus. Both survived, though the control animal died. They also succeeded in rendering dogs immune. Later they demonstrated the curative properties of the serum of animals rendered immune to pneumococcus infection.

Pane and De Renzi inoculated animals with the pneumococcus, and from them obtained a powerful antipneumonic serum. They submitted their results to the Medical and Surgical Academy of Naples, and this body, after repeated tests, declared the serum to be of great value. The harmless character of the serum was also established by the injection into men of 200 c.c. in twenty-four hours, without the experience of any inconvenience. The Klemperers advanced the theory that during the course of pneumonia there is developed in the blood a poisonous albumin called pneumotoxin, and that the system elaborates an antipneumotoxin, this latter substance causing the crisis. They were able to demonstrate the presence of the antipneumotoxin in the blood of pneumonia patients after the crisis; and they also succeeded in curing the disease in animals by the use of antipneumotoxin.

### NATURE.

Vaughan considers that the action of the serum is antimicrobic and not antitoxic. McFarland says the nature of the serum is uncertain; it may be antitoxic or antimicrobic, probably antimicrobic. Lambert considers that it may be bacteriolytic in its action.

A. H. Smith says whether the antitoxin is the product of the pneumococci or is simply the result of changes going on in the leucocytes, preparatory to their disintegration, is not yet determined. Smith also cites an observation of Pinna that the pus obtained by injecting turpentine into the cellular tissue of a man, the pus being proved absolutely sterile, had the power, when injected into rabbits, of rendering them immune to inoculations with pus containing pneumococci, though the unprotected animals inoculated in the same manner died of pneumococcus septicemia within thirty-six hours. Smith adds: "It would appear from this that the pus itself, apart from any microbic action, possesses antitoxic properties."

Tizzoni claims that the serum is not only protective against the pneumococcus, but that it protects against reaction to small fatal doses of the tetanus bacillus, while on the other hand the tetanus serum renders the animal less susceptible to pneumococcus infection, and McFarland cites an instance where it protected against the streptococcus.

It may safely be concluded that antipneumotoxin is not a bactericide. The pneumococcus is not killed by contact with it. Instead, the organism multiplies, de-

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velops, and retains its virulence under these conditions. On the other hand, the antipneumococcic serum, when injected into animals, prevents the development of symptoms due to the formation of pneumotoxin. If pneumotoxin alone be injected into a rabbit, it causes rise of temperature, toxemia, and death from general pneumococcus septicemia; but if the pneumotoxin be mixed with antipneumococcic serum and injected, no rise of temperature nor other symptom develops. It is probable, therefore, that the serum does not prevent the development of pneumotoxin, but that it either renders the pneumotoxin inert through chemical processes or else it counteracts its effects.

PREPARATION.

Some experimenters have used a glycerin extract of the muscles and viscera of immune animals. Others have obtained the serum direct from different animals. That the different methods of preparation influence the result to some extent is proved by the observation of Lara, who stated that the serum from dogs caused nervous excitement, while that from rabbits produced general agitation and a temporary aggravation of the disease. It is therefore important to determine what method is used in the preparation of the serum employed, in order to properly interpret the effects reported.

Washbourn used essentially the same method as that employed in producing diphtheria antitoxin. A pony was inoculated with cultures of the pneumococcus, for three months. At the end of this time the animal was found to possess marked immunity. In order to increase the virulence of the pneumococcus Washbourn devised a special method of culture and kept the culture in an incubator at 37.5 C. for sixty-six days, and he states that the serum may also be accurately standardized.

McFarland states that the same process applies to the manufacture of the antipneumococcic serum as applies to the manufacture of diphtheria antitoxin, except that it is necessary to cultivate the pneumococcus by a special method. He first injects virulent bouillon cultures which have been killed by heating to 60 C. for one hour. After the horse has stood injections of increasing doses, living cultures are given in increasing doses until the horse no longer reacts. The protective character of the serum is demonstrated against living organisms injected into rabbits. Then the horse is bled, the serum is treated with trikresol and in this shape it is put upon the market.

REPORT OF CASES.

Lara reported the results of 10 cases treated prior to Dec. 2, 1892; 5 were cases of double pneumonia, 5 single; 8 were young persons, 2 were advanced in years; 6 were robust, 4 debilitated. He employed different sera; in some cases using that from immunized rabbits; in other cases from dogs, and in still others the glycerin extract of the viscera; no local reaction followed any injection. The rate of the pulse was unchanged, but its character was altered. There was no immediate change in respiration, but after a time it became slower. In every case the crisis occurred from the third to the fifth day; convalescence was rapid and complete and the complications were rare and of little gravity. In all but three cases reduction of temperature followed the injection. Lara was encouraged by the results.

Oct. 31, 1896, De Renzi reported 16 cases, 2 of whom were treated in 1894-95, both recovering. During 1895-96, 12 recovered and 2 terminated fatally. Feb. 27, 1897, Washbourn reported 1 case of his own who recovered and 1 case of Pye-Smith, also with recovery. April 18, 1897, Spurrell reported 1, the patient dying. May 22, 1897, A. Cooke reported 2 cases, both of whom recovered.

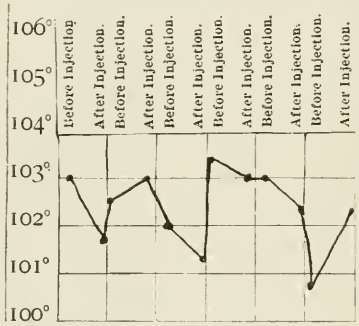
On the same day Harnett reported 1 in an alcoholic, terminating in recovery. Dec. 25, 1897, Washbourn reported 6 cases, all terminating in recovery. Jan. 30, 1898, Pane reported 9, of whom 8 recovered and 1 died. He stated that in the 8 patients who recovered, rapid improvement followed the use of the serum, and there were no ill effects. During 1898 De Renzi reported 10 additional cases, all of whom recovered. Feb. 15, 1898, Weisbecker reported 21 with 19 recoveries and 2 deaths. He stated that the results were most striking, there being a notable change for the better in the patient's general condition. Of the 2 fatal cases, 1 was due to emphysema and the other patient was 78 years old. May 7, 1898, Fanoni reported 1 case treated with De Renzi's turkey serum, with recovery. In October, 1898, Marsalongo and Franchini reported 10 cases with 7 recoveries and 3 deaths; the three fatal cases being alcoholic subjects. Aug. 26, 1899, Fanoni reported 5, with 4 recoveries and 1 death. The fatal case was a female patient, and her death should not really be attributed to pneumonia, as she was in full convalescence when pericarditis or endocarditis developed, causing her death. In March, 1890, Canby reported 4 cases, all of whom recovered, 1 being his own case, 1 a patient of Dr. Frey, and 2 patients of Dr. Everhart. April 14, 1900, Lambert reported 12 cases of his own, with 9 recoveries and 3 deaths; he also quotes Bozzolo as having treated 5, with 4 recoveries and 1 death. Lambert's experience with Pane's serum was unfavorable, but he states that this was probably due to the fact that the serum was old; he then substituted serum from horses and had better results. He states that the serum does not seem to have any effect on the process in the lungs nor to hasten the crisis, but that in certain instances it does prevent the development of a pneumococcus septicemia; and in these cases it may save life. Sept. 8, 1900, J. C. Wilson reported 18 patients treated at the German Hospital, Philadelphia, the usual treatment at the hospital being given simultaneously: 2 were women and 16 men; the youngest was 15, the eldest 48; all were working people and most of them were occupied up to the time of the attack. Of the 18 patients, 14 recovered and 4 died. Wilson used small doses at first, but later increased the amount given. He calls attention to the great increase of leucocytes following the injection of the serum. In the discussion of this case A. O. J. Kelly reported 1 of double pneumonia treated with the serum terminating fatally; but he states that the case was considered hopeless when the serum was begun, and that the supply of serum gave out some time before death ensued. He also states that marked increase of leucocytes followed each injection. McFarland reports, during the year 1900, among others, 1 patient treated by Rochester, with recovery.

The cases which I report were all treated at the Arapahoe County Hospital, during the fall of 1900. Other treatment was employed simultaneously, consisting of ice-pack to the chest, strychnia, alcohol, and digitalis as needed and oxygen in desperate cases.

CASE 1.—R. C., a white laborer, 45 years old, was admitted Sept. 26, 1900, with acute alcoholism and pneumonia of the right upper and middle lobes, it being the eighth day of his illness. He had been without medical attention up to the time of his admission. The affected lobes were found consolidated. On September 27, the ninth day of the disease, serum treatment was begun, 20 c.c. being given subcutaneously every eight hours.

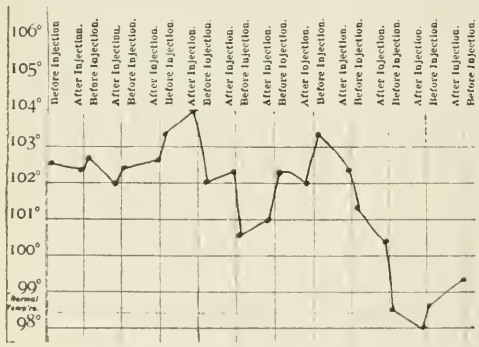
Unfortunately the supply of the serum gave out, there being no more in Denver at the time, so that he had but six doses, the last being administered the morning of September 29; the patient died the morning of September 30. Later arrangements were made for a systematic test of the serum, and it was administered to every pneumonia patient admitted to my service, from October 25 to November 25, regardless of the general condition of the patient or the stage of the disease; 20 c.c. of Mulford's serum being given subcutaneously every six hours.

CASE 2.—J. C., a white teamster, aged 39, was admitted Oct. 25, 1900, the second day of the disease. His family history was negative, and he gave a personal history of pulmonary hemorrhages in 1883. The right upper lobe was consolidated. Serum was begun October 26, the third day of the disease. He received eleven doses of 20 c.c. each at intervals of six hours. The crisis occurred the fifth day of the disease and convalescence was rapid.



Case 1.

CASE 3.—F., an insane man about 50 years old, had a chill and severe sharp pains in the right chest during the night of November 3. He was transferred to my service and I saw him the morning of November 4. There was slight dulness and diminished respiratory sounds over the lower right lobe.

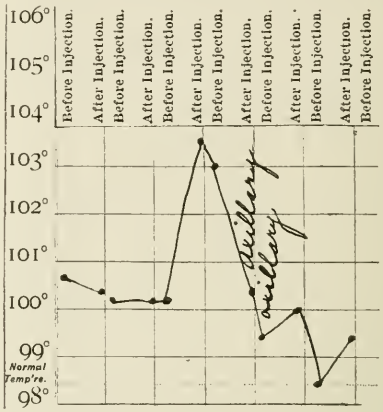


Case 2.

The next day there was increased dulness with bronchial breathing. The serum was begun during the first twenty-four hours of his illness, and he had six doses of 20 c.c. each. The crisis occurred the third day and convalescence was rapid.

CASE 4.—M. St. C., a negro woman, 19 years of age, a morphin habitue, was admitted November 11. Because of the unreliable character of her testimony, no history could be obtained. I first saw her on November 12. Both lower lobes were consolidated, with flatness, tubular breathing and exquisite pectoriloquy. She had fourteen doses of 20 c.c. each, at intervals of six hours, this treatment being begun the day of her admission. The crisis occurred the fourth day she was in the hospital, though it was not typical, and there were some fluctuations of temperature thereafter. She made a good recovery.

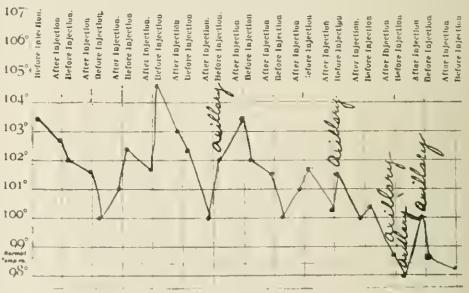
CASE 5.—T. G., a white woman, 18 years of age, with constitutional syphilis, was admitted November 19, the fifth day of the disease. The right lower and middle lobes were consolidated. The serum was begun the fifth day of the affection and she had twenty doses. No crisis occurred. A septic arthritis developed, affecting the left elbow, and she was transferred to the surgical ward. At this time she had practically recovered from her pneumonia, but I saw her about six weeks later and discovered evidence of softening of the right lung.



Case 3.

CASE 6.—J. B., a white male cook, aged 22, was admitted November 21, the 5th day of the disease. The lower left lobe was consolidated. Serum was begun at once and he received eight doses of 20 c.c. each. The crisis occurred the sixth day of the disease and convalescence was speedy.

The appended charts show the effects of serum on the temperature. Aside from any objective symptoms there was lessening of dyspnea, and often the patient dropped into a comfortable sleep after the injection.

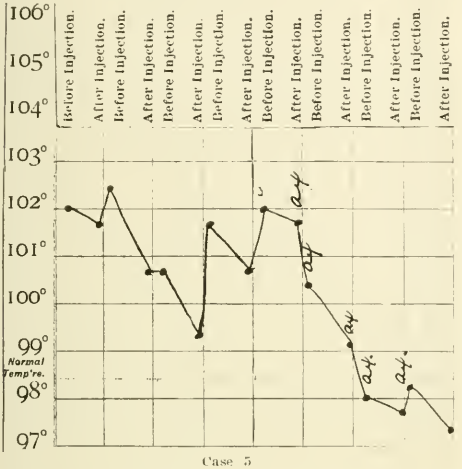


Case 4.

In no case did a general toxemia develop. In one case (No. 5) there was considerable local irritation at the seat of injection.

It will thus be seen that I have collected, including my own, 141 cases treated with antipneumonic serum of some sort, with 121 recoveries and 20 deaths, a mortality of 14.18 per cent. In those cases where I have had access to the original report, I have especially studied the fatal cases. Weisbecker had 2 deaths, one being emphysematous and the other 78 years old. Marsalongo and Franchini had 3 deaths, all alcoholics.

Fanoni had 1 death, but it was from cardiac disease after convalescence was fully established. Of Lambert's fatal cases, 2 were alcoholics. Of Wilson's, 1 died on the third day, the entire right lung being solid; 1 had been ill with la grippe for two weeks; 1 was an alcoholic, the left lung being entirely solid, and death occurred on the fifth day; the other patient weighed 200 pounds and was addicted to malt liquors. Kelly had 1 death, but in an alcoholic considered hopeless before serum was




Case 5

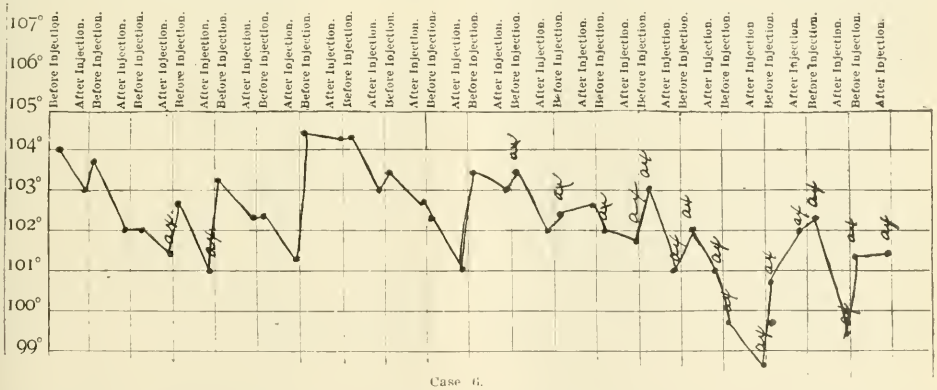
administered, and the supply of serum gave out before death. My one death was in a patient with acute alcoholism, no treatment at all being instituted until the eighth day.

In attempting to estimate the effects of the serum, most, if not all the cases just mentioned ought really to be excluded. If these be excluded, we have 127 cases,

REPORT OF CASES TREATED WITH ANTIPNEUMONIC SERUM.

| Bibliography number. | Reporter. | Number of cases. | Recovered. | Died. | Remarks. |
|---|---|---|---|---|---|
| 3 | Lara | 10 | 10 | 0 | |
| 8 | Bozzolo | 5 | 4 | 1 | |
| 12 | De Renzi | 16 | 14 | 2 | |
| | Washbourn (& Pye-Smith). | 2 | 2 | 0 | |
| 10 | Spurrell | 1 | 0 | 1 | |
| 9 | Cooke, A | 2 | 2 | 0 | |
| 11 | Hartnett | 1 | 1 | 0 | |
| 12 | Washbourn | 6 | 6 | 0 | |
| 14 | Payne | 9 | 8 | 1 | |
| 4 | De Renzi | 10 | 10 | 0 | |
| 15 | Weisbecker | 21 | 19 | 2 | One had emphysema; the other was 78 years old. |
| 13 | Fanoni | 1 | 1 | 0 | |
| 16 | Marsalongo and Franchini. | 10 | 7 | 3 | All 3 who died were alcoholics. |
| 17 | Fanoni | 5 | 4 | 1 | Death due to heart disease after convalescence. |
| 20 | Canby (Everhart & Frey). | 4 | 4 | 0 | |
| 22 | Lambert | 12 | 9 | 3 | Two who died were alcoholics. |
| 24 | Wilson, J. C. | 18 | 14 | 4 | |
| 25 | Kelly, A. O. J | 1 | 0 | 1 | Hopeless before serum was begun. |
| 5 | McFarland (Rochester.) | 1 | 1 | 0 | |
| | Tyler | 6 | 5 | 1 | Fatal case was a neglected alcoholic. |
| | | 141 | 121 | 20 | |

the blood from about the third day to the fifth day of the disease, and that prior to that time there are no pneumococci in the blood, and if it be true also that the advent of the organisms into the blood marks the beginning of the toxemia or septicemia, these facts furnish a rational explanation of the effects of the serum when begun early.




Case 6.

with 6 deaths, a mortality of 4.7 per cent. In view of the different sera used, especially when the difficulty of producing and keeping a good antipneumonic serum is considered, this seems to me an excellent showing.

Wilson, Kelly and others have called attention to the increase of leucocytes following injections of the serum. As absence of leucocytes in pneumonia is considered of grave prognostic import this is good corroborative evidence of the value of the serum. Unfortunately, in my case, no blood counts were made.

I have found no statement of the effects of the serum on the chlorids in the urine. It is to be hoped that subsequent observers will study this also.

The thing which most impressed me during my observation was the complete absence of toxemic symptoms. If it be true, as is claimed, that the pneumococcus enters

Osler mentions toxemia as *the* important prognostic factor, and it is one of the most, if not the most, important item in determining the outcome. It is my opinion that if fresh serum in large quantities be given before the advent of the pneumococcus into the blood, it will prevent the development of toxic symptoms. This also coincides with the results of animal experimentation. Animals inoculated with the pneumococcus do not die

of pneumonia, but of pneumococcus septicemia; and as is well known, the results of animal experimentation are extremely encouraging.

It is exceedingly doubtful whether antipneumonic serum has any effect on the condition of the affected lung. The exudate is extracirculatory, the vascular supply being cut off. It is therefore almost inconceivable that the serum should have any effect on it, except possibly to prevent the involvement of new areas. But if we have a serum which prevents and combats toxemia, as I believe we have, that is a great advance.

Several problems of much importance yet remain to be solved. The standardization of antipneumonic serum, so essential to accurate dosage, the easy cultivation of the pneumococcus in such a way as to prevent loss of virulence, the concentration of the serum to permit smaller dosage and the reduction in cost of production so essential to its popular use, all these are yet in the future.

DISCUSSION.

DR. J. N. HALL—I saw all of the cases and in addition have seen one or two others, notably one with Dr. Holmes, which I report with his permission, a case where a pneumonia supervened upon an old standing phthisis, and in that case the result was fatal. It was due, however, rather to the phthisis than to the pneumonia. I have not as yet been convinced of there being any great therapeutic effect in this serum, still I think it is a lead which is well worth following. I am rather prejudiced against the general proposition that the pneumococcic serum will be of much value, because of some preconceived notions, and yet I am open to conviction. It is well known that pneumonia is not a disease uniformly due to the same organism. Something like four-fifths of the cases are due to the pneumococcus, while in the remaining Fraenkel's bacillus, the streptococcus and various other organisms are found. In very many of the cases of la grippe pneumonia, as is well known, a mixed infection is present. We are in much the same position as regards pneumonia as we were in regard to diphtheria before the bacteriologic differentiation of the disease. In those days we called all cases of false membrane in the throat diphtheria, whereas we now know that many of these are due to a streptococcus infection. It is only in the diphtheria pure and simple that the diphtheria antitoxin is of much value. If we had the means of knowing absolutely the bacteriologic diagnosis in our cases of pneumonia, we should have a better opportunity for estimating the true value of the pneumococcic serum. As in the use of streptococcic serum in puerperal fever, it is essential that we should know the exact organism causing the symptoms before we can hope to form just estimate of the value of the remedy.

I have seen within six days six cases of diphtheria and three of streptococcic sore throat, all having much the same clinical appearance. Before the days of the use of the diphtheria serum, if such a thing were possible as that the remedy could have been injected, we should have been completely mystified because of the good effect which it had on certain of these cases, and the absence of any effect in others. Therefore, as I say, I do not feel that we can very justly estimate the value of this serum, because we can not tell how many out of the 141 cases reported by Dr. Tyler were due to a pure pneumococcic germ. It is perfectly possible that all of these that recovered were due to that. In that case we should have a very high estimate of the value of the serum, and we should be all the more diligently led to study to find a serum which we may use for the other cases.

Furthermore, we should bear in mind that in pneumonia it is more difficult to give an exact prognosis than in almost any other disease. We occasionally see patients who, by all rules of prognosis, ought to die, and yet they recover. In the report which I made a few years ago before this society, of all the cases of acute lobar pneumonia which I had seen in private practice, every patient over 70 years of age, much to my surprise, had recovered. A week ago I saw, with Dr. Hawkins, a case in a young woman so desperately ill that we both agreed that her prognosis was entirely hopeless. She had not been treated with the vigorous stimulation which we commonly use in these cases, yet when it was adopted she promptly recovered, being out of danger in forty-eight hours. Where such cases as these quoted may be seen, the difficulty of prognosis is evident. Finally, there is sufficient encouragement in the use of this serum to lead us to strive more diligently than ever to find a treatment of the disease which, with more accurate bacteriologic diagnosis, shall give us such results as we have already seen in the treatment of diphtheria.

DR. A. M. HOLMES—Dr. Tyler's subject is an important one. I have had very little experience with the antipneumococcic serum, having used it in but one case. The case referred to was by no means a favorable one for a test. For several years the patient had been afflicted with phthisis. Pneumonia developed after exposure and had been in progress for several days when I first saw him. Dr. Hall was kind enough to see the patient with me. As a last resort we decided to make use of the antipneumococcic serum, and we had an opportunity to carefully observe the effects. I should like to report a few points, many of which closely resemble those reported by Dr. Tyler. Other means of treatment were used in addition to the serum, oxygen being administered almost constantly. Wild delirium was present, accompanied by rapid pulse and very little fever. We injected 20 c.c. of antipneumococcic serum at intervals of four to eight hours. We observed improvement in the pulse, in the respiration, in the delirium and the restfulness of the patient soon after giving each injection, but the improvement was only of short duration; the case terminated fatally at the end of one week after we began the serum. A bacteriologic examination of the sputum was made when we first saw the patient; numerous pneumococci, tubercle bacilli and other germs were found. Several days after we had been giving the serum another examination of the sputum was made and the pneumococci were not found, but the tubercle bacilli were present. The blood examination revealed a slight increase in leucocytosis, which soon diminished. There were no bad effects that could be ascribed to the serum. The patient himself frequently remarked that he felt better after receiving the injections. When administering antipneumococcic serum, it should be fresh, be commenced early in the course of the disease, and be given in large doses and at short intervals. From my limited experience I am of the opinion that antipneumococcic serum possesses sufficient worth to justify further use.

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## HOW TO TREAT MUSCULAR AND JOINT SPRAINS OF RAILWAY EMPLOYEES.*

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Joint and muscular sprains differ, so far as I know, not the slightest from the same affections in other occupations, but the same justification that obtains in calling railway surgery a special branch of surgery will allow of the use of the title of this paper. Sprain of some sort or another is a very common accident among railway employees. This is perhaps due to the fact that so many of them, in the discharge of their duties, are forced to run backward and forward, work on machinery in constrained positions, do heavy lifting, and are exposed to falls from heights. In order to form an idea of how frequently such accidents affect railway employees, I have prepared a table of the sprains and strains of all kinds, reported as such to my office, occurring on the lines of the Chicago Great Western for the year 1899:

SPRAINS AND STRAINS OF CHICAGO GREAT WESTERN R. R. EMPLOYEES, 1899.

*Firemen.*

| CHARACTER OF INJURY. | No. | CAUSE OF INJUEY. | No. |
|---|---|---|---|
| Thumb | 2 | Falling down | 17 |
| Wrist | 4 | Shaking grates | 3 |
| Shoulder | 4 | Muscular exertion | 3 |
| Lumbar | 2 | Collision | 1 |
| Foot and ankle | 2 | | |
| Knee | 2 | | |
| Hip and thigh | 3 | | |
| Forearm | 1 | | |
| Side | 1 | | |
| | 24 | | 24 |

*Brakemen.*

| | No. | | No. |
|---|---|---|---|
| Shoulder | 3 | Arm twisted | 1 |
| Knee | 2 | Muscular exertion | 1 |
| Arm | 1 | Falling | 7 |
| Elbow | 1 | Turning foot | 2 |
| Foot and ankle | 5 | Lifting | 2 |
| Lumbar | 2 | Collision | 1 |
| | 14 | | 14 |

*Engineers.*

| | No. | | No. |
|---|---|---|---|
| Lumbar | 5 | Switching | 1 |
| Wrists | 2 | Wreck | 1 |
| Leg | 1 | Falls | 5 |
| Elbow | 1 | Arm Caught | 1 |
| Thumb | 1 | Collision | 1 |
| | | Tank tipped | 1 |
| | 10 | | 10 |

*Section Hands.*

| | No. | | No. |
|---|---|---|---|
| Inguinal region | 1 | Struck stove | 1 |
| Foot and ankle | 2 | Falls | 4 |
| Abdominal muscles | 1 | Collision | 2 |
| Wrists | 3 | Turned foot | 1 |
| Knee | 1 | Lifting | 2 |
| Neck | 2 | | |
| | 10 | | 10 |

*Miscellaneous.*

| | No. | | No. |
|---|---|---|---|
| Knee | 2 | Falls | 18 |
| Wrist | 6 | Muscular exertion | 2 |
| Side | 2 | Scuffling | 1 |
| Ankle and foot | 13 | Caught foot | 4 |
| Lumbar | 6 | Lifting | 2 |
| Leg | 2 | Turning foot | 5 |
| Finger | 1 | | |
| | 32 | | 32 |

It will be seen from the table that, as far as occupation is concerned, the greatest number injured, strangely enough, were firemen, to the number of 24.

We would have expected *a priori* that the number of sprains would have been greatest in the brakemen, who are continually climbing over cars and running backward and forward along the train, but the number of these so injured was only 14. Next were engineers and section hands, 10 each, and finally all other occupations, switchmen, machinists, wipers, carpenters, etc., to the number of 32, making a total of 90 cases reported to my office as sprains or strains, out of a total of 622 accidents for the year 1899. The percentage of sprains and strains to the total is 14.45.

The character of injury in all these cases has been sprains or strains of fingers, wrist-joints, shoulder-joints, foot and ankle, knee, hip and thigh, arm, back and side. By far the largest number of sprains reported were of the ankle and foot, 22 cases out of 90. Wrists were sprained 15 times. In all the cases of strains, by far the greatest number were of the back, or, as I have tabulated it, of the lumbar region, a total of 18 cases. It appears that engineers hurt their backs, brakemen their ankles, while the firemen sprain backs, wrists and shoulders indifferently.

The cause of injury shows a preponderating number due to slipping and falling, resulting in injuries to the wrists and ankles especially. The total number of cases due to falling is 51. Various sorts of muscular strains resulting from muscular exertion were present in 9 cases.

The percentage of sprains and strains in a total of 622 cases being 14.45, these are therefore frequent accidents among railway employees, and six years of experience in railroad work leads me to believe that these are precisely the injuries which lay up the employees the greatest length of time, and the object of this paper is to show how the time of recovery can be shortened, in my opinion at least 50 per cent.

What do we mean by sprain? The definition of Dr. Douglas Graham is a very good one: "A sprain is a sudden partial displacement of two joint surfaces followed by immediate replacement." A strain is a stretching of the tissues beyond their normal limits, resulting in rupture of some of the tissue elements. These strains may affect any of the tissues, but do not, in my opinion, ever occur in ligaments.

Dr. P. S. Conner, Cincinnati, teaches that ligaments are made up of white fibrous tissue which is absolutely inelastic, and therefore can not stretch; at the same time it is so strong that it is easier to pull it from its attachments in bone or muscle—tendon—than to rupture it. A writer in Gerrish's Anatomy says that a little reflection will teach us that if tendon could stretch then our muscular efforts would be wasted on the elasticity of the medium between muscle and bone. Morris' Anatomy also teaches that white fibrous tissue is incapable of stretching. I mention this particularly because the term "stretching of the ligaments," especially as applied to the ankle-joint, is used so frequently and so loosely. In a very few instances postmortems after

* Read at the annual meeting of the Academy of Railway Surgeons, held in St. Paul, Minn., Sept. 5 and 6, 1900.

injuries of joints have been made which would seem to indicate that ligaments can rupture, but experimental work has shown that it is easier to pull off a scale of bone at the attachment of the ligament than to rupture the ligament, i. e., in ligaments other than thin fascial expansions, and I believe, owing to the absence of elasticity in the ligament and its great strength, that such accidents as rupture almost never occur. Therefore, when surgical writers speak of stretching and rupturing ligaments it means one of two things: the stretching and rupturing of connective tissue, the areolar tissue, blood-vessels, etc., or it means the tearing off of a scale of bone at the attachment of the ligament involved. The last is what generally occurs in very severe sprains of joints. So much for the pathology.

TREATMENT.

From the earliest times war has been waged as to what constitutes the proper treatment of a sprain, especially as regards sprains of the ankle-joint. On the one hand, there have been those who contend that what a joint needs after an injury is rest, and the more absolute this rest can be made the quicker recovery ensues. The adherents of this idea elevate the limb affected, put it up in immovable dressings, and wait around until the rest and dressings have resulted in the disappearance of swelling, which requires from fifteen days to three months; then the patient is requested to walk around and use his leg so as to make it strong again. If the patient has been laid up two or three months he finds himself unable to follow the surgeon's advice, as his limb is weak and walking painful and difficult. What has occurred? We know that immobility of a joint induces passive inflammatory changes, leads to the disappearance of the synovial fluid and roughening and thickening within the joint. On the muscles this so-called rest cure has produced atrophy and possibly contraction. The fat and other tissues forming the pads around the ligaments and tendons have been absorbed, and we find a preternatural immobility in our joint.

Adherents of immediate motion apply bandages or adhesive plasters and encourage their patients to get around immediately after the injury. At the present time there is a large class who endeavor to skim off the cream of both contentions. They keep their patients perfectly quiet for a few days with immovable dressings, and then advise massage and motion. The results have been much better, as regards the time required for recovery and the strength of the limb, with the last-mentioned treatment, than with the so-called absolute rest treatment.

To have a correct idea of how to handle these cases in order to promote speedy recovery, we should bear in mind the few points I cited regarding the pathology and, further, the surgical indications. There are perhaps very few sprains of the joints which are not accompanied by contusion of the joint surfaces. The tearing of the areolar tissue and the rupture of the small blood-vessels, results in a rapid, painful exudative swelling and discoloration, for which the first surgical indication is rest, but the question immediately arises: What is rest for these involved tissues? Ranke rinsed out the vessels of fatigued muscles with a normal saline solution, which immediately restored them to full vigor; the experiments of Zabludowski have shown that muscles exhausted by faradization could be restored at once by massage; Maggiora showed that massage of muscles fatigued by mechanical labor quickly restored them to normal function. What do these experiments mean? They mean that the muscles are constantly functionating, even when a limb is immobilized; the muscles are in a state of tonic contraction, and fatigue simply means a heaping up of the waste products resulting from the work of the muscle cells, such as lactic acid, creatin, carbonic acid, acid phosphates, and perhaps toxins, and *rest for muscle means the getting rid of these waste products and the furnishing of new oxygen and new food from the blood.* We know that immobilization produces atrophy and contraction of the muscles, and knowing what the physiology of muscular rest is, it must be plain to every one of us that rest does not mean to confine a limb in a dressing which does not permit of motion of the muscles. On the contrary, rest for the inflamed, contused, torn and otherwise involved tissues does mean immobilization. The next indication to be made is the antiphlogistic one. How can we limit excessive leucocytosis and inflammatory exudation? The application of cold water and evaporating lotions fulfils these indications. In cases where there has occurred a rupture of the attachment of the tendon or ligament with its scale of bone, practically a fracture, an indication arises for the maintenance of a proper position in order to allow of union. Now, how are we to fulfil all these indications for treatment, some of them which seem paradoxical, i. e., both motion and immobilization? The muscles involved in every sprain should have motion all the time in order to allow muscular contraction to exert its pump action on the lymph-vessels which carry away waste products whose presence produces fatigue and pathologic changes.

The contused joint surfaces should at the same time be immobilized, providing the contusion and laceration is very severe. The index to the severity of such an injury will be found in the amount of pain and nausea experienced, and the amount of swelling. Discoloration of the skin is not an index of the amount of injury. We can elevate the limb affected, apply a wet cheesecloth to the swollen joint, and over this an ice-bag during the first few hours or days until we attain to the height of the inflammatory process resulting from the trauma. Motion can at the same time be administered to the muscles passively, by means of massage, which produces for these purposes precisely the same changes as active muscular action, and besides carries away the waste and inflammatory product in the lymph and venous blood. In all sprains of moderate severity both massage and active use of the limb can be instituted immediately or after a few hours.

In a case of the ankle we should apply an elastic cotton bandage firmly to the limb, or leave on the shoe in the case of the ankle, lacing it up, and encourage our patient to walk the sprain away. On retiring, the patient can have massage treatments, and hot applications or a local wet pack. The massage should be begun as soon as possible after the injury. It should be administered by a skilled masseur and should consist of centripetal strokings and kneadings, and extremely light frictions and strokings over the inflamed area, the last being designed to favor the centripetal circulation and the spreading out of waste products in the tissues so that they can be the more easily absorbed by the lymphatics.

After the acute symptoms have subsided, hot applications are the best because they dilate the superficial vessels and promote local circulation, which assists in carrying away the inflammatory products. Since fractures or displacements frequently occur in the region of the ankle-joint, and as the inflammatory symptoms are usually more severe in these cases, we will at times

be forced to keep our patient quiet for several days, using ice-bags and massage, before we can put on the bandage or Gibney's plaster bandages, and put the patient on his feet. It is astonishing to the surgeon how quickly the patient can get over the sprain, if compression be put on the joint and the patient receives massage and gets about. I know a recent case where the plaster dressings and rest were used in a sprain of the ankle and foot, where two years and six months were required to put the patient on his feet without crutches and appliances at his ankle, and I feel sure that had this patient been treated properly along the lines mentioned in this paper, only a few months would have been required at the utmost. As it was he was in almost useless condition at the end of two years and three months. The muscles of his leg were atrophied, there was too much motion at the ankle-joint, and the patient was fearful of putting his weight on his leg, and complained of getting tired quickly, and of pain in the whole limb. Systematic massage, use and encouragement sufficed in a short time to remove all this disability. In these old cases, besides the measures referred to, the use of the Scottish douche is good, that is, hot and cold water applied alternately. It is of great value in promoting recovery. Swedish gymnastics, in the shape of active and passive movements of all the joints of the limb affected should be used, in conjunction with other measures. In the vast majority of sprains of the ankle, the ambulatory treatment is very satisfactory. The average time required for recovery will be from six to twelve days. In 400 cases it was nine days. (Douglas Graham.)

A muscular strain of considerable severity will show to the palpating finger an elevation of ruptured muscular fibers. In these cases a little gentle massage will promote speedy recovery. In a vast majority of so-called muscular strains, there will be no elevation to be felt by the palpating finger, and in these cases the cold douche, and static electricity both for its local and mental effect, gives remarkable recoveries.

To recapitulate: 1. Ligaments are rarely if ever torn in so-called sprains, and are never stretched. 2. The pathology in the majority of sprains is a rupture of the areolar and connective tissue around the joint, and a contusion of the lining of the joints. 3. Immobilization of muscles is not rest. On the contrary, in all sprains the muscles should have passive exercise the first few hours, and days, and active exercise after that. In the majority of cases active exercise should be instituted from the beginning. 4. The plaster casts should not be used at all, even in cases where we have a fracture, unless it be impossible to maintain a proper position of the joint. 5. Hydrotherapy in the shape of ice applied over a wet cloth the first few hours; water in the shape of hot fomentations or in the shape of the Scottish douche, where we wish a stimulation, is of very great value. 6. The counter-irritation of static electricity in conjunction with massage is the best treatment for a strain. 7. The ambulatory treatment of sprains in conjunction with massage is to-day the best treatment.

**Statistics of Quebec Province.**—There has been evidently a marked falling off in the ratio of increase of the population in the province of Quebec during the last decade. In the report of the board of health for the year 1900, the recorder of statistics estimates the increase in population between 1898 and 1899 only 2.5 per cent. The large centers of population have gained most, but the aggregate for the whole territory being slight it would appear that in the rural districts here as elsewhere there has been possibly some local actual decrease.

## DIAGNOSIS AND SYMPTOMATOLOGY IN THE APPENDICITIS OF CHILDREN.*

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So much has been published in medical literature of late on the subject of appendical inflammation, that it might seem but little remained pertaining to it to be further elucidated.

The operative technique in its surgical management has nearly advanced to perfection, so that in properly selected cases, and utilized at the proper time, surgical intervention in skilled hands should be followed by only a very low mortality. The greatest difficulty which confronts the surgeon is not so much how the operation shall be done, as the question of properly interpreting symptoms, locating the precise seat of pathologic changes and appreciating the character of existing complications.

### THE GENERAL AND SPECIAL CHARACTERS OF APPENDICITIS IN EARLY LIFE.

In 1827 Melier first accurately described the pathology of appendicitis and recommended the excision of the appendix *(Mémoire et observations sur quelques maladies de l'appendice caecal)*.[1] There was no echo to his publication until 1838, when the writings of Albus, Dance and Menière appeared. Although these authors approved of radical measures they maintained that the primary seat of lesion was in the cecum, as is maintained to-day by Treves. About 1888 the original observations of Sands, Fitz, and Talamon appeared, with the brilliant achievements of McBurney which settled beyond dispute the fact that in the great majority of cases the original lesion is in the appendix and that this organ must be primarily dealt with. On Friday, Dec. 30, 1887, the late Prof. Henry B. Sands, of New York, performed the first operation for appendicitis successfully after having first correctly diagnosed the condition existing. The patient was a male, 12 years old. The case had first been diagnosed as one of perityphlitis. He tells us that the child had indigestion, etc., and that there was no tumor.[2]

Weir, in 1887, was able to collect but 15 cases in which laparotomy had been performed for perforated intestine; the appendix was the seat of perforation or gangrene in 4 of these, although it was not discovered until after death. In 5 the appendix was found perforated, and removed, but all died.[3]

Appendicitis presents practically the same sexual difference in early life as is noted later in the adult; thus Jalaguier records 182 cases in his own practice, 4 were under 5 years; 42 from 5 to 6; 64 from 10 to 15; 25 from 15 to 20. There were 112 males and 70 females.[4] According to Bamburger's table, the relative frequency as to age was: Under 2 years, 2 cases; 15 to 20 years, 20 cases; 20 to 30 years, 32 cases; after 30 years, 17 cases. Fitz's table shows: 20 months to 10 years, 22 cases; 10 years to 20 years, 86 cases; 20 to 30 years, 65 cases; after 30 years 55 cases. Matterstock's table shows: Under 2 years, 2 cases; 2 to 5 years, 10 cases; 5 to 10 years, 25 cases; 10 to 15 years, 35 cases. Gordon's table reads: 2 to 5 years, 5 cases; 5 to 10 years, 33, and 10 to 15 years, 41 cases. Bruns' table says: 1 to 5

* Read by title, in the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

years, 3 cases; 5 to 10 years, 20, and 10 to 15 years, 12 cases.[5]

It is curious to note that Dieulafoy, Bruns, and Faisans include heredity as a *cause appendicite familiare.*

In New York City, in 1899, there were 299 deaths from appendicitis, of which 63, or more than one-fifth, were in those under 15 years old, viz.: 1 year, 1 case; 3 years, 2; 4 years, 4; 5 years, 14; 10 years, 20, and 15 years, 22 cases. With a population of about 2,000,000, and assuming that 25 per cent. of it is under 15 years of age, the annual mortality would be 1 for every 7933.

Medical literature records but few cases of appendicitis in very young children and infants, except those which have been operated on. We have no data to show whether this disease ever occurs in the infant subsisting exclusively on the mother's milk, and there are but few cases recorded as occurring before dentition has begun or the infant has begun to masticate food. However, there are cases recorded of very early operation for appendicitis with varying results. The youngest patient operated on for appendicitis, on record, was one treated by Dr. Thomas A. Savage of New York, only 61 days old. A large perforation of the tip of the appendix was found. The infant sank the day following the operation.[6] Weiss operated for the same lesion on an infant 20 months old, with general peritonitis and death.[7] Mr. Miller saw a case of appendicitis in an infant 19 months old. The infant was at first costive and it was believed that he was suffering from follicular enteritis. On the fifth day of illness Professor Broca was called in, and laparotomy performed, evacuating a large abscess and exposing a rotten appendix. Good recovery followed.[8] In reviewing my own notes on appendical cases seen in hospitals, in consultation and in my own practice, I find 67 cases under 15 years old: 16 were operated on with 4 deaths; 5 were attended with advanced general peritonitis and died without operation. Forty-two others were seen; 6 very severe cases in which operation was refused, of which 2 died. Forty-six were of various types in which it was not believed that laparotomy was imperative; of these all recovered except two in tubercular patients under 9 years. There were 41 males and 26 females, the youngest 3 years old, the abscess bursting through the umbilicus. The ages were: 3 to 4 years, 1 case; 4 to 5 years, 4; 5 to 10 years, 27; 10 to 15 years, 35 cases.

With this experience of appendicitis in the young it is my conviction that although the causative factors remain obscure at this stage, as later, and the treatment should continue on the same general lines, there remains a wide difference in the diagnostic factors of the disease in childhood, and that its symptomatology, when anatomical deviations are absent, is more complex and more indefinite than in later life. Goodrich believes that children bear general septic peritonitis much better than adults. He has had several cases of general septic peritonitis in children, and has not lost one of them; as an instance he cites the case of a boy who entered the Long Island Hospital with gangrenous appendicitis, the peritoneal cavity being distended with a sero-purulent fluid. The appendix was removed, the peritoneal cavity washed with saline solution and "sewed up without a drain," rapid recovery following.[9]

My own experience fully confirms this view. Among the cases included in my own tables there were 2 of general peritonitis recovering. One was in a girl of 7 years, in a desperate condition; the distal half of the appendix had sloughed off, the distended paretic bowel protruded through the cut, and sero-purulent fluid flowed out from every direction. Shock was so great that no time was lost in systematic cleansing of the peritoneum. Recovery, though slow, was finally complete. The other patient was a boy of 5 years, with acute general peritonitis following appendicitis. The parents refused to permit an operation and, though a fatal prognosis was given, the little fellow made a good recovery. I am unable to find any statistics bearing on the relative mortality of laparotomy in the child and adult, although for many important reasons it should be lower in the former than the latter. Local complications should be fewer in early years; organic disease, senile changes or those constitutional or functional disturbances so common in middle or advanced age are not so frequent; moreover, it is well known that children bear the effects of pulmonary anesthetics with greater impunity than adults.

### DIAGNOSIS.

The recognition of appendicitis should be easier during the early growth of the body than later.

*Anatomical Features.*—During the early childhood the pelvis is of narrower dimensions; evolution of the intestinal tract is incomplete, the large intestine is relatively smaller and all its segments are more mobile than after puberty. The position of the cecum is more indefinite, as at this time its attachment to the iliac fascia is lax, and this permits of a considerable range of motion in various directions. Jacobi has demonstrated how this species of enteroptosis acts as an aggravating factor in the constipation of infancy. The abdomen in childhood is rarely invested by a deep layer of fat, and hence the caput coli, when it has descended, lies superficially. As growth advances and the body develops, defecation becomes less frequent and the strain on the colon, in consequence of its capacity, becomes greater, and its position more fixed and definite.

*Complications and Pathologic Conditions which May Obscure Diagnosis.*—As contrasted with the adult, the pathologic conditions which may be confounded with appendicitis or mistaken for it in the child are few in number. The two most prominent are intussusception and tubercular peritonitis. It is curious to note, however, that even in childhood we can not fail to appreciate the importance of a critical abdominal examination and a search for other conditions which may in many respects, in the child as in the adult, simulate appendicitis. For example, at the British Medical Association's meeting held in July, 1898, Dr. J. Cromby reported 18 cases of floating kidney in children. The youngest child was 3 months old, the eldest 15 years; 16 were in females. Tuffier records 3 similar cases in children of 6, 9, and 10 years old.[10] What Dr. M. L. Harris, of Chicago, says of "Diagnosis of Abdominal Tumors," particularly applies to children in whom complex pathologic states are not yet in evidence. He observes: "Our knowledge must not be limited simply to normal anatomy, but we must know abnormal anatomy, or the anomalies to which the various organs are liable. For instance, the liver may occupy the left side of the abdomen instead of the right, and the location of all other organs may be reversed as well. The gall bladder instead of being retained against the inferior surface of the liver may be quite loosely attached to it, and thus possess quite a range of motion. The liver may possess 'accessory' or 'Schnur' lobes, which may appear as distinct tumors. There may be but one kidney instead of two, or the two may form a conglomerate organ

occupying the median position, or a kidney may occupy any location from the normal to the hollow of the sacrum, and may be fixed or freely movable. The intestinal tract is subject to numerous anomalies. The cecum and appendix may be found near the umbilicus or up under the liver, or they may be arrested at any point in their descent from the liver to their normal location in the iliac fossa. The appendix may dip into the pelvis lying against the uterus or the ovary and tube, or it may be extra-peritoneal, its tip reaching up to the kidney. The ovaries instead of occupying the lesser pelvis, may be retained in the lumbar region or descend into the labia. The uterus may be double instead of single and each half may vary in its degree of development. These are but a few of the anomalies which one must ever bear in mind when considering the diagnosis of abdominal tumor, and often an anomaly of location or development will lead to a correct solution of a case which would otherwise remain unsolved."[11]

Halle and Bernard[12] record a case of peri-nephritic abscess in an infant 18 months old. The mass was in the right side and was at first believed to be a case of encysted peritonitis with atypical appendix. Through the mistake in diagnosis, the author tells us, they made the incision for evacuation too far forward, and soiled the peritoneal cavity by the escape of pus into it. Menard cites the case of a girl 10 years old, who was suddenly seized with lameness in the right lower limb, from what was regarded as coxalgia in the beginning. As the case presented complex features and the limb was exquisitely sensitive, an anesthetic was given, before a critical examination was made. Then a mass was discovered deeply lodged in the right groin. A free incision was made into it, a large abscess opened and a necrotic appendix exposed. Recovery was rapid, with complete disappearance of all lameness.

Tubercular disease of the lumbar vertebræ is not uncommon in children, but the psoas abscess resulting in them usually follows the muscular sheath out under the crural arcade; however, Cathelin reports a case in which a psoas abscess was lodged in the right iliac fossa complicated with tubercular perforation of the appendix.[13]

Umbilical abscesses in young children are most frequently of appendical origin. One such case is recorded in my own group. At first the thin scar tissue of the umbilicus pointed and broke, giving issue to a copious purulent discharge; the day after, fluid fecal matter appeared in the opening. From the history of the case, the symptoms and the fulness which commenced at the border of the lowest rib and extended over centrally, it was thought that the appendix was the primary source of the trouble and that from its perforation a fecal fistula had begun. By a free incision the cecum was exposed, lodged high up and well forward. After cautious manipulation the root of it was secured, doubly closed with silk ligature and cut through. As the tissues were freely suppurating, a gauze drain was introduced. Recovery was tedious, but from the day laparotomy was done, discharge at the umbilicus ceased.

Wyeth records a somewhat similar case in a young man of 30. He died suddenly, of apoplexy. On autopsy the perforated, rotten appendix was found lying free in the abscess cavity.

Guiteras cites a case of abscess in a cystic terminus of the ureters, which have been diagnosed appendicitis. Mr. G. W. Wright published notes of a case of chronic intussusception of the appendix in a child 2 years old. The tumor could be felt on a line with, and to the left of, the umbilicus. On incision, the root of the appendix was found invaginated into the cecum.[16]

Genito-urinary disturbances may lead to mistakes in diagnosis when a large, deep, tense appendical abscess greatly stretches or compresses the ureter, or when it bursts into the bladder and leaves a fistulous opening, connecting one with the other. Most perityphlitic abscesses drain directly into the colon, where the pus is carried off by the emunctories, but the course is sometimes by the vesical route, as occurred in a young sailor operated on by me two years after he first had appendicitis in the West Indies.

Typhlitis, with or without perforation, a condition said to be not very uncommon in tubercular peritonitis, presents practically the same physical signs as appendicitis, although some authorities allege that in tuberculosis perforations rarely occur except in the latter.

### THE MORE COMMON MALADIES WHICH PRESENT SEVERAL FEATURES SIMILAR TO APPENDICITIS.

*Tubercular Peritonitis.*—Tubercular peritonitis may be general or localized; when limited to the mesentery or parietal peritoneum, and when there is attendant paresis of the intestines or ascites it is quite impossible to affirm whether or not the appendix is involved. Under these circumstances I have often seen an operation undertaken for appendicitis reveal no lesion of the organ. The acute, fulminant type of peritoneal tuberculosis is said, in the majority of cases, to have its primary seat in the peri-appendical lymph tissues contiguous with the cecum.

*Intussusception.*—This condition is one which quite invariably belongs to early infancy. Wiggin, Kelsey and Carpenter have recorded successful laparotomy for it in infants from 2 to 3 months old. It is said to sometimes present several characters common to appendicitis when of the subacute variety. The point of invagination is usually the cecum, the abdomen is distended and there is a tumor. But the age of the infant, the evidence of strangulation and the bloody stools, together with the extreme rarity of the lesion, should seldom leave much doubt as to its real character. Fenger and Gerhards[17] record a case of appendicitis in an infant 7 weeks old, and Matterstock had seen it in one of 6 months, both presenting features in common with intussusception. Gordon speaks of intussusception being more common in "1st infancy" before dentition, and says that appendicitis steadily increases in frequency from the 2d to the 15th year.

*Typhoid Fever.*—Typhoid in children is well known to pursue an atypical course, and occasionally may be mistaken for appendicitis. Warren tells us that in those mixed cases presenting complex clinical features, we can not rely on Widal's test. Diarrhea is not an uncommon concomitant of appendicitis, and in both, iliac tumefaction and tenderness are generally present.

*Appendicitis with Appendical Invagination into the Cecum.*—This remarkable condition has been described by various writers. Harrison cites a case of intussusception of the appendix with invagination in a child 4 years old.[18] John Kidd, another in a child of 7 years, the greatest pain being over the umbilicus. Dr. S. McGraw reported a case in a lad of 7, the condition lasting four months. The head of the cecum and appendix were removed; recovery following.[19] Other instances of this singular complication are recorded in Mr. Greig Smith's work.[20] Intussusception of the appendix, with or with-

out ulceration or perforation, though anatomically of great interest, evidently presents no special definite points for diagnosis, and if it did, its treatment would be on the same general lines called when laparotomy is performed for appendicitis. All the cases on record occurred in young children.

### EXAMINATION OF THE BLOOD AS AN AID TO DIAGNOSIS OF APPENDICITIS.

So far we have been able to derive but little if any assistance in the differential diagnosis of local or general disease, by examination of the blood microscopically, except, perhaps, in paludal affections. The presence of the leucocytosis, however, has been supposed by some to establish the evidence of pus formation in febrile conditions of the system. But corpuscular count in my own hands has proved so indefinite and delusive as to have convinced me that it possesses no practical value whatsoever in suppurative lesions. Not long since a noted member of the profession, in an obscure abdominal lesion, in a patient of mine, diagnosed a neoplasm of the spleen from the pronounced state of leucocytosis found on microscopic examination of the blood; but on abdominal section the greater part of the stomach was found destroyed by carcinoma, the spleen being entirely healthy. Warren says that count in the average case of pus-tube or appendicitis shows from 15,000 to 30,000 white discs per cubic millimeter; he adds that it is not the product but the virulence of the infection which governs the count. "The degree of leucocytosis is independent of the amount of pus, a felon may raise the count as much as an empyema."[2]

### PHYSICAL EXAMINATION OF THE PATIENT.

The most reliable and definite source of information in the diagnosis of appendicitis is through exposure and critical examination of the abdominal walls. This may be generally efficiently performed in the conscious state. It may, however, possess indefinite value and lead to fallacious conclusions, if we fail to secure a full clinical history of the case, and if we have not thoroughly analyzed all the symptoms before we proceed. It goes without saying, that, in consequence of the thin abdominal walls and the absence of those organic maladies so often encountered in adults, especially females, this examination should be a comparatively simple matter in the appendicitis of a child in all its stages; and so it certainly is, though admitting this; yet when we bear in mind the immature stages of development and the different relations of the viscera we can understand how we may even here be led into error.

### SURFACE EXAMINATION.

*Inspection.*—It is well, in all examinations of the abdomen, to place the patient on a flat surface on the back, when this is expedient. If the child is restless or intractable other means may be necessary. The first thing we will notice in appendicitis is the flexion of the right lower limb, although Gibney, the noted orthopedic surgeon, warns us not to attach too much importance to this alone, as we have it also in coxitis and psoas abscess. We will have the same phenomenon in an over-distended bladder, when both limbs are drawn up.

### TYMPANITES AND INCREASED RESPIRATION.

Abdominal distension in varying degrees is a common accompaniment of appendicitis in all its stages, but it may depend on other causes than intestinal paresis. The physiologic character of the respiration is practically the same in both sexes in childhood. In peritonitis the respirations are frequent and shallow; we will note that the movements of the diaphragm are restricted and that respiration is mostly thoracic.

*Manipulation, Palpation, and Percussion.*—Digital exploration of the abdomen is a most valuable resource. Muscular resistance or rigidity is present in varying degree, according to the location and extent of inflammatory changes. In most cases distinct localized tumefaction is made out over the site of the diseased appendix. Deaver notes that in some cases of hyperesthesia-abdominalis a tumor may be present, but it can not be delineated by palpation. The full flexion of the thigh on the abdomen always materially aids in localizing the tumor by relaxing the abdominal muscles. Dr. Edebohls attaches great importance to the value of palpating in localizing the appendix in inflammatory conditions. After a trial of this device, on the abdomen of several fresh cadavers, and those of patients about to be operated on, no single instance has ever come under my observation wherein definite location of the appendix was possible. A general safe working guide for the approximate location of the appendix is where the lodgment of the tumor is best defined. When the cecum is normally located this is at what is known as "McBurney's point."

*Percussion.*—This is an important adjunct, but when the abdomen is meteoric and hypersensitive it may be impracticable without the employment of an anesthetic. In cases of suspected fecal impaction or vesical overdistension, it is of the greatest importance.

*Deep Puncture.*—Deep puncture by the hypodermic or aspirating needle has been employed as an aid in the diagnosis of perityphlitic abscess, but it is not without danger and is not always reliable. Haupt records the employment of puncture in 116 children's cases. Pus was found but once, though on operation an abundance of purulent formation was exposed, in most all the cases. Ten years ago a boy of 12 years came under my care for the treatment of appendical abscess. In order to convince the parent that pus was present, I passed in, behind and below the cecum, a long exploratory needle. This was at once filled with purulent material. But the parents were obdurate and would not consent to an operation, and the boy made a good recovery without it. About the same time, the late Dr. John G. Truax, in the Harlem Hospital service, finding a very large inflammatory fulness in the right iliac fossa, with signs of appendicitis, passed in an aspirator needle, drew off a pint of fetid pus, injected the cavity with saline solution and then drew this off, the patient making an excellent recovery.

*Rectal Evacuation.*—This may be utilized with advantage in many cases of appendicitis in early life. By this route the examination is availed of for the special purposes: 1. In order to determine the presence or absence of co-prostatis, fecal impaction of the colon or rectum. 2. In order to locate the site of the appendix or tumor and the extent of purulent accumulation.

By conjoined manipulations under an anesthetic, nearly any localized fulness below the umbilicus, in a child under 10 years, usually may be detected and its general characters appreciated.

### SYMPTOMATOLOGY.

At the threshold of this phase of our study the questions arise: "Is there a wide distinction in the general characters of the symptoms of appendicitis in the child

DEATHS FROM APPENDICITIS, BOROUGHS OF MANHATTAN AND THE BRONX, DURING DECADE 1890-1899, ARRANGED BY QUARTERS.*

Year 1890.

| | | Total. | 1 year. | 1 year. | 2 years. | 3 years. | 4 years. | Total under 5 years. | 5-10 | 10-15 | 15-20 | 20-25 | 25-35 | 35-45 | 45-55 | 55-65 | 65-75 | 75-85 | 85+ | Colored. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter... | Males.. | 12 | | | | | | | 1 | 1 | 2 | | 2 | 2 | 3 | 1 | | | | |
| | Females | 9 | 1 | | | | | | | | 1 | 1 | 4 | 1 | 1 | | | | | |
| Second Quarter.. | Males.. | 18 | | | | | | 1 | | | 1 | 1 | 4 | 1 | 3 | | | | | |
| | Females | 10 | | | | | | | 3 | 2 | 1 | 1 | 4 | 1 | 3 | 3 | | | | |
| Third Quarter... | Males.. | 17 | | 1 | | | | | 1 | | 1 | 1 | 4 | | 3 | | 1 | | | |
| | Females | 4 | | | | | | 1 | 1 | 3 | 4 | 2 | 3 | 1 | 1 | | | 1 | | |
| Fourth Quarter.. | Males.. | 13 | | | | | | | | | 1 | 1 | 1 | | 1 | | | | | |
| | Females | 4 | | | | | | | 2 | 1 | 2 | 1 | 3 | 2 | 2 | | | | | |
| Total ..... | Males.. | 60 | | 1 | | | | 1 | 7 | 1 | 7 | 4 | 12 | 6 | 9 | 4 | | 1 | | |
| Total ..... | Females | 27 | 1 | | | | | 1 | 1 | 1 | 4 | 3 | 9 | 2 | 5 | | 1 | | | |

Appendicitis, 87; Suicides, 239.

Year 1891.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter... | Males.. | 9 | | | | | | | | 2 | 2 | 1 | 2 | 1 | 1 | | | | | |
| | Females | 5 | | | | | | | 1 | | | 2 | | | | | | | | |
| Second Quarter.. | Males.. | 9 | | | | | | | 1 | 1 | | | 2 | | 1 | | | | | |
| | Females | 7 | | | | | | | 1 | 1 | 1 | | 1 | 1 | 2 | | | | | |
| Third Quarter... | Males.. | 24 | | | | | | | 2 | 4 | 3 | | 4 | 2 | | 1 | | | | |
| | Females | 9 | | | 1 | | | 1 | 2 | 2 | | | 1 | 1 | 1 | | 1 | | | 1 |
| Fourth Quarter.. | Males.. | 10 | | | | | | | | | | 3 | 2 | | 2 | | | | | |
| | Females | 10 | | | | 1 | | 1 | | 1 | | | | 1 | 1 | 1 | | | | |
| Total ..... | Males.. | 52 | | | | | | 1 | 3 | 8 | 6 | 7 | 10 | 8 | 6 | | 1 | | | |
| Total ..... | Females | 31 | | 1 | | | | 1 | 5 | 3 | 2 | 3 | 2 | 6 | 4 | 3 | | | | 1 |

Appendicitis, 83; Suicides, 300.

Year 1892.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 18 | | | | | | | 3 | | 1 | 3 | 2 | 3 | 2 | 3 | 1 | | | |
| | Females | 12 | | | | | | | 1 | 2 | 1 | 4 | 3 | | | 1 | | | | |
| Second Quarter.. | Males.. | 17 | | | 1 | | | 1 | 1 | 2 | 2 | 4 | 4 | 1 | | 1 | 1 | | | |
| | Females | 17 | | | | | | | 1 | 1 | 3 | 1 | 6 | 2 | 1 | 1 | 1 | | | |
| Third Quarter... | Males.. | 27 | | | | | | | 2 | 5 | 1 | 6 | 5 | 1 | 4 | | 2 | 1 | | 1 |
| | Females | 11 | | | | 1 | | 1 | 1 | | 1 | 2 | | 1 | 1 | 2 | | 1 | | |
| Fourth Quarter.. | Males.. | 16 | | | | | | | | | 2 | 4 | 3 | 2 | 1 | 1 | | | | |
| | Females | 11 | | | | | | | 3 | 2 | 2 | | 1 | | 1 | | 1 | | | |
| Total ..... | Males.. | 78 | | | 1 | | | 1 | 6 | 10 | 6 | 17 | 14 | 7 | 7 | 5 | 2 | 1 | | |
| Total ..... | Females | 51 | | | | | 1 | 1 | 3 | 6 | 7 | 9 | 10 | 3 | 3 | 4 | 3 | 2 | | 1 |

Appendicitis, 129; Suicides, 249.

Year 1893.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 8 | | | | | | | | | 1 | | 3 | 4 | | | | | | |
| | Females | 5 | | | | | | | 1 | | | 2 | | | | | | | | |
| Second Quarter.. | Males.. | 13 | | | | | | | | 2 | 2 | | 2 | | 1 | | | | | |
| | Females | 13 | | | | | | | | 1 | 2 | 2 | 1 | 2 | | 2 | | | | |
| Third Quarter... | Males.. | 20 | | | | | | | | 1 | 2 | 2 | 2 | 3 | | 2 | | | | |
| | Females | 9 | | | | | | | | 1 | 3 | 4 | 9 | | 2 | | | | | |
| Fourth Quarter.. | Males.. | 15 | | | | 1 | | 1 | 1 | | 1 | 2 | | 1 | 1 | | 2 | | | |
| | Females | 4 | | | | | | | 3 | 3 | 1 | 1 | 4 | 2 | 1 | | | | | |
| Total ..... | Males.. | 56 | | | | | | | 1 | | | | 1 | 2 | | | | | | |
| Total ..... | Females | 31 | | | | 1 | | 1 | 4 | 6 | 7 | 8 | 17 | 8 | 4 | 2 | | | | |
| | | | | | | | | | 4 | 2 | 3 | 6 | 3 | 6 | 1 | 3 | 2 | | | |

Appendicitis, 87; Suicides, 314.

Year 1894.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 14 | | | | | | | 3 | 2 | | 1 | 3 | 2 | 3 | | | | | |
| | Females | 12 | | | | | | | 1 | 1 | | 2 | 3 | 2 | 2 | 1 | | | | |
| Second Quarter.. | Males.. | 24 | | | | 1 | | 1 | 1 | 3 | 2 | 5 | 5 | 3 | 4 | | | | | 1 |
| | Females | 6 | | | | | | | 1 | 2 | | 1 | | 1 | 1 | | | | | |
| Third Quarter... | Males.. | 18 | | | | | | | 1 | 2 | 4 | 4 | | 2 | 3 | 2 | | | | |
| | Females | 13 | | | | | | | 1 | 2 | 1 | 2 | 2 | 2 | 2 | | | | | |
| Fourth Quarter.. | Males.. | 13 | | | | | | | | 2 | 2 | 1 | 2 | | 3 | | | | | |
| | Females | 17 | | | | 1 | | 1 | 3 | 3 | 2 | 2 | 2 | 4 | | | | | | 1 |
| Total ..... | Males.. | 69 | | | 1 | | | 1 | 5 | 9 | 8 | 11 | 13 | 7 | 13 | 2 | | | | |
| Total ..... | Females | 48 | | | | 1 | | 1 | 6 | 8 | 3 | 6 | 7 | 9 | 5 | 3 | | | | 2 |

Appendicitis, 117; Suicide, 331.

Year 1895.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 26 | | 1 | 1 | | | 2 | 4 | | 6 | 3 | 3 | 2 | 1 | 5 | | | | |
| | Females | 26 | | | | | | | 2 | 3 | 4 | 4 | 3 | 5 | 1 | 4 | | | | |
| Second Quarter.. | Males.. | 24 | | | | | | | 1 | 2 | 2 | 5 | 8 | 5 | 1 | | | | | |
| | Females | 15 | | | | | | | 4 | | | 4 | 4 | 1 | | | 1 | | | |
| Third Quarter... | Males.. | 40 | 2 | | 1 | | 2 | 5 | 8 | 4 | 4 | 4 | 4 | 5 | 5 | | 2 | | | |
| | Females | 25 | | | | | 1 | | 1 | 2 | 2 | 3 | 8 | 5 | 1 | 2 | | | | 1 |
| Fourth Quarter.. | Males.. | 23 | | | | 1 | | 1 | 3 | 5 | | 5 | 4 | | 3 | 1 | 1 | | | 1 |
| | Females | 13 | | | | | | | 1 | 6 | | 2 | 1 | 3 | | | | | | 1 |
| Total ..... | Males.. | 113 | 2 | 1 | 2 | 1 | 2 | 8 | 16 | 11 | 12 | 17 | 19 | 12 | 9 | 6 | 3 | | | |
| Total ..... | Females | 79 | | | | 1 | | 1 | 8 | 11 | 6 | 13 | 16 | 14 | 3 | 6 | 1 | | | 1 |

Appendicitis, 182; Suicides, 376.

Year 1896.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 29 | | | 1 | | | 1 | 4 | | 4 | 3 | 4 | 6 | 4 | 2 | 1 | | | |
| | Females | 15 | | | | | | | 4 | 1 | 1 | 1 | 2 | 1 | 3 | | | | | 1 |
| Second Quarter.. | Males.. | 31 | | | 2 | | | 2 | 3 | 4 | 2 | 6 | 5 | 3 | 1 | 3 | 1 | 1 | | |
| | Females | 21 | | 1 | | | | 1 | 2 | 4 | 3 | 1 | 6 | | 3 | 3 | 2 | | | |
| Third Quarter... | Males.. | 38 | | | | | | | 5 | 6 | 4 | 5 | 4 | 8 | 4 | 1 | 1 | | | |
| | Females | 24 | | | | | | | 3 | 1 | 2 | 5 | 5 | 5 | 1 | 1 | 1 | | | |
| Fourth Quarter.. | Males.. | 31 | | | | | | | | 2 | 5 | 7 | 9 | 4 | 3 | 1 | | | | 1 |
| | Females | 12 | | | | | | | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 1 | | | | 1 |
| Total ..... | Males.. | 129 | | | 3 | | | 3 | 12 | 12 | 15 | 21 | 22 | 21 | 12 | 7 | 4 | | | |
| Total ..... | Females | 72 | | 1 | | | | 1 | 11 | 7 | 7 | 9 | 15 | 8 | 5 | 5 | 3 | 1 | | 2 |

Appendicitis, 201; Suicides, 384.

Year 1897.

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 38 | | 1 | | | | 1 | 4 | 5 | 4 | 4 | 11 | 4 | 4 | 1 | | | | |
| | Females | 15 | | | | | | | 4 | | | | 3 | 4 | 1 | 2 | 1 | | | 3 |
| Second Quarter.. | Males.. | 25 | | | | 1 | | 1 | 5 | 4 | 3 | 2 | 4 | 4 | 2 | | | | | 2 |
| | Females | 20 | | | | | | | 3 | 3 | 1 | 3 | 4 | 1 | 1 | 3 | 1 | | | 1 |
| Third Quarter... | Males.. | 35 | | | | | | | 4 | 8 | 5 | 9 | 2 | 2 | 3 | 2 | | | | |
| | Females | 18 | | | | | | | 1 | 5 | 2 | 2 | 4 | | 3 | 1 | | | | |
| Fourth Quarter.. | Males.. | 27 | | | | 1 | | 1 | 2 | 6 | 1 | 3 | 2 | 8 | 1 | 1 | 1 | | | 3 |
| | Females | 15 | | | | | | | 1 | 3 | 1 | 3 | 2 | 3 | 2 | 1 | | | | |
| Total ..... | Males.. | 125 | | 1 | | 1 | | 3 | 15 | 23 | 13 | 18 | 20 | 18 | 10 | 4 | 1 | | | 7 |
| Total ..... | Females | 68 | | | | | | | 9 | 11 | 4 | 7 | 13 | 8 | 7 | 7 | 2 | | | 2 |

Appendicitis, 193; Suicides, 436.

* The Bronx is a district on the North recently annexed to New York.

Year 1898.

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 40 | .. | .. | .. | .. | .. | ..... | 2 | 4 | 4 | 7 | 10 | 8 | 1 | 4 | ..... | ..... | ... | .... |
| | Females | 24 | .. | .. | .. | .. | .. | ..... | 1 | 1 | 4 | 7 | 3 | 3 | 1 | 3 | 1 | ..... | ..... | .... |
| Second Quarter.. | Males.. | 28 | .. | .. | .. | 1 | 1 | 2 | 1 | 6 | 2 | 1 | 7 | 3 | 4 | 2 | ..... | ..... | ..... | 1 |
| | Females | 33 | .. | .. | .. | .. | .. | ..... | 3 | 3 | 6 | 6 | 4 | 3 | 3 | 4 | 1 | ..... | ..... | .... |
| Third Quarter... | Males.. | 42 | .. | .. | 1 | 1 | .. | 2 | 7 | 1 | 3 | 7 | 8 | 9 | 3 | ..... | 2 | ..... | ..... | 2 |
| | Females | 27 | .. | .. | .. | .. | .. | ..... | 5 | ..... | 2 | 4 | 4 | 6 | ..... | 3 | 2 | ..... | 1 | .... |
| Fourth Quarter.. | Males.. | 40 | .. | .. | .. | .. | .. | ..... | 3 | 10 | 1 | 5 | 5 | 9 | 5 | 2 | ..... | ..... | ..... | 2 |
| | Females | 18 | .. | .. | .. | .. | .. | ..... | ..... | 4 | 2 | 5 | 3 | 1 | ..... | 1 | 1 | 1 | ..... | .... |
| Total ..... | Males.. | 150 | .. | .. | 1 | 2 | 1 | 4 | 13 | 21 | 10 | 20 | 30 | 29 | 13 | 8 | 2 | ..... | ..... | 5 |
| Total ..... | Females | 102 | .. | .. | .. | .. | .. | ..... | 9 | 8 | 14 | 22 | 14 | 13 | 4 | 11 | 5 | 1 | 1 | .... |

Appendicitis, 252; Suicides, 428.

Year 1899.

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 35 | 1 | .. | .. | .. | .. | 1 | 3 | 1 | 4 | 7 | 8 | 5 | 1 | 3 | 2 | ..... | ..... | 1 |
| | Females | 29 | .. | .. | .. | .. | .. | ..... | 6 | 3 | 2 | 4 | 8 | 3 | 3 | ..... | ..... | ..... | ..... | 2 |
| Second Quarter.. | Males.. | 59 | .. | .. | .. | 1 | 3 | 4 | 4 | 8 | 6 | 9 | 13 | 5 | 9 | 1 | ..... | ..... | ..... | .... |
| | Females | 42 | .. | .. | .. | .. | 2 | 2 | ..... | 8 | 5 | 8 | 10 | 5 | 2 | 1 | 1 | ..... | ..... | 1 |
| Third Quarter... | Males.. | 51 | .. | .. | .. | .. | 1 | 1 | 4 | 5 | 8 | 8 | 9 | 8 | 1 | 6 | 1 | ..... | ..... | 1 |
| | Females | 28 | .. | .. | .. | .. | .. | ..... | 2 | 5 | 4 | 4 | 6 | 1 | 2 | 2 | ..... | 2 | ..... | .... |
| Fourth Quarter.. | Males.. | 35 | .. | .. | .. | 1 | .. | 1 | 3 | 6 | 4 | 6 | 6 | 2 | 6 | 1 | ..... | ..... | ..... | .... |
| | Females | 27 | .. | .. | .. | .. | .. | ..... | 3 | 1 | 3 | 1 | 7 | 2 | 5 | 1 | 4 | ..... | ..... | 2 |
| Total ..... | Males.. | 180 | 1 | .. | .. | 2 | 4 | 7 | 14 | 20 | 22 | 30 | 36 | 20 | 17 | 11 | 3 | ..... | ..... | 2 |
| Total ..... | Females | 126 | .. | .. | .. | .. | 2 | 2 | 11 | 17 | 14 | 17 | 31 | 11 | 12 | 4 | 5 | 2 | ..... | 5 |

Appendicitis, 306; Suicides, 400

Deaths from Appendicitis, New York City, Year 1899, Arranged by Quarters.*

Year 1899.

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| First Quarter.... | Males.. | 54 | 1 | .. | .. | .. | 1 | 2 | 4 | 3 | 7 | 9 | 11 | 7 | 5 | 4 | 2 | ..... | ..... | 1 |
| | Females | 39 | .. | .. | .. | .. | .. | ..... | 6 | 4 | 2 | 7 | 11 | 3 | 3 | 3 | ..... | ..... | ..... | 2 |
| Second Quarter.. | Males.. | 78 | .. | .. | .. | 1 | 4 | 5 | 6 | 10 | 8 | 11 | 18 | 7 | 10 | 2 | ..... | ..... | 1 | .... |
| | Females | 59 | .. | .. | .. | 2 | 2 | 4 | 3 | 9 | 7 | 11 | 15 | 5 | 3 | 1 | 1 | ..... | ..... | 1 |
| Third Quarter... | Males.. | 80 | .. | .. | .. | .. | 1 | 1 | 7 | 11 | 12 | 11 | 12 | 14 | 2 | 7 | 2 | 1 | ..... | 1 |
| | Females | 43 | .. | .. | .. | .. | .. | ..... | 5 | 7 | 5 | 7 | 9 | 2 | 3 | 2 | 1 | 2 | ..... | .... |
| Fourth Quarter.. | Males.. | 53 | .. | .. | .. | 2 | .. | 2 | 4 | 10 | 4 | 9 | 10 | 3 | 8 | 2 | 1 | ..... | ..... | 1 |
| | Females | 36 | .. | .. | .. | .. | .. | ..... | 6 | 21 | 17 | 27 | 45 | 13 | 14 | 7 | 6 | 3 | ..... | 5 |
| Total ..... | Males.. | 265 | 1 | .. | .. | 3 | 6 | 10 | 21 | 1 | 3 | 2 | 10 | 3 | 5 | 1 | 4 | 1 | ..... | 2 |
| Total ..... | Females | 177 | .. | .. | .. | 2 | 2 | 4 | 20 | 34 | 31 | 40 | 51 | 31 | 25 | 15 | 5 | 1 | 1 | 3 |
| Total of both sexes.. | | 442 | 1 | .. | .. | 5 | 8 | 14 | 41 | 55 | 48 | 67 | 96 | 44 | 39 | 22 | 11 | 4 | 1 | 8 |

* Manhattan and Bronx Boroughs.

Estimated population Greater New York, July 1, 1899, 3,550,053.

Estimated mean population of New York (present boroughs of Manhattan and Bronx), for ten years, 1890-1899, inclusive:

| | |
|---|---|
| 1890.....1,612,559 | 1895.....1,879,195 |
| 1891.....1,659,654 | 1896.....1,934,077 |
| 1892.....1,708,124 | 1897.....1,990,562 |
| 1893.....1,750,010 | 1898.....2,048,830 |
| 1894.....1,809,353 | 1899.....2,117,106 |

Estimated mean population of Manhattan and The Bronx since consolidation:

| | 1898. | 1899. |
|---|---|---|
| Manhattan | 1,911,755 | 1,953,569 |
| The Bronx | 137,075 | 163,537 |
| | 2,048,830 | 2,117,106 |

and the adult?" Is the disease so much more common in early life that we should be on the alert for it when painful abdominal symptoms suddenly set in? Has appendicitis a large mortality in childhood? We certainly have reason to believe that various innocuous types of typhlitis and appendicitis are very common in early life, but though there is at this stage an absence of many complex pathologic conditions found only in the adult, which give rise to symptoms similar to cecal implication, here even in childhood and infancy there are numerous diseased states that in their general features and most pronounced symptoms are quite identical with appendicitis.

### STATISTICS.

In order to determine the relative mortality of appendicitis at the different stages of life, I requested Dr. R. S. Tracy, the registrar of records in the Health Department of New York, to provide me with data under this head. Below are the figures very kindly supplied by him. These tables include all the cases of appendicitis ending fatally in New York City, and the annexed district north, in the ten years preceding 1900. There were in all 1637 deaths; in children under 5 years, 218 cases; 1331 in children under 15 years; 375 cases; 22.90. Just before these appended tables were prepared for me, the question of prophylactic appendectomy was discussed in the *St. Louis Medical Review*, when I was able to show that the annual number of deaths from suicide in New York was greater than from appendicitis.

### CONSTITUTIONAL AND LOCAL SYMPTOMS.

Richardson has said that "the presence of acute appendicitis is rightly regarded as easy to determine, as there are few diseases which have so uniform a set of symptoms." This statement is no doubt correct, in typical cases, but if it be intended to apply to many of the complex forms seen in childhood, it will not hold.

The dominant symptoms, fever and colicky pains, are very common in many maladies of infancy and childhood. Holt has called attention to the frequent presence of severe epigastric pain from hepatic or splenic congestion in malaria of early life. All know how common painful disturbances are along the intestinal tract, from worms—ascarides and lumbricoides—in children. Recently, Frazer reported a case of appendicitis in which the appendix was found filled with oxyurides vermiculares. The patient was 2 years old.[22]

Tuberculosis of the intestinal tract, its serous investment or its lymphatic glands in the inflammatory stages, is attended with pain varying in intensity and location. Its usual site is the hypogastrium, although sometimes the area of hyperesthesia will be found over the site of pathologic changes in the tissues. Dysenteric and diarrheal diseases in childhood and infancy are quite invariably attended by spells of severe pain. These conditions may precede or accompany appendicitis of a severe form in young children. Griffith in recording two successful operations for appendicitis in two patients, 3 and 4 years old, respectively, says that in both there was a marked distension of the abdomen with a dysenteric diarrhea.[23] The constitutional symptoms of acute appendicitis are quite identical with those of peritonitis, in fact, in nearly every well-marked case of appendicitis the peritoneum is involved. Pain, fever, thirst, vomiting, a quick pulse with great prostration, warn us that some serious pathologic condition is in operation, involving parts invested by the peritoneum. The paretic intestine and bladder contribute toward abdominal distension. The spread of infection up through the parietal investment extends into the muscles and all the overlying tissue. Muscular rigidity and free edema along the lateral plane of the abdomen, in peritonitis, is one of the consequences.

Despine says that the inception of the septic form is more insidious in the child, and so the disease is

more redoubtable. This author also alleges that perforation is here more common than with the adult. Acute severe appendicitis often begins with the symptoms of mechanical obstruction of the intestine, although in some cases of interstitial tuberculosis the same phenomenon may obtain. Quènu records such a case, in which the first symptoms pointed to occlusion and the second to appendicitis.[24]

That the premonitory symptoms of appendicitis in the child are more subtle and insidious than in the adult is lacking in support. Richardson, speaking of the symptoms in general, says that "pathological processes, ulcerative, etc., may go on without symptoms until the peritoneal coat is involved." This is entirely in accord with our own experience in the adult, and is just as commonly as with the child.[25]

Neither does our experience justify the assertion that the malady is more grave in the child, or that when gangrene occurs in early life pain abruptly ceases. When we are in doubt as to the interpretation of symptoms in appendicitis when seen early, says Talamon, we may often delay from four to five days, when peritonitis will be present. Breton notes the occasional absence of pain in atypical appendicitis of children, as is sometimes seen in adults.[26]

Dieulafoy, a noted clinician of great experience, is emphatic in pronouncing all well-developed cases of appendicitis in children as being exceedingly lethal. He says, the physician should note the symptoms with caution and make no delay in calling for surgical aid.[27]

### ON THE RELATION OF SYMPTOMS TO PATHOLOGIC CONDITIONS.

Symptoms in disease are Nature's monitors, to warn us of the presence of lethal processes in the economy. They usually bear a comparatively definite relation to the extent and to the character of pathologic changes in operation.

There have been many attempts at the classification of the various types of appendicitis, by several authors, and it has been alleged that each is usually manifested by a fairly uniform group of symptoms. But while such a consummation is something most earnestly desired, we are yet very far from it. There are but three phases of appendicitis which, by either signs, symptoms or diagnostic evidence, can be established with any reasonable degree of certainty. These are:

1. *Acute appendicitis or peri-appendicitis in its congestive or plastic stages,* beyond which the great majority of cases do not advance, particularly in early life. The pericecal tissues share freely in the pathologic changes here. There is a well-defined iliac tumor with *peritonisme;* the knee is drawn up and the patient walks with a stooped and painful gait. There has been a large plastic effusion in the pericecal tissues, the vessels are highly engorged and lymph is freely transuded. There is a sharp but transient reaction of the constitution in a vigorous patient; but struma, syphilis, tuberculosis or malaria will protract it.

In this class we should see to it that the colon is well cleaned early by enemata, as a free alvine evacuation will often reduce all symptoms, as though by magic; with this, fever and vomiting cease; convalescence is established with increased strength.

Vesical distension: In this class it is of the greatest importance in young children that we shall closely look to the state of the bladder, which becomes enfeebled early and is liable to overdistension, when greater agony and danger may arise from this than the condition which gave rise to it. In fact, it may of itself impart an aspect of forlorn hope to a case of appendicitis, otherwise comparatively harmless. An illustrative instance occurred to me some years ago. A boy of 9 years, suffering for nine days from appendicitis, was under the care of the most noted pediatrist of New York. The case taking on alarming symptoms a noted surgeon was called in consultation. It was decided that he had general peritonitis, that the case was not a proper one for laparotomy, and that there was but little hope of recovery. In the evening of the same day the case came under my charge. On inquiring about the urinary evacuation, the nurse said "he was passing urine all the time and was wetting everything." This disarmed my suspicion. But the abdomen was enormously distended; besides, it had a peculiar shape and feel; everywhere it was so exquisitely sensitive that anything like proper palpation or percussion was impossible. As the boy went under an anesthetic and spasm passed off, the greater volume of the fulness was seen inclined toward the right side, which led me to suspect a vast typhlitic abscess.

In opening through the abdomen care was taken to divide and isolate all the layers separately. This step, it was soon learned, saved us a serious accident. When the peritoneum was exposed it bulged freely into the incision. This was very carefully divided, when another smooth glistening body closely followed. This at first puzzled me. I passed an index finger into the peritoneal cavity and followed this tumor down into the pelvis, where its relation convinced me that it was an overdistended bladder. With the abdomen yet open, a catheter was pased and 51 ounces of urine withdrawn. The appendix, highly inflamed and thickened, was easily found and removed. All the pericecal tissues were highly inflamed. The boy rapidly recovered, but he would have equally as well and more rapidly had catheterization alone been performed.

Another somewhat similar case came under my care two years ago, in Mamaroneck, N. Y. Dr. A. H. Hoerr sent for me in the evening to come up and operate on a severe case of appendicitis in a girl of 12 years. When I reached there, in the afternoon, although there had been a great change for the better, full preparations were made for the operation.

On a thorough examination of the case there was no evidence of a single bad sign nor symptom. The mother informed me that for five days her daughter had suffered the greatest agony, the pain beginning in the right groin and spreading over the abdomen, which had become distended, hard, and sensitive everywhere. Thirst and vomiting persisted, and rest or sleep was impossible without large doses of morphin. But at midnight she made a desperate effort to urinate and passed nearly a quart vessel full. An hour later she rose again and passed fully a half-gallon more. Then she went to sleep and did not awaken till nine the next morning, when she had another large evacuation of urine, this time with a copious alvine discharge from the bowels.

All the symptoms had vanished and now she only craved something to eat. I saw nothing to warrant an operation at this juncture, very much to the gratification of the poor child and her anxious parent. Dr. Hoerr informs me that she was out in a week and that there has been no evidence of recurrence.

Septic symptoms sometimes accompany those cases of what I would designate "congestive appendicitis."

The modern word "sepsis," which may mean anything or nothing, next to malaria, has been made the scapegoat of diagnosis in nearly every conceivable malady. In appendicitis it calls up in the imagination pools of pus, a decomposed, rotten appendix; while we remain quite unmindful that there is often at the bottom of this sepsis an overdistended paralyzed colon, filled with a germ-laden, foul mass of impacted feces. Let us not be deceived into overlooking the state of coprostasis because there is some looseness; as in some of the worst cases of impaction, it is the most marked. These cases all call for a digital examination of the rectum. Mr. Thornley Stoker of Dublin has called attention to the importance of a critical examination of the colon and rectum in all these cases.

2. *Appendicitis with gangrenous, ulcerative perforation and suppurative typhlitis* is a lesion consecutive to the congestive form and is manifested by essentially the same symptoms, only that they are more intensified and the constitution is more seriously compromised. In this type, true septic processes are in operation in varying degrees of intensity. The appendix is the seat of vascular asphyxia, gangrene and perforation. It early forms very firm adhesions, most frequently with the cecum, and lights up an inflammation which spreads widely through the pericecal tissues. When the cecum itself is the seat of gangrenous perforation, a similar pathologic process is in operation and similar symptoms attend. Naturally enough, we look for an acute peritoneal reaction with grave disturbances of the system when mortification has seized on an intestinal structure of the abdominal cavity.

A lesion attended with suppurative changes, necrosis or rupture of a tubular structure one would presume would stir up and call forth a series of alarming symptoms, both constitutional and local. But, strange to say, in some cases of this class there are but very slight, if any marked, systemic disturbances. It has been said that perforative appendicitis is of a more insidious character in children, and that the disease possesses a more acute course with them, and hence the importance of early and definite diagnosis here. In tubercular cases, it is true, the onset may be quite insensible, but the same obtains in the adults, hence it may be said that, as a rule, suppurative or gangrenous appendicitis of various types presents no definite symptoms whatever, until the peritoneal investment is involved and perforation has begun. We know no pathognomonic symptoms in the early stage of these conditions, nor at any time during their course in a large number. Even if we did, it is doubtful whether it would avail anything for the reason that there can be no doubt, but in the great majority of suppurative or perforative cases, well localized and encysted, the peritoneum, the cellular tissues and the lymphatics are capable of rendering the effete elements of pyogenic and disintegrating changes so innocuous that their residuum may be completely resorbed and assimilated with impunity. Appendicitis of this type seldom presents urgent symptoms, except when there is fecal extravasation, when pus is formed in great quantities and burrows into the retroperitoneal tissues, or there is impending danger of the pyogenic membrane bursting and provoking a general peritonitis. In aggravated cases of this type there is nausea, vomiting and thirst, with persistent constipation from paresis of the intestine. Peristaltic tugging of the small intestine on the inflamed, imprisoned cecum produces periodical pain of the most agonizing type. This is augmented by coughing, vomiting, or any sudden straining of the diaphragm. The pain is felt with the greatest intensity in the epigastrium, although the site of the greatest tenderness is over the intestines, the cecum and neoplastic mass. In the adult this is the most constant at McBurney's point, where the cecum is most commonly lodged; but in the infant and growing child the cecum has a longer and looser mesentery which permits of a considerable degree of movement toward the median line; moreover, it has not yet fully descended, and hence McBurney's point in early life is too low down and external to fall over the underlying cecum. When the appendix is lodged under the cecum, and is practically extraperitoneal, the suppuration following perforation may penetrate deeply behind the pelvic fascia; there is an absence of a defined tumor; purulent absorption gives rise to symptoms of septicemia, to a low grade of fever with diarrhea, exhaustive sweats and emaciation. These are the cases which may be confused with or mistaken for typhoid fever. Invariably the system is in a state of toxemia (septic), so that even though a laparotomy be performed and the decomposed purulent material evacuated, septic symptoms yet linger and the patient may sink. If recovery follows it is tedious. In fact, some of these grave cases are so profoundly septic and the degree of cardiac exhaustion is so great that late operation brings no relief.

The constitutional condition is generally the main guide to rely on in the average case of encysted typhlitis or appendicitis. The presence of a small iliac tumor gives one little apprehension, if severe pain is absent; there is no vomiting nor thirst, and marked muscular rigidity is absent. Resolution in many of these cases is as rapid as the onset. The first, most salutary symptoms of this are loss of thirst, the cessation of pain, a large free action of the bowels and return of natural sleep and relish for food.

3. *Perforation of the appendix directly into the peritoneal cavity* is accompanied with redoubtable symptoms. They may set in suddenly or gradually, and are dependent on a general peritoneal infection of all the serous structures in the abdomen. It early spreads outward through all the tissues in the abdominal walls. The entire intestines and the bladder are paralyzed. The abdomen is flat, hard, and everywhere highly sensitive. The pain is most agonizing. The patient vomits great quantities of bile and suffers from an insatiable thirst. The pulse points to a flagging heart and the cadaverous, shrunken features of the paient often portend mortal changes near at hand. This is the final close of grave appendiceal cases, said by Dieulafoy and some other authors to be most frequent in children. This, if borne out by ample support, should suggest the great importance of a correct interpretation of the symptoms at the very earliest stage of the malady, that prompt surgery may cut it short, while yet an operation may be safely supported. Could we by any symptoms determine with any degree of certainty when a gangrenous appendix opens into the general cavity of the peritoneum, probably every life might be spared. It does not appear clear whether in all these cases they were first of the encysted variety just considered, the pyogenic wall giving way around them, or whether the gangrenous appendix at the very outset opens directly into the peritoneal cavity. Some authors claim that on the appendix opening into the peritoneal cavity there is marked shock and great prostration, but this has not been my experience. With the escape and diffusion of fecal fluids and gases there can be no doubt that the general

spread of infection extends over wide areas and is attended with an intensity in the symptoms proportional to the extent of pathologic changes. But, except in rare cases of the fulminant type, it is probable that after a small perforation the leakage is gradual and we have no sharp peritoneal reaction or grave symptoms until infection is generalized. The most constant and harrowing symptom of acute general peritonitis is pain; and no description of pain so quickly crushes the spirit of the stoutest and paralyzes the heart as that suffered in this disease. This must be relieved at all hazards, or all is lost. The temperature and the pulse fairly presage the progress and the termination of the malady. With the subsidence of the pain and a fair share of sleep or tranquility, thermal and vascular symptoms show signs of abatement.

Extreme restlessness, great thirst and a flitting, feeble pulse point to a state *in extremis*, when the case has passed beyond all human aid and the end is near.

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## IS IT POSSIBLE BY PROPER DIETETICS AND HYGIENE TO EXTERMINATE TUBERCULOSIS?*

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I am aware that the literature on prophylaxis of tuberculosis is already very complete and contains more suggestions than we are willing at all times to take the trouble to thoroughly carry out; but the paramount importance of the subject, as shown by the terrible inroads being made upon the people of all lands, is my plea for bringing these considerations before the members of this Section, with whom rests most of the responsibility of educating the people to rid themselves of the ravages of the disease.

It is now nearly twenty years since the discovery of the bacillus of tuberculosis by Koch. During this time many of the world's greatest scientists have labored incessantly to conquer this microscopic enemy of mankind, and destroy its effects. The history-making in all departments pertaining to tuberculosis has been rapid, and the data collected are of the greatest value. The causes have been surely demonstrated, the prevention is fast becoming an exact science, and the treatment is every year being improved, though yet far from what we could desire. At one time it was thought that a specific had been found. The press of the whole world was filled with praises for the discoverer, and it seemed fitting that to him should come this great honor. He had shown the existence of the germ, why should he not find the power to destroy. Soon it was learned that too much had been expected; more, indeed, than the investigator had claimed, for the new germicide proved to be impotent. Since then we have perhaps grown wiser and very few are now looking for a specific cure.

In spite of our better knowledge and treatment the disease has, in the meantime, at least been holding its own, or perhaps gaining ground. So great has the peril become that we can no longer consider simply the individual case, our attention being more and more directed to the saving of the people. This was shown when the invitation was extended to attend the International Congress in Berlin last year. The wording showed the issue—*Kongress zur Bekaempfung der Tuberculose als Volkskrankheit.*

The chief conclusions in this Congress, and also in articles in the symposium on tuberculosis, at the fiftieth meeting of the AMERICAN MEDICAL ASSOCIATION, were that the disease is not hereditary but acquired (Virchow[1] says: "I now positively dispute this heredity"); that to cure a large percentage of cases, the diagnosis must be made before destruction of the lung tissue has begun; and that by far the surest, and consequently the most important consideration is the prophylaxis, through public and personal hygiene, and the maintaining a high degree of general healthful conditions in the individual.

Neither in the Congress nor in the AMERICAN MEDICAL ASSOCIATION meeting was any method of treatment given which was expected at all to cope with the disease unless the cases could be seen in the very earliest stages. Many are curable if diagnosis is made early enough and proper treatment at once instituted. An analysis of several thousand treated in high altitudes shows that the average percentage of cures in the first stage is 65 per cent, and in the second and third combined, only 15 per cent.[2]

Granting that eventually our treatment can be improved till all cases can be cured, very few realize at what tremendous cost this cure is accomplished. Based on the figures of Knopf, that the cost of a tubercular charity patient in New York is $522, Evans[3] estimates "the cost of tuberculosis in the U. S. $574,000,000 each year, and that tuberculosis kills 152,000 people in the U. S. each year. In the late war there were killed in all directions and in every way, 6300 people, while the war loan for the prosecution of the last war was $150,000,000."

But I wish to call attention to another cost which is much greater, for which one of us would not willingly pay any sum which he could command, if he could ease the suffering and restore the health of one dear to him. We are all too familiar with this cost of mental and physical suffering, deprivations and exile from home.

Granting, then, that a cure is possible in every case, is not the cost and sacrifice too much, is it not better that the emphasis be at once placed where it belongs, and that is on the prophylaxis?

* Read by Title in the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I realize that to place great emphasis upon any one point is to apparently minimize other extremely important ones, but now that the subject of general hygiene relating to the care of tubercular subjects, their surroundings, and the imperative disinfections required, is so thoroughly understood by all, at the risk of being thought as taking a too one-sided view of the matter, I will say nothing more of the general hygiene as I wish to present some facts which belong especially before this Section.

Careful study of statistics shows that over 12 per cent. of all deaths are from pulmonary tuberculosis. In an extremely large percentage of individuals dying from other causes, the bacillus tuberculosis has been found. In some cases active destruction of tissue had been present and entirely subsided, and in others the bacilli had apparently had no effect on the individual. We know that we are all constantly meeting the bacilli and taking them into our systems, and some of us are uninjured by their presence. There is scarcely any place where the bacteriologist has not demonstrated them: in the dust in the streets; in all public and private places; even the air we breathe and the food we eat are laden with the germs. Why is it, then, that some individuals go free, while others yield easily and succumb when attacked? For so omnipresent is the bacillus that if it were dependent alone on the germ, tuberculosis would soon claim the whole world as victims. Fortunately there is a condition against which this germ is powerless, a condition within ourselves which gives protection and immunity, a condition which the individual can absolutely modify, and almost entirely control.

Thomas,[4] in his twelve directions to those who would avoid consumption, says: "Probably the most important of all is to see that the digestive functions are kept in perfect order. Dyspepsia is more often a forerunner of tuberculosis than any other disease. The secretions of a healthy stomach will dispose of a large amount of infected material, but when diseased, the stomach is the principal avenue of infection."

In the logical article of Davis,[5] he says: "The true field for sanitary work in exterminating the bacillus of tuberculosis is in removing the defects, imperfections and impairments of vital resistance in the living body that make it possible for the microbe to multiply and produce disease either in man or animals. Prevent the formation of the necessary soil and you make sure of preventing the crop."

Knopf[6] tells us that he considers "a careful inquiry into the mode of life of the patient, past and present, of great importance. The probably unhygienic environments, a dissipated life, a love for strong liquors, irregularity of meals, great disappointment in matters of love or business, or other depressing factors, all will often give a clue to the origin of an acquired, or to the awakening of a latent, pulmonary tuberculosis. It is well known that many a pulmonary consumption has been preceded by digestive disturbances or typical dyspepsia. Bad eaters are nearly all candidates for consumption."

Bouchard[7] writes: "Disturbances of nutrition rule, in my opinion, the largest number of chronic diseases, and explain the appearance of many illnesses of an acute character." He also says: "We must still remember the fact that dilatation of the stomach renders the economy more vulnerable, and opens the door to diseases of debility. Pulmonary phthisis is often induced by dilatation of the stomach, which exists in two-thirds of the tubercular, and, if we have sought for it early enough, we can convince ourselves that the physical signs of dilatation have sometimes for long preceded the first symptoms that may be regarded as the premonitions of tuberculosis."

In 632 cases of tuberculosis seen in private practice, with the exception of those which developed after unresolved pneumonia—and even in many of these—over 88 per cent. gave a history of either intestinal or gastric disturbance which had existed for a period varying from three months to several years, before the lung became involved.

In every instance in the remaining 12 per cent. the tubercular condition had existed over three years before the patient consulted me, and in each case at this time there was a marked digestive disturbance. Though each one was positive that there had been no early trouble of this kind, I felt sure that if an examination could have been made earlier quite a number of these would have been added to the 88 per cent. It was manifestly impossible to determine what form of disturbance preceded the tubercular trouble, inasmuch as the patients were not seen by me until long after the disease of the lungs had begun. It was even difficult to judge whether the initial digestive trouble was in the stomach or intestine, or both. With one exception these histories show a very representative class of citizens, coming from nearly every state in the Union. Many came from large eastern cities and not a few from country homes; but only a small number were from the chief center of the disease, the overcrowded tenement districts of the cities. This was probably due to poverty and consequent inability to go to a distant climate. But this indigence would surely be conducive to the very conditions of inanition which were so frequently found in my cases. Undoubtedly those who have worked most in these districts have found that there, pre-eminently, do indigestion and mal-assimilation precede the appearance of the tuberculosis, and these disturbances may have as much to do with the frequency of the disease among such persons as the overcrowding and unsanitary conditions.

From the conditions present at the time of my first examination, I should estimate that of the 88 per cent. who gave a history of indigestion antedating tubercular trouble, 78 per cent. were intestinal, 22 per cent. were of stomach origin, though at the time of examination over 56 per cent. showed trouble with both organs. As a long time had elapsed since the beginning of tuberculosis, the initial symptoms had changed greatly, and in most cases had grown worse. In many instances the patient would say that his digestion had always been good, and still remained perfect, and would sincerely think so. An examination would, however, reveal a different condition than he had supposed; microscopic and chemical abnormalities from an empty stomach and after test-meals, great distension over the abdomen, which had continued so long as to make all the abdominal muscles flabby and weak, frequently accompanied by a considerable degree of tenderness over the stomach or intestines, with sometimes tenderness and hypertrophy of the liver; coated tongue; extreme sallowness over the whole body; urine high colored, of high specific gravity and containing indican, bile or the bile pigments in great excess; often a large amount of catarrhal mucus in the stool, and microscopic evidences of an excessive amount of undigested food in the feces. Yes, he had noticed some of these things for a long time,

but had not known that they meant anything. He would simply loosen the clothing over the abdomen after eating and then would be all right.

It is my experience that patients are not very observing. Unless suffering acute pain they will say that they feel no disturbance. In most cases it requires very close questioning to obtain reliable histories, but perseverance in asking will frequently reveal what has entirely escaped the patient's attention. The history of such disturbance has been established in case after case when the first questioning would fail to elicit the fact of there having been any digestive fault. One of the chief reasons for the patient not observing any disturbance is because it comes on so slowly and many times, especially in the intestine, is without pain. Some have never known what good digestion meant, nor to how much better they were entitled. A few years ago I saw a patient in an eye clinic, who came to be treated for conjunctivitis. The Doctor asked her about the vision, and was told it was perfect. He then asked her to tell him the time by the clock on a distant tower. She replied that he could not fool her, there was no clock where he pointed. He then adjusted, by guess, some lenses in a frame and put them before her eyes. The look of astonishment was sufficient to show that she now realized that she never before had really seen, and yet she thought her eyes were perfect.

The history of my cases demonstrates clearly that previous to the tuberculosis manifesting itself there was a period of some months or years during which the individual was in a below-par condition. I do not argue that all depleted conditions lead surely to tuberculosis, but I do insist that there are very few tuberculous persons who did not, by their own habits of living, gradually bring themselves into a condition in which they could contract the disease. If this lack of resistance or debilitated condition produces or is the soil which is favorable to the growth and the development of the bacillus, is it not imperative that we should search early for the primary causes and eradicate them at once?

It is almost axiomatic that in all chronic diseases where no organic damage has been done, to remove the causes is to effect a cure, or rather allow Nature to do so. I wish to speak particularly of the earliest stages of the digestive trouble, especially to draw attention to the original causes which produced the faults rather than the effects on the digestive organs. We need then to go back a step, and look at other factors, concerning the habits of the individual, which are of vital importance, inasmuch as they have caused disturbances with the nutrition.

Based on standard diet-tables compiled by prominent authorities, of the whole number who had had digestive trouble nearly 76 per cent. gave a history of having eaten an excessive proportion of carbohydrates; 65 per cent. having indulged largely in sweets and desserts, many times having made entire meals from these confections; over 68 per cent. had for some protracted period overeaten; 20 per cent. had lived on a general mixed diet—about standard; 45 per cent had taken no regular out-of-door exercise; 34 per cent. had been excessively working from fourteen to eighteen hours daily—and in many of these there had been an element of worry and anxiety—had eaten very hastily, and had taken little or no rest during the day and not sufficient sleep at night; too little water drinking between meals, too much at meals. School children had not infrequently broken down from being overtaxed and improperly fed. The usual annex to our public schools is the penny candy shop across the street, always well patronized. In one of the Denver public schools, whose pupils are from homes in which we would expect the greatest intelligence in the care of children, a teacher, whose pupils averaged 13 years of age, found that out of 45 children, 36 received from 50 cents to $2.00 a month in spending money. The remaining 9 received either more or less. Without exception, every child patronized the "penny candy shop," and not one was restricted as to the amount he should buy or eat. Inquiry shows that this applies to other places throughout the country.

Let me very briefly refer to three of the greatest essentials to a perfect digestion: 1, a proper anatomical and physiological condition of the digestive organs; 2, proper foods—including kind, variety, quantity, proper cooking, etc.; 3, applied nerve force to run the digestive apparatus.

Any habitual departure from these essentials will cause trouble, but the list of departures in civilized countries is almost legion, and hence in some particular case may be very obscure, but must be sought till found. Over-eating is one of the greatest of our faults. Abernethy has told us that "one third of what we eat keeps us, the other two-thirds we keep at the peril of our lives." The human machine is the most economical engine constructed. Nearly all of the force and heat generated can be applied without waste, and, generally speaking, if we supply the proper materials with which it is to work, we need not concern ourselves, but may be sure the work will be well done and proper nutrition supplied.

When the beginning of digestive disturbance has been found, let me insist that it is not sufficient to say to the patient: "Eat what agrees." Almost before anything else this must be borne in mind. Bruce[8] has well said: "First, food is not a mere matter of feeding or giving nourishment. Food is to be employed as a means of treatment at once powerful and delicate, calculated not only to nourish the tissues but to produce immediate, specific and remote effects of a perfectly definite and natural character on the different organs of the body just like the different medicines. Second, if the practitioner do not order the diet, some one else will—his patients or their friends. When he permits them to do so, that is to take an important part of the treatment out of his hands, he usually finds that patients yield to tastes and habits that may be morbid, or to advice which is well meant but probably unwise; and that patients' friends are moved by one thought only—to 'support the strength,' whatever else may be the result, ignorant or unmindful as they are of the other actions of food. Therefore the practitioner must never lose control of the diet. It is not enough that he should permit certain foods; he must employ them definitely as carefully-ordered means of treatment. He should always think of food before he thinks of medicine, and give it a corresponding position of importance in his directions to the nurse or patient."

I will not stop long enough to discuss here what constitutes a proper diet for a healthy person. I believe that we have a right to judge from the construction and physiology of the digestive tube, that a mixed diet is the normal diet, also the quantity of each class, varying with the latitude in which the individual lives, his environment, whether of sedentary habits, or living an out-of-door life, and whether he is a worker or a drone.

It must be carefully borne in mind that proportions

of food given in standard diet-lists are for persons with unimpaired digestion. When either the stomach or the intestine or perhaps both organs show faults in doing their work, no matter whether the causes directly or indirectly have to do with the digestive organs, then perhaps an entirely different proportion of foods must be advised, the proportion depending on which of the digestive organs is most at fault; sometimes cutting off, more or less temporarily, a part or even all of one of the broad classes of foods; that is, the proteins or fats, or carbohydrates, or some particular variety of one of these classes. As more frequent cases of intestinal disturbance occur, we shall more often be obliged to limit the starches and sweets. Not all of these varieties are digested with the same ease, so it is self-evident that that food which is most easily digested and has the highest nutritive value is best for the patient.

It must not be forgotten that there are two ways of judging the values of food, chemically and physiologically; chemically, in having the constituents which are necessary to the organism, but which perhaps can not be appropriated. For example, baked beans are nutritious and very rich in nitrogen, but physiologically they may be easily digested and assimilated by one person, while with another produce only excessive fermentation with its attendant mischief.

In an article by Professor Atwater,[9] some of his conclusions are as follows: "Our diet is apt to be one-sided. It often does not contain the different nutritive ingredients in the proper proportions. We consume relatively too much of the fuel ingredients of food—those which are burned in the body and yield heat and muscular power. Such are the fats of meat and butter, the starch which makes up the larger part of the nutritive material of flour, potatoes, and sugar, of which such enormous quantities are used in the U. S. Conversely we have relatively too little of the protein or flesh-forming substances, like the lean meat and fish and the gluten of wheat, which make muscle and sinew, and which are the basis of blood, bone and brain. We use excessive quantities of food. Probably the worst sufferers from this evil are the well-to-do people of sedentary occupations—brain workers as distinguished from hand workers. Not everybody eats too much; indeed there are some who do not eat enough for their healthful nourishment. But there are those, and their name is legion, with whom the eating habit is as vicious in its effects on health as the drinking habit, which is universally deplored."

In connection with Professor Atwater's deductions as to the value of a relatively larger proportion of albuminous foods in maintaining a higher degree of health and strength, it is not out of place to say here that nearly all of the authorities now agree that in the treatment of tuberculosis the nitrogenous foods are very essential. Indeed, the recent experiments of Richet[10] speak very emphatically as to their worth: "In a large number of dogs inoculated with human tuberculosis, under the same conditions, all died except those which had been fed exclusively on meat; 50 per cent. of these survived. Richet is inclined to explain this salutary action of meat diet on the same principles as the metaphoric method of therapeutics which he recently announced in the enhanced effect of sodium bromid, when salt is almost entirely omitted from the food. The impregnation of living cells by this or that alimentary substance renders them less apt to feel the influence of this or that medicinal or toxic substance. By changing the nourishment of the cells they may be rendered more or less liable to the action of other substances. In feeding dogs with meat exclusively, the cells possibly become impregnated with the extractives of the meat and do not take up the toxins of tuberculosis."

Apropos is the edict from Rome. The *Medical Age* for June 25, 1899, says: "It is publicly stated that there has been an important secession from the ranks of vegetarianism, the entire Dominican order in England having received permission from Rome to eat flesh four days a week instead of perpetually abstaining therefrom as heretofore. In cases of ill health or especially hard work, meat is to be allowed six days a week. This decision has been arrived at after the closest medical and official investigation of the effects of perpetual abstinence from meat in a variable climate like that of England, the result being that vegetarianism has been declared incompatible with physical strength and hard work."

Also, Sir Wm. Roberts[11] says: "The effects of a vegetarian diet would only be gradually developed, and would probably not be fully impressed on the bodily and mental qualities of the race until after such habits had been continued through two or three successive generations." And then adds, "I have encountered in Salford, where, some years ago there existed a flourishing colony of vegetarians, a tradition that though vegetarianism might suit the parents it was bad for the children. And I have seen some striking examples in that borough which appeared to indicate that this tradition was well founded."

In my experience, the greatest harm which has come to any class from taking too exclusive a diet of starches and sweets has come to those of sedentary habits. In so far as one requires a greater quantity of the vegetable foods, he needs much more active exercise and out-of-door life. Frequently one who can not eat a normal proportion of the vegetable foods when confined to his office or desk, can take a large increase with impunity when spending his time away from the depressing environment.

As Wendling has aptly said: "No animal except man can be tempted to do himself harm against his intelligence." Yet, men go on cultivating all sorts of pernicious habits; eating rapidly and improperly; overeating, and eating irregularly; eating foods chemically antagonistic; taking too much fluid with meals, habitually drinking ice water; living and sleeping in overcrowded rooms which can not have sufficient supply of fresh air; cultivating worries and anxieties to the highest degree; and being fatigued mentally and physically when ready to eat. I want to lay particular stress on this last-mentioned habit. Whenever there is either mental or physical fatigue too much emphasis can not be placed upon resting from twenty to thirty minutes before putting food into the stomach; and by resting I mean to make it absolute, by lying down and thoroughly relaxing physically and mentally, no reading, talking or planning. Then if after a half hour of such rest or sleep, one is still fatigued, it may be better to omit the meal entirely, rather than to subject the digestive organs to work which they would not do well. The ability to get perfect rest and relaxation is not easily acquired, but if persistently practiced day after day can be so perfectly attained that one will feel entirely renewed after a rest of ten or fifteen minutes.

These facts which I have reviewed can be readily

proved by all. If they stand uncontroverted, then it is the duty of every member of our profession to take immediate action. To do this successfully three things are necessary:

1. We must constantly revise and improve our methods of diagnosis so that we shall recognize the earliest tendencies toward unhealthy conditions. We need not wait until there is a fully developed digestive disturbance before we decide where the trouble is, for then the patient is able to recognize it for himself. To illustrate the advance made in recent years in making early diagnoses let me cite Bouchard,[12] in his discussion of the great prevalence of dilatation of the stomach. He says: "I still admit, through courtesy, that it is necessary to perceive the splashing below the middle of a line drawn from the umbilicus to the point nearest to the border of the left costal arch. But, in reality, this line is of little importance. Every stomach which is not retracted when it is empty is a dilated stomach. Dilatation is not distension. A dilated stomach is a stretched stomach, the cavity of which is apparent only when it is empty, because, though its walls then touch each other, it is no longer capable of diminishing its size by retraction." This is but one of many instances in which we now make earlier and better diagnoses than formerly.

2. The study of dietetics must be more carefully pursued. After quoting Donders, "whoever works at the development of our knowledge on food substances is working on a broad basis for the development of mankind"—Hemmeter[13] says: "Fortunately for us, many bright intellects have already applied themselves to this work, and our knowledge has been enriched by treasures of valuable information. But the well-advised special student can not fail to recognize that we have only entered a vast territory, and that the greater part of it remains to be explored. Even the small portion which by hard toiling is clearly our own is, we regret to say, far from being the common property of the profession—at least it does not seem to be taken advantage of, the profession at large failing to realize that a logical and individualizing diet is a more potent therapeutic factor than medicine."

If, on account of the many demands on his time, the general practitioner has neglected the study of that greatest branch of therapeutics, the study and application of diet and hygiene in the cure of disease, let me urge that no other subject to which he can give his attention will so surely and easily enable him to cope with so many diseased conditions as such a study. Proper nutrition is the very corner-stone to the health building.

3. There is necessity for a long siege of educational work with our patients and the general public, but especially with the younger portion of the community, either directly or through the parents. And this is the most difficult part of the problem. They must be taught that good health ought to be the rule and not the exception; that habits of wrong living are the causes for the great majority of ill health; that each person is mainly responsible for his own illnesses and that if he will he can prevent them. Especially must this be insisted on in families where tuberculosis has existed.

In every community the hygienic conditions are being improved, so that the dangers from the source of improper sanitation and lack of disinfection are being steadily lessened. This is due to the work being so well organized and prosecuted by our medical societies and boards of health.

Now, the task of showing that persons in a depleted condition are practically the only ones who are in danger of becoming tubercular is imperative with us. We must teach the public that there is immunity, and that it comes in the bodily conditions which exist in that general state which we call good health. For obvious reasons the work must be largely carried on by the family physician and the parents.

In conclusion, as Dettweiler[14] affirms that "The raising of the standard of food, betterment of its quality and quantity, are the unqualified requisites of every success, they are to-day the foundation and corner-stone of therapeutics of consumption," so I emphasize their place in prophylaxis.

### EXTERMINATION OF TUBERCULOSIS.

Is it possible by proper dietetics and hygiene to exterminate tuberculosis? I believe it can be gradually accomplished, though there are two obstacles which are almost insurmountable, the first being the fact that as a rule people are not ready, while having a fair degree of health to make effort to preserve it. Those who have not suffered are not willing to be taught, and so will not readily co-operate in regulating the conditions which have to do with their own health, or the health of their children until they become ill. Then the poverty of many in small communities, and of the masses in the large cities, does not permit such foods and shelter, air and exercise as are required to produce healthful physical conditions. But each one must answer the question for himself, and as he thinks so will he work, and as he works so will the cause be hastened or retarded, for according to our present knowledge it depends not on any climate and its influence, nor on any community and its sanitation, nor on any one person and his work, but on the united efforts of all in every community.

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## VARIOLA AND VARICELLA.*


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From a point of pertinent interest I deem it somewhat less than an impertinence to consider this subject, which within the last fourteen months has served to create disturbances of varied degree over different sections of Indiana.

The fact of some chicken-pox cases being present in this city, the mildness of some cases not requiring a physician until several members of a family were attacked, snap diagnosis from incomplete observation, and last but not least the ignorance and criminal negligence of some of the physicians in denying the existence of the disease as smallpox, has, with the refusal of the authorities to build a pest-house, notwithstanding the

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demands of the secretary of the Board of Health, W. T. Fairfield, served to keep up a desultory outcropping of cases in different parts of the city, until up to April 15 there had been reported and discovered 149 cases since the beginning of the epidemic.

We have positive evidences of the disease having been acquired from not only prolonged and continuous exposure, as in the same family, but also occurring after transient and slight exposure, from infected articles taken from one house to another, and one instance in which the only traceable exposure was from an open door through which were being carried articles to be destroyed.

One death has occurred, the patient being a baby 1 month old, who died during the second febrile or pustular stage.

The life history of this epidemic is identical with that of the more fatal forms—an incubation of twelve to fourteen days, a period of febrile invasion lasting four days, the fever-curve showing from 101 to 105 degrees, during which time there is experienced those never-to-be-forgotten pains in the limbs and occipito-lumbar regions. Nausea and vomiting as a rule accompany the period of invasion, and a chill generally serves to usher in the attack. About the fourth day the temperature drops to normal and the typical eruption begins to appear.

The initial rashes, as described by Osler, are of about the same frequence as in the more severe forms, occurring as a scarlet-red rash on the inner side of the thighs or on the sides of the chest, appearing on the second or third day and disappearing on the breaking out of the true eruption. This eruption in the discrete form appears first on the inner surface of the wrists and forearm, and along the forehead as small red spots. From here it spreads rapidly to other parts of the body, so that at the end of the first twenty-four hours from the fall of temperature, the distribution of the eruption can be definitely ascertained. Forty-eight hours later the eruption has passed through the papular stage, in which the characteristic shot-like feel might serve alone to anticipate a diagnosis. The sixth day finds opalescent papulo-vesicles, light yellow at the top, from a collection of serum, and these rapidly become purulent; with the change there is a settling down, flattening process in each and an umbilication of the center. This umbilication can be seen most plainly from the sixth to the eighth day, after which the pustule assumes a form rounded and globular from distension, and the easily ruptured roof gives escape to a varying quantity of a greyish-yellow pus.

On the occurrence of pus the temperature again rises and remains from twenty-four to forty-eight hours, unless means are taken to abort the absorption of the pus products by allowing their escape.

The eruption as to site is a universal one, including the palms of the hands and the soles of the feet, showing first on the forehead and inner surfaces of the wrist and forearm, and diffused most thickly over the head and face. The eruption is a symmetrical one, unaccompanied by moisture at any stage, while the lesions are progressive, appearing first as discrete red spots which rapidly become elevated from the surrounding skin, forming papules of a beefy red color, varying with the complexion of the different patients. The apex of these papules is rounded, the base not infiltrated, and they are of so firm consistence that they feel like shot beneath the skin.

The progress from the papular stage is with so great uniformity that forty-eight hours shows those papules to be transformed into vesicles with clear summits, and their roofs gradually flatten out and the flaccid walls allow a cupping of the center of each vesicle. Around the base there appears a trifle of induration, and a slight areola of a purple reddish color, extending scarcely more than a millimeter from the base. The change from a vesicle to a pustule gives to it a greyish-white color, the walls lose their flaccidity and the roof its umbilication, producing a lesion that is larger than the original papule, finally becoming a typical pustule, thin walled and easily ruptured.

The order of maturation corresponds to the positions of precedence: face and forehead, wrists and arms, body and limbs, then last the palmar and plantar surfaces. Should the roof of these pustules be destroyed and the pus removed, we find a depression corresponding to the base of the pustule in size and shape, shallow, with a slight induration at the base, and an uneven granular, easily bleeding floor with sloping edges.

This small granulating surface, when left exposed, becomes a hemorrhagic color and the depression is filled with a serosanguinous crust, easily disturbed and leaving a bleeding floor. When not disturbed the pustule, during the secondary fever, begins to dry up and a greyish-brown crust is formed, which in four or five days can be completely removed. Pitting depends on the severity of the disease.

Where the pustules are ruptured during the ripening stage and the pus expressed, a more or less granulating surface is allowed to heal and with proper precautions a transient stain will be the only remains. These stains or post-eruptive lesions, independent of pitting, remain a variable time up to three months. On the disappearance of the crusts the stains are of a salmon-pink color, getting darker after a few days, very noticeable on exposure to cold, showing then as a bluish-black through a thin and slightly corded area corresponding to the base and areola of each separate eruption.

Our smallpox diagnosis has been questioned in regard to chicken-pox, impetigo and the pustular eruption of syphilis. Not having had the marvelous cosmopolitan experience of some of our local physicians, I am unable to verify their telescopic conclusions in regard to the eruption being "Cuban itch," "Manila scratches," "Philippine impetigo," or "Arkansaw jiggers." Neither has it been my lot to have such close communion with some of the lower animals as to be able to make a snap diagnosis of "hog measles" or "dog itch."

Chicken-pox is an eruptive disease that may be only easy to differentiate from smallpox if one takes into conclusion the whole subject, yet one is hardly excusable in making a mistake if he takes into consideration the points of history, invasion and eruption.

Age of the patient can not be taken as a too weighty factor in the differentiation of one from the other. One of the most typical cases of chicken-pox I have seen occurred in an adult 38 years old, and during this epidemic. A case of chicken-pox in which the individual few pits are deeper than those which occur from mild smallpox is not uncommon.

The incubation period of varicella is generally shorter, averaging about ten days, while the smallpox cases have almost invariably shown the first symptoms on the fourteenth day.

The constitutional symptoms in some cases of the smallpox were so slight that they were no greater than

would be expected in varicella, but there was no immediate appearance of an eruption as in chicken-pox.

The diffusion and locality of primal appearance are similar in both diseases—the face and neck, arms and exposed surface—but in no instance do we see an adult with chicken-pox have an eruption on his palmar and plantar surfaces. In some of the cases of chicken-pox in children, where those surfaces offer little if any more resistance to the occurrence of a local infective process, we see the papules and vesicles occur. Neither have we had the croppy character in this epidemic, as we do in varicella; the eruption appears, the lesions progress through their characteristic papular, vesicular and pustular stages, then desquamate if the pustules are unopened. The chicken-pox cases show papules, vesicles and pustules at the same time over the same area, and the eruption shows a deeper infiltration at the base, a wider areola and in general a smaller sized papule than that of smallpox. In smallpox the invasion and severe constitutional symptoms last four days. In varicella twenty-four hours are sufficient to bring forth the eruption, and with the eruption there is an exacerbation of the febrile and systemic symptoms, something that is not found in smallpox. The papule of varicella is generally smaller, does not possess that shotty feel, and the progressive changes are more rapid.

There is an umbilication in both eruptions, but the time of appearance of each and their characteristics are hardly to be confounded. In variola there is an umbilication during the vesicular stage, which is not a permanent depression, disappearing on the occasion of the pustular change. In varicella the dipping down occurs during the close of the pustular stage and marks the point of beginning of the drying-up process which leads to crust formation and desquamation.

Very frequently in varicella the eruption is vesicular in its entire nature, and Holt speaks of it as being the rule instead of the lesions being progressive.

In contrast to the greater frequency of the eruptions on the face in smallpox, we have the greater number scattered over the back in varicella; they occur in the mouth and pharynx in both diseases, but differ in their characteristics here the same as on the outer surface.

Following desquamation in smallpox we generally have left a tubercle varying in size according to the depth and extent of the inflammation, this being a hyperplastic condition. In the severest cases, the inflammation is destructive instead of regenerative, and with the destructive process involving the papillæ, we get a pit or scar. In chicken-pox we have the site of the inflammation on the same level as the surrounding skin.

To attempt to differentiate the two diseases from the post-eruptive lesions alone, at a time greater than two weeks after desquamation, is something that without considering the entire case history might be rather difficult, were the two conditions to be of similar severity. we have noticed, though, that following the scaling of chicken-pox we invariably have a bright red spot left, while in smallpox, where the eruptions have been allowed to follow the entire course undisturbed, a similar discoloration is present, but in those cases where the vesicles are ruptured the resulting stain is of a bluish-black color.

In conclusion, a good rule to follow is the one that reminds you that typical cases occur rarely outside of books, when you are seeking them. The present epidemic is one which, either from a diminished susceptibility, a greater acquired or natural immunity, or a diminished virulence of the infection which has produced this spread of smallpox, discrete in form, modified in its systemic reaction and mild to a degree, unless after complications of which we have no knowledge now, only speaks volumes for vaccination and its results. Finally, there is no single pathognomonic symptom to either disease that can not be simulated, one in the other, yet in no case have I seen this similarity carried to an extent sufficient to make the differentiation indeterminable at some stage of the eruption.

## PHOTOGRAPHING THE EYE-GROUND.

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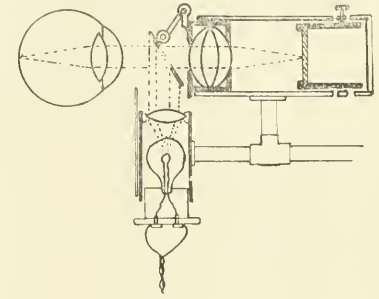
The illustration shows a photograph of the eye-ground and the instrument with which it was taken. As the drawing indicates, the instrument is essentially a self-illuminating ophthalmoscope, where a little camera—practically an artificial eye—is substituted for the observer's eye. The patient's head is fixed immovably in the operating-chair, to which the movable arm of the camera is attached. The camera is swung in front of the patient's eye, and is rested firmly upon the cheek



with an intervening pad for thermal insulation. The cap at the back of the plate-holder is removed, and with the pupil dilated and the unobstructed eye fixed upon a remote object, a faint inverted image of the fundus may be focused upon the ground glass. The movable collar is fixed by the screw to mark this point upon the scale of diopters, from which a rough estimate of the refraction may be had—a rough optometer that might be improved. As the collar insures a return of the plate-holder to the focal point, the holder is removed, and with all lights extinguished excepting a

ruby lamp, a photographic dry plate is inserted in place of the ground glass; the holder covered with the cap is replaced; and the camera-light turned on. (Fourteen to twenty-eight seconds with blonds. Only the disc appeared in brunettes. The actinic value of the color of the eye-ground governs the exposure.) The negative is stored in a light-tight box, or developed at once.

I regret to say that the failures are both numerous and vexatious, and that the eye easiest to photograph is one with the light perception greatly diminished or entirely lost. The picture shown in the illustration was of such an eye.

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## STAPHYLOTOXINS.

The poisons of the staphylococci have received but little notice. When one considers the great variability of the virulence of different races of staphylococci, occurring as they do now as harmless saprophytes, again as pathogenic agents of a great power, it certainly is remarkable that so little attention has been paid to the production of toxins by these organisms under different circumstances. Neisser and Wechsberg[1] have in a measure met this want by an exhaustive study of the staphylotoxins. As pointed out by Krauss[2] staphylococcus aureus produces a substance which dissolves red blood-corpuscles, i. e., acts as a hemolysin. Neisser and Wechsberg studied the action of this hemolysin on the blood-cells of the rabbit. Its production appears to be quite independent of degree of virulence, and it is destroyed by heating to 56 C. for twenty minutes. It was found that typical staphylococcus aureus and albus produce the same hemolysin; further, that there are staphylococci which do not produce any hemolysin and which probably constitute a distinct group without any pathologic significance.

Many blood cells are not dissolved while bathed in serum. It was found that serum protects other corpuscles as well as its own from the action of staphylolysin, i. e., it normally contains an antistaphylolysin. Normal human serum contains antistaphylolysin, although in varying degrees of activity. Whether this substance is present as the result of staphylococcus infections or otherwise has not been determined definitely. Antistaphylolysin is also obtainable by immunization, as two or three subcutaneous injections of an active toxin produce an efficient antitoxin. By suitable experiments the authors determined that staphylolysin like diphtheria toxin and tetanolysin consists of a mixture of toxins of varying avidity.

Van de Velde[3] demonstrated that staphylococcus pyogenes contains or produces a substance which destroys leucocidin. This observation has received confirmation from various sources, and Neisser and Wechsberg demonstrated again the presence of leukocidin in filtrates of staphylococcus cultures by means of an interesting and ingenious method, the principle of which is the following: normally leukocytes take a certain amount of oxygen from the surrounding medium and this in sufficient quantity to reduce and render colorless substances like methylene blue; when the leukocytes in a fluid are killed reduction of the methylene blue does not take place if the fluid has been kept sterile. In this manner they measured accurately the leukocidal action of leukocidin. This substance is also destroyed by heating at 56 C. for some minutes, and experiments with antileukocidin and leukocidins obtained from various races of cocci led to the conclusion that the leukocidins are identical. Normal serum of horse and of man contains antileukocidin, which may be produced also by immunization. During immunization infarcts appeared in the kidneys, marked by great accumulation in the vessels of dead and disintegrating leukocytes, the result of the action of the leukocidin.

It has thus been conclusively shown that staphylococci produce at least two distinct toxins, namely staphylolysin and leukocidin. Hence these microbes belong in the group which produces soluble poisons, and this fact must be borne in mind in the consideration of the pathology of staphylococcus infections.

1. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxvi, 299-349.
2. Wiener klin. Woch., 1900, 3.
3. La Cellule, x, quoted by Neisser and Wechsberg.

## HEATED SERUM TO PREVENT INFECTION.

The serum of the normal blood has been found to contain a remarkable ferment, or group of ferments, which, when fixed by certain specific substances to bacteria and to cells of various kinds, may cause their destruction and solution. This substance or group of substances was called alexin by Buchner; it is destroyed by heat for some minutes at 55 C. Bacteriolysis, hemolysis, and cytolysis in general have been made the subject of many exceedingly interesting investigations during the past three or four years, and certain general principles have been established in regard to the actions of serums of various kinds. Thus it has been found that a large number of antiserums may be produced by first injecting animals with the special cells or bacteria or other substances upon which it is desired that the antiserum should act. The reactions that occur in experiments of this kind are exceedingly complex, and the resulting phenomena correspondingly difficult to explain. Some time ago Wassermann advanced the claim that the principal reason for the little success obtained by the use of bactericidal typhoid serum depended on the circumstance that the serum did not contain enough alexin. During bactericidal activity alexin is actually consumed, so that while an animal may be protected against a certain quantity of typhoid bacilli, it is killed when an excess of this quantity is introduced. In order to meet this emergency Wassermann concluded that more alexin should be added to the immune serum, and he found that by adding normal ox serum he could protect guinea-pigs against an otherwise fatal dose of typhoid bacilli. But it is not so certain that this effect is due to the alexin normally present in ox serum.

Besredka[1] suggests that it may be due to the agglutinating effect of the ox serum upon typhoid bacilli, which are then more easily destroyed. In order to demonstrate whether the alexin in the ox serum actually increases the efficiency of antityphoid serum, the experiments should be repeated after having heated the ox serum. Metchnikoff and his pupils have found that heated normal serums, in which the alexin has been destroyed, do not thereby lose all their power. Heated serum injected into the peritoneal cavity twenty-four hours before the bacteria may save guinea-pigs from twice the fatal dose of cholera germs or typhoid bacilli. Still holding to the phagocytic theory they explain this result as due to the stimulating action which they have observed heated serum has upon the cells that act as phagocytes and also as due to the agglutination of the bacteria by the heated serum. For these reasons Metchnikoff and Besredka suggest that heated ox serum might be used with advantage in operations on the peritoneal cavity. The peritoneum might be bathed in a quantity of serum, and after the operation a certain amount could be left in the cavity in order to agglutinate any microbes which might have been introduced and to stimulate the phagocytes. Further researches in this line may give the surgeon more definite basis for action.

1. Ann. de l'Institut Pasteur.

## THE DIAGNOSTIC VALUE OF THE GRUBER-WIDAL REACTION.

The thorough clinician is careful not to attach undue or exclusive importance to any one or even several symptoms in arriving at a diagnosis, but he correlates all of the evidence, positive and negative, in a given case, and considers all of the possibilities, before reaching a definite decision. Therefore, when the Gruber-Widal serum-reaction was proposed as a means of diagnosis, he knew better than to rely upon it infallibly, and experience showed that the manifestation, which it was appreciated usually does not occur before the fifth or sixth day, occasionally fails to appear in cases of undoubted typhoid fever, that at other times it appears only late, that at still other times it may be present at one examination and absent at another, and that now and then it is yielded when there is no real evidence that the case is one of typhoid fever. Some of these irregularities in results are related to the dilutions of blood-serum employed and to other details in technique, but apart from this it may be conceded that there are exceptional cases of typhoid fever in which the reaction fails to develop, as well as exceptional cases of other disease in which the reaction does appear. There has been some discussion as to whether the reaction is one of infection or one of immunity, but the evidence is really not decisive that it is either. Nevertheless, it seems likely that it is specific and represents a result of the reaction between the invading micro-organism and the attacked organism. A similar specific reaction has been described as belonging also to a number of other bacteria.

There has of late become evident in some quarters a tendency to belittle the value of the Gruber-Widal reaction in the diagnosis of typhoid fever, but apparently without good reason, if one may judge from the statistics that are reported. Thus Dr. C. F. Withington[1] states that the reaction was obtained in all but 10 of the 253 cases of typhoid fever in the Boston City Hospital from May 28 to November 28, 1900. The negative decision was based not upon a single examination, but upon frequently repeated observations, and as a result of which it was found that the reaction sometimes appeared exceedingly late, as late as the twentieth or the twenty-fifth day. The reaction was absent in six other cases in which the diagnosis of typhoid fever was made, although the evidence was not complete. The method employed consisted in drawing a few drops of blood from the patient's ear into a small section of glass tubing sealed at one end by heat and left open at the other. After the serum has separated, one drop is mixed with ten drops of an active culture of typhoid bacilli from twenty-four to thirty-six hours old. This mixture is studied side by side with the unmixed culture. The reaction is considered positive if immobility and clumping take place in the course of half an hour.

Dr. G. B. Shattuck reports, from the same hospital, 65 cases seen during the succeeding four months in which a clinical diagnosis of typhoid fever was made and in only three of which the Gruber-Widal reaction was not obtained.

1. Boston Med. and Surg. Jour., May 9, 1901, p. 442; also JOURNAL A. M. A., xxxvi., p. 1501

## SENILE CHOREA.

It is not surprising that confusion should arise in the minds not alone of the student but also of the practitioner of medicine from the application of the name chorea to a number of, in part, different affections, and there is a distinct opportunity for reform in this direction. The designation may properly be retained for the classic disorder first fully described by Sydenham, which is an acute, self-limited, probably infectious disease, while other names should be devised for the more chronic disorders variously known as congenital or hereditary or senile chorea, which are associated with organic changes in the central nervous system. Spasmodic or convulsive tic is sufficiently distinctive of the conditions sometimes designated habit-chorea and the jerky involuntary incoördinate movements of hysteria require no specific designation. Prehemiplegic and posthemiplegic chorea represent merely irritative motor disturbances dependent upon various disorders of the brain.

Albuminuria is no longer considered synonymous with nephritis nor spasm with epilepsy, and in the same way, all conditions attended with irregular, involuntary, inco-

ordinate movement should not be more or less indiscriminately grouped together as chorea. Some differences of opinion have also arisen with regard to some of the subdivisions of chorea. Thus so-called hereditary chorea and senile chorea are by some considered as different, and by others as identical affections. The qualification "hereditary" in medicine would seem to be as unfortunate as it is unnecessary, particularly in the field of diseases of the nervous system. In the first place, disease as such is not inherited, that which is transmitted from parent to child being merely a certain cellular type and thus at most merely a predisposition to disease; and this is the rule and not the exception. In the next place, even so-called "hereditary" disease must begin in some ancestor, and the instances are not few in which no hereditary transmission can be detected. The influence of heredity must, therefore, be looked upon as but incidental and in a sense not essential.

To the comparatively small number of cases described as senile chorea, H. Bischoff[1] adds the report of another. The patient was a woman 73 years old, presenting choreiform movements involving the entire left side of the body and persisting for five years until death. The movements, which rather resembled those of athetosis, were beyond control of the will, and ceased during sleep. Speech was interfered with, but intelligence was unaffected. There had been no history of rheumatism; there was no cardiac lesion; and there was no knowledge of hereditary taint. The symptoms had made their appearance after emotional disturbances, but this, it was thought, may have been a manifestation rather than the exciting factor of the disease. Headache, however, was a prominent symptom. Tuberculosis of the vertebræ also was present. Macroscopic and microscopic examination of the central nervous system after death disclosed no significant lesion, although there were present recent hemorrhages in the optic thalamus, and diminution in the number of ganglion-cells of one-half of the spinal cord such as may be found in the normal cord.

1. Deutsches Archiv für Klin. Med., 69 B., 3, 4, H., p. 404.

## VITAL STATISTICS IN ILLINOIS.

As yet vital statistics are very imperfectly registered in most parts of this country and it is a satisfaction to note the enactment of measures that will insure a better record in the future. Such a one was passed by the last session of the Illinois legislature, which has just adjourned. It provides for the registration of births, allowing, as it should, a small fee for the reporting of the same, and providing penalties for its violation. Heretofore the return of births in Illinois has been very defective, but the present law gives to the health authorities the means for insuring a correct registration after this year, the law for some reason having been made to go into effect Jan. 1, 1902. It is probable that the deficiency in birth reports has been heretofore more largely among the well-to-do classes and native Americans than among the poorer and foreign born. At least this would appear probable from the published lists. It is to be hoped that American mothers will make a better showing under the new law.

## THE PATHOLOGIC EXHIBIT AT THE ST. PAUL MEETING.

This eminently practical feature of the Association promises to exceed both in interest and in size that of last year. There will be some exhibits illustrative of research and experimental work. Effort has been made by the Committee, with most gratifying success, to secure groups of specimens bearing upon particular phases of pathology. Systematic endeavor will be made to demonstrate the collection of specimens to groups of visitors. It may be stated without fear of controversy that the Exhibit will prove most entertaining and exercise a potent educational influence upon the meeting. The number of exhibitors will almost double that of a year ago. They will come chiefly from the states contiguous to the place of meeting, but the south, east, west, and even the Canadian profession will have creditable representation. The location of the Pathological Exhibit in the Ryan Annex, near the Headquarters, will insure a large attendance. The room is seventy-five feet square, has fine light upon two sides, is situated on the fourth floor and has excellent elevator service. No member of the Association should fail to visit the Exhibit. Aside from the great advantage to be gained by its inspection, it is due the large corps of exhibitors who for the love of medical science, have labored "without money and without price" for the success of this most praiseworthy undertaking.

## TO HASTEN DELAYED RESOLUTION.

While the mechanism of counter irritation in its various forms is not understood, the fact of its usefulness is not to be denied. The most reasonable explanation, though it is but indefinite, is that an influence, probably of a stimulating character, is exerted reflexly from the surface through the nerves and vessels upon the circulation and metabolism of the diseased area. Such an effect may be desired in the presence of a number of torpid morbid processes, such as an unresolved pneumonia, and for this purpose it is not unusual to apply blisters or iodin. Dr. Charles I. Macalister[1] has observed frequently that resolution followed closely upon exploration of the chest with an aspirator needle in cases in which there has been a suspicion of pleural effusion, although only solid lung is encountered, and he considers the subsidence of the temperature and the subsequent clearing up of the consolidated area as not merely accidental. Similar results have been observed in cases of distinct croupous pneumonia and of pneumonic consolidation of long duration. In carrying out the procedure a fairly large needle or trocar should be employed. French clinicians have advised, in order to bring about resolution of chronic pneumonic conditions, the excitation of a sterile abscess in some indifferent situation, though preferably in proximity to the affected organ, by means of the subcutaneous injection of oil of turpentine. This is thought to effect its purpose not alone through its counterirritant influence, but also through the leukocytosis to which it gives rise.

1. Liverpool Medico-Chir. Jour., March, 1901, p. 216.

## THE VERMIFORM APPENDIX THE CONSERVATORY FOR THE COLON BACILLUS.

From experiments upon animals Kohlbrugge[1] has learned that when the stomach is empty it may be quite sterile, whereas during digestion it is possible to cultivate numberless bacteria from the ingesta. The small intestine when empty is also sterile; wherever the ingesta occur there bacteria are also found. This periodical cleansing of the small intestine he designates as autosterilization. He never found the cecum or colon sterile, the bacterium coli commune being the predominating variety and especially numerous in the cecum. The cecum is therefore the breeding place of the colon bacilli, which are peculiar to the individual and persist from the earliest extra-uterine period till some time after death. The cecum is the brood-oven of the body and here develop the bacteria, which are our constant messmates. That these bacteria may be of some physiologic importance is not unreasonable. The vermiform appendix, not subjected to the peristalsis which in violent diarrhea may empty the cecum and colon, may serve to maintain the culture of colon bacillus peculiar to the body. Instead of being an useless and dangerous organ the appendix may be of great importance in keeping alive our bacterial messmates, which in their turn influence digestion favorably and keep out foreign invaders. The appendix, in other words, secures for us stability and permanence of our colon bacilli. That much of surgical and of general physiologic importance remains to be learned in regard to the intestinal bacterial flora is not to be doubted, but it is not likely that the possible importance of the appendix suggested by Kohlbrugge will lead soon to greater conservatism than now obtains in respect to the removal of this organ.

1. Centralbl. f. Bakt., 1901, xxix, 571-574.

## THE "JURY LICENSE" AND MEDICAL PRACTICE ACTS.

In some western and central states an appeal has recently been made to the courts to reverse the decision of the state boards of medical examination. Juries have in some cases found for the plaintiffs and against the board, thus introducing a new factor into the question of the judgment of medical qualifications. It would seem that a medical practice act, unless declared unconstitutional by the highest court, would be the supreme law on the subject, and the function of a jury would hardly include the giving of licenses to practice medicine. An appeal to the courts ought, if possible at all, to be limited to the question of the proper execution of the law by the examining board. Some puzzling questions might arise, but when we read of a Montana judge instructing the jury that they were not called upon to determine whether the examination justified the action of the state medical examiners, but they must determine from the evidence whether the plaintiff was qualified to practice medicine, it appears to us that his ruling is open to criticism, even by those who are not lawyers. By such a ruling, a jury license to practice might become the favorite qualification and the statute practically a nullity. If the courts and juries of laymen are to settle the question of medical qualifications, we may look for some queer results, and the question naturally arises how would it suit if lay juries were to decide on the merits of candidates for admission to the bar? They are as well fitted for this function as the other. Of course this case can go up to the highest court and it is fortunate that it is so, for nothing short of this could be satisfactory after the instruction that a lay jury is the ultimate judge of fitness to practice medicine.

## FLATFOOT AS A CAUSE OF PARESTHETIC MERALGIA.

Since the original description by Bernhardt, in 1895, of a condition attended with burning pain in the distribution of the external cutaneous nerve of the thigh, a considerable number of cases have been recorded. Although at times no underlying cause is apparent, the disorder must be looked upon rather as a symptomatic manifestation than as a clinical entity. It seems likely that changes in the nerve itself, which in several places is so situated as to be exposed to the risk of injury, may account for the symptoms in some instances. Thus, it may be subjected to mechanical influences at its point of emergence from beneath the psoas muscle; at its point of reflection immediately below the anterior superior iliac spine; in the fibrous canal of the fascia lata, by which it is enclosed, and at its point of emergence from this canal. In addition to traumatism, the disorder has been observed in association with syphilis, alcoholism, infectious diseases, pregnancy and gout, as well as a number of diseases of the nervous system, such as tabes, general paralysis, hematomyelia. Further, J. Pal[1] reports six cases in which paresthetic meralgia was associated with flatfoot, and, while he does not contend that this is the only etiologic factor, and he realizes that the affection may be of varied origin, he nevertheless believes that simple mechanical injury of the nerve is present in the majority of cases. The disorder may arise in an individual previously spare and of slight skeletal development who acquires a certain degree of obesity. The sensation of burning pain appears under such circumstances when the patient is erect and walks about, supporting the body principally on the inner aspect of the foot and securing relief in rest and in walking on the outer border of the foot. Relief will then also follow appropriate orthopedic measures, such as a suitable support for the arch of the foot. The relation between flatfoot and the paresthetic condition is believed to reside in compensatory overaction of the hip-joint as a result of the changes in the position of the foot, with a remote mechanical effect upon the external cutaneous nerve. Relief can be hoped for from orthopedic appliances only in recent cases, before structural changes in the nerve have taken place.

1. Wiener Med. Woch., 1901, No. 14, S. 665.

## THE PLAGUE AT SYDNEY.

The report of the Department of Public Health of New South Wales on the "Outbreak of Plague at Sydney, 1900," is a very interesting document. The fulness of detail, the excellent illustrations, the condign discussion, and the prompt publication speak well for the state of organization of the department and for the energy and ability of the chief medical officer, Dr.

J. Ashburton Thompson. The epidemic consisted in the attack with plague of 303 persons between January 19 and August 9, of whom 103 died. Of the multifarious branches of work entailed by the epidemic and adequately set forth in the present report particular attention may be directed to the efforts to trace the manner of infection and the mode of spread of the disease. It seems to be quite conclusively shown that an epizoötic disease among rats preceded the first case which occurred in man, and bacteriologic examination showed that the epizoötic disease among the rats was bubonic plague. Further that the area over which the epizoötic extended was practically co-extensive with that over which the plague was observed in man. This epizoötic died out at the same time as the epidemic ceased. The general conclusion based upon the evidence thus outlined is that "the epidemic was caused by communication of the infection from rats to man." As to the manner of transmission from rats to man, but little is said, as the opportunities for careful investigation of this point were not favorable. In seven of the cases distinct marks of flea-bites were noted, and in two cases smears from the little vesiculo-papular lesion showed bacilli morphologically resembling the B. pestis. Fleas from infected rats were also examined and in one the presence of plague bacilli was demonstrated definitely by means of inoculation into a guinea-pig. Should it eventually be established to general satisfaction that plague is communicated to man by means of fleas then it would seem from analogy that there is nothing inherently unreasonable in the theory of a bacterial origin of yellow fever although the disease is transmitted by mosquitoes as shown by the brilliant researches of Reed and his associates. From careful consideration of the facts of the Sydney epidemic it also seems clear that the disease was not "catching" in the ordinary sense of the word, and further that it was not communicated in any important degree by fomites. Rat-killing was instituted on a large scale; a special rat-catching staff ultimately reported that it had destroyed 38,600, and the grand total killed by authority is 108,308. Of course, private persons killed a great number also. It is urged strongly that removal of all conditions favoring harborage and breeding of rats in and near occupied premises be recognized and instituted as an important practical means of protection against epidemic plague. This means steady and faithful carrying out of certain well-known details of municipal sanitation, and specific recommendations are made to meet the local conditions in Sydney based upon the principle that plague is diffused by rats. "There is no royal road to the prevention of plague." and there is no doubt that the health officers of our large cities may profit much by a careful study of the Sydney epidemic and the experience of those who took active part in the struggle successfully waged against it there.

**Trusses in the Fifth Century.**—Professor V. Deneffe, of Ghent, has written several works on surgery and medicine in antiquity, among them "Ancient Dental Protheses," and "A Gallo-Roman Surgeon and Oculist in the Third Century." He has recently published an account of some iron trusses found in the tombs at Euville and Devise, dating from the fifth to the seventh century.

# Medical News.

## ALABAMA.

**Dr. Emmet K. Moon,** Anniston, has been elected physician of Calhoun County, vice Dr. Thomas W. Ayers, resigned.

**The proposed hospital** in Montgomery secured in two days' work nearly half of the amount required to guarantee its construction.

**The Medical College of Alabama** held its forty-second annual commencement in Mobile, April 3, graduating a class of 38. Dr. Charles A. L. Reed, president of the AMERICAN MEDICAL ASSOCIATION, delivered the doctorate address.

**Southern Quarantine.**—During the recent smallpox scare in the South, it is said that the mayor of a small town in Alabama took the extraordinary precaution of appointing all the conductors on city and suburban lines as quarantine officers, and all persons coming from adjacent infected districts were required to show a health certificate before being allowed to enter the city.

## CALIFORNIA.

**Pasadena Board of Health.**—The newly appointed Board of Health has organized and elected Dr. F. F. Rowland health officer.

**Japanese Maiden Graduate.**—Miss Una Yone Yanagisawa is one of the 28 graduates in medicine in the State University. She is also a B. A. of the class of '98 of the same institution.

**The death** of the white woman in San Francisco on April 25, which was reported to have been due to the plague and mentioned in THE JOURNAL of May 25, was, on investigation, proved not to have been the result of that disease.

## DISTRICT OF COLUMBIA.

**John Baudat,** Washington, who pleaded guilty to practicing medicine without a license, was released on his own recognizance.

**John A. Dougherty,** Washington, was arrested May 13, charged with practicing medicine without a license. He was fined $5 which was paid.

**Casualty Hospital,** Washington, has elected Dr. John R. Wellington, chief of the surgical and emergency staff, and Dr. Jesse J. Shoup, chief of the eye, ear, nose and throat department.

**Georgetown University Medical Department** held its fifty-second annual commencement May 21 and graduated a class of 21. Dr. Joseph Eastman, Indianapolis, delivered the address, choosing for his subject "The Evolution of Surgery."

## ILLINOIS.

**Dr. John C. Corbus** has been re-elected superintendent of the Illinois Eastern Hospital for the Insane at Kankakee.

**Dr. Frederick C. Winslow,** Jacksonville, has been appointed superintendent of the Hospital for the Incurable Insane, which is now nearing completion, at South Bartonville, near Peoria.

**Julia F. Burnham Hospital,** Champaign, is a beneficiary to the extent of $24,000 by the will of Miss Ida Harris, of which $4,000 is to be devoted to the erection of a consumption ward.

### Chicago.

**Dr. Harold Jacobsen** sailed for Europe May 4, on the *Graf Waldersee.*

**Dr. E. C. Dudley** was appointed a member of the Board of Education, May 27.

**Dr. Evert E. Tracy** has been appointed physician to the State Penitentiary at Joliet.

**Dr. Norval H. Pierce** has been appointed otologist to the Illinois Charitable Eye and Ear Infirmary.

**Dr. Joseph C. Beck** has been elected professor of diseases of the ear, nose and throat, in the Chicago, Eye, Ear, Nose and Throat College.

**Drs. Edward T. Dickerman and Charles H. Beard** have been appointed on the staff of the Illinois Charitable Eye and Ear Infirmary.

**Marshall Field** has given the Chicago Home for Incurables ten lots adjoining the ground now occupied by the home. The land is valued between $40,000 and $50,000.

**Dowie and three disciples** have been held to the grand jury by the coroner's jury, pending the investigation of the

death of Mrs. H. W. Judd, whose husband is among the indicted.

**Hospital Gift Refused.**—The offer of two Swedish-Americans in San Francisco to give $25,000 each for the erection of a hospital in Lake View or other suitable location in Chicago, has been refused by the Swedish Evangelical Mission Board unless the hospital is established in Bowmanville.

**Dr. N. Senn,** accompanied by Dr. D. R. Brower, expects to sail for Bremen on the *Saragossa*, July 4, for a round-the-world trip which he designates "A Race Against the Sun." He goes via Moscow, the Siberian Railway, Vladivostock, Corea, China and Japan, and expects to arrive in Chicago about October 1.

**Dust, Street Sprinkling and Health.**—Last week furnished an object lesson in the necessity for strict and strenuous supervision over street sprinkling. Within twenty-four hours after the rain ceased to fall the streets were dry, but there was no sign of a sprinkling cart until the air was full of dust and the seeds had been sown of hundreds of cases of influenza, bronchitis and pneumonia—to say nothing of consumption.

**Deaths of the Week.**—Nearly 12.5 per cent. fewer deaths were recorded last week than the week previous, and the annual mortality rate of the week was only 12.13 per 1000 of the estimated mid-year population. It is not probable that the total deaths for the month will much exceed 2000. The deaths numbered 409, of which 51 were due to pneumonia, 52 to tuberculosis, 35 to heart diseases, 31 to nervous diseases, 30 to acute intestinal diseases and 25 to violence.

**The College of Physicians and Surgeons** granted the medical degree to 160 students on May 28. The doctorate address was delivered by Dr. Joseph M. Mathews, of Louisville, Ky. The exercises were followed by a banquet at the Auditorium Hotel, in which 300 alumni of the college participated. Dr. William A. Pusey acted as toastmaster. Among the speakers of the evening were President Draper, Drs. J. W. Birk, Harold N. Moyer, Alexander H. Ferguson and Joseph M. Mathews.

**The Smallpox Situation.**—The thing most dreaded by the Department of Health is a change in the type of the smallpox; if this should occur, serious results are inevitable. The disease has been so mild that the contagion must be spread to an unknown extent from cases that have not come under observation. No person who is not positive as to vaccinal protection can afford to postpone vaccination before the weather gets too hot for the operation and before the disease changes to a malignant character.

## INDIANA.

**Fort Wayne Medical College.**—At a meeting of the faculty of this college, May 16, Dr. Christian B. Stemen was appointed dean, and Drs. Graylord M. Leslie and Warren D. Calvin were made members of the faculty.

**To test the medical law,** a magnetic healer of Bedford has been arrested, charged with practicing medicine without a license. A motion was made to quash the indictment, but in the circuit court the medical law was sustained.

**Indianapolis is non-liable** to non-paying patients treated at the City Hospital, for any injuries they may suffer through the negligent and unskillful treatment of the hospital surgeons. The Appellate Court has so decided in affirming a judgment refusing Josie E. Williams the damages she asked for alleged malpractice at the hands of one of the internes at the hospital three years ago.

**Qualifications of Osteopaths.**—The State Board of Medical Registration and Examination, has adopted the following resolution. "Whereas, by the amendments of 1901 to the medical act the State Board of Medical Registration and Examination may grant limited certificates which will authorize the proper clerk to issue a license to practice osteopathy only, and whereas it is provided by the law that 'such certificates shall be issued on the same terms and conditions as others, except that the applicant therefor shall not be required to pass an examination in materia medica, nor shall the college from which he presents a diploma be required to conform to the standard fixed by said board as to instructions in materia medica, but such college shall so conform in all other branches of instruction,' therefore, 'Resolved, That all applicants for registration to practice osteopathy in the State of Indiana and the colleges from which they procured their diplomas, must comply with the schedules of minimum requirements in force at the time of application except in so far as pertains to materia medica."

## MARYLAND.

**Dr. I. Edmondson Atkinson** has been appointed a member of the State Lunacy Commission.

**Dr. Irving J. Spear,** for the past year resident physician at Bay View Hospital, Baltimore, left May 29, for a year's study in Berlin and Vienna.

**Dr. C. L. G. Anderson,** major and surgeon of the 29th infantry, arrived at his home, Smithsburg, Washington county, from the Phillippines May 21.

**The Woman's Medical College,** Baltimore held its twentieth commencement May 31 and graduated 7 women, Lois Jones, Pittsburg, taking the highest honors.

**Mr. Edward H. Hume,** who graduates next month from Johns Hopkins, has been awarded the Garrett international fellowship in pathology at Liverpool, lately endowed by Mr. W. W. Johnson for the study of tropical diseases. Mr. Hume's appointment is especially appropriate, as he expects to practice medicine in India, where he has lived for many years.

## NEW HAMPSHIRE.

**Dr. Russell Wilkins,** Concord, has been chosen president of the Concord Board of Health.

**Hampton** is the latest town to object to the compulsory vaccination of school children. The objection is on the ground that as the disease has never appeared in the vicinity, vaccination is unnecessary and the order arbitrary.

**A national bank** at Keene is reported to have secured a sterilizer through which all money received at the bank is to pass. The reason for this precaution is the prevalence of scarlet fever in the town. The report, however, does not refer to the sterilization of the hands which handle the money, nor is it stated whether or not the money is first sterilized and then handled or vice versa.

**Examination for License to Practice.**—The regent of the State Boards of Medical Examiners announces that the next examination for licenses to practice medicine in the State of New Hampshire will be held at the State House, Concord, on Tuesday and Wednesday, June 11 and 12, 1901, beginning at 8 o'clock a. m. All unlicensed physicians who were not in practice in this state on and before March 16, 1897, must pass the examinations in order to receive a license to practice legally their profession. No licenses issued by states, or diplomas from medical colleges, are endorsed by the regent in place of examination, with one exception, namely, graduates from Dartmouth Medical School may receive a certificate on presentation of diploma, if said diploma shall have been issued between the enactment of the medical law, March, 1897, and Jan. 1, 1903. All information regarding the examination will be given by the Department of Public Instruction, State Library, Concord.

## NEW JERSEY.

**Dr. Samuel A. Helfer,** Hoboken, has been unanimously re-elected president of the local board of health.

**The County Hospital** at Mount Holly, on May 17, was struck by lightning, which set fire to a room, and frightened the patients. The flames were extinguished before much damage was done.

**Smallpox Still Prevalent.**—Smallpox which broke out some time ago in Gloucester is still prevalent there. On May 20 another new case was taken to the municipal hospital. The public schools, which it was hoped would be opened on May 20 are still closed for an indefinite period. On May 21, one patient died of the hemorrhagic form, and on May 23 two other persons perished. Fearing that the disease might get a foothold in Camden the health authorities of that city have placed a partial quarantine against Gloucester. This order will prevent undertakers from going to Gloucester and returning with their vehicles. The order was issued by the board of health and signed by Dr. H. H. Davis, the president, and Eugene B. Roberts, secretary. During the past week, a case of smallpox developed in Camden, and it is believed the patient contracted the disease in Gloucester, where she had visited. A few days ago Medical Inspector Leavitt of Camden deported a boy to his home in Gloucester, and it is said that the boy has since developed smallpox.

## NEW YORK.

**Dr. Harriet M. Doane,** Fulton, sailed on the *Teutonic*, May 29, for a year's study in the hospitals of Europe.

**Dr. H. R. Bedell,** Watervleit, was the successful candidate in the examination for interneships of the Ellis Hospital, Schenectady.

**Dr. John Archibold** has been re-appointed health officer of Cohoes, on a salary of $900, to which is added a monthly allowance of $30 for medicines.

### New York City.

**Governor Odell** has appointed Joseph Simonson, of Richmond County, as quarantine commissioner of the port of New York in place of Hugh McRoberts.

**Smallpox.**—This disease continues to be very prevalent, and, to make matters worse, it has been charged that two physicians have been guilty of deliberately violating the law and jeopardizing the public health by concealing cases of the disease. Those so accused have been summoned to appear before the board of health and explain, and if there is a proper foundation for these charges, they will be prosecuted. A nurse in the ward of the Harlem Hospital has developed the disease, and in consequence one physician, two nurses and sixteen patients are quarantined.

**Mount Sinai Hospital.**—The new edifice for the Mount Sinai Hospital, the corner-stone of which was laid May 22, in the presence of several thousand persons, will cost about $1,335,000, and is to be completed in two years. The site alone cost $532,000. There will be ten distinct and absolutely fireproof buildings, connected by covered corridors, each building having five stories. The medical and surgical pavilions will each accommodate 160 beds, and there will be a children's ward of 60 beds. The building at present occupied by the hospital was erected in 1870.

**Another Dowie Death.**—J. Luther Pierson, who has been placed on trial on the charge of wilful neglect to procure proper medical attendance for his 2-year-old daughter, in consequence of which she died, has been sentenced by Judge Smith Lent to pay a fine of $500 or to imprisonment for 500 days. The case was tried by jury, and the latter in bringing a verdict of guilty added a recommendation for mercy. Mr. Pierson declined to pay the fine, and said he would appeal the case, asserting that it was an infringement of his constitutional rights to hold any religious belief he desired.

**The Smoke Nuisance.**—Although soft coal continues to be used more and more, and the smoke nuisance is assuming unpleasant proportions, the inspectors of the Health Department declare that they are almost powerless in the premises. On two occasions the president of a certain brewing company has been arrested on the charge of maintaining such a nuisance in open violation of the law, but in the face of very complete evidence the police magistrates have seen fit to discharge him. The same farce is repeated in other cases, so that not only the inspectors but the legal counsel of the department have declared their inability to cope with the problem unless the police courts are so reformed that political "pull" will not have much influence.

### OHIO.

**Bethesda Hospital,** Cincinnati, was dedicated, May 16, free of debt.

**Dr. Philip S. Rieg,** Toledo, returned May 18, from a two-months' pleasure trip in Europe.

**Dr. William Knight,** Cincinnati, sailed for Glasgow on the *City of Rome*, June 1. He expects to spend four months in visiting European hospitals and clinics.

**The Mayor of Cleveland,** forgetting that medieval times are past has promulgated a decree that, while he is mayor, there shall be no compulsory vaccination in his city.

**Opening of the Branch Hospital for Consumptives.**—On May 16, the board of Trustees of the Cincinnati Hospital formally opened the Branch Hospital for Consumptives at Lick Run. Patients were first received at this institution in 1897, but only lately large appropriations have made the affair the success it is. About two hundred visitors were present. One of the important features is the establishment of solaria in connection with each of the new buildings so that the patients are enabled to take sun-baths even in winter. The establishment of separate buildings is to keep apart the patients afflicted with incipient phthisis, and those with the graver forms of the disease. After an inspection of the building, a banquet was held and speeches were made by Mr. Benneker, chairman of the Finance Committee of the Board of Legislation, Drs. Frank W. Hendley, N. P. Dandridge, and T. A. Reamy. Dr. A. B. Isham, of the board, acted as toastmaster.

### PENNSYLVANIA.

**New Board of Health for Norristown.**—On May 21, a new Board of Health was appointed by the town council, to replace the members who left two weeks ago. The new board is as follows: Drs. Alfred H. Read, James Fennel, Joseph S. Rambo, James Wilkinson, and B. F. Whitby.

**Smallpox is Rampant.**—It is said that in the region of Newburg, to Roxbury and Edenville, and in Franklinville, in Franklin County, nearly 30 cases of smallpox have occurred within the past month. In one family 8 persons have been affected. A public funeral was held over the death of one of these persons and hundreds of persons attended. It is stated that some of these cases had been pronounced Spanish measles or Philippine itch. In Shippensburg, 8 cases have been reported. In Larksville, on May 24, 4 new cases were reported. The various lodges have been advised not to hold meetings during the existence of the malady.

### Philadelphia.

**Dr. Walter Wyman,** Surgeon General, U. S. Marine-Hospital Service, was tendered a reception on May 23, by members of the Philadelphia Medical Club. Upwards of 150 guests were present.

**Milk Investigation.**—The Philadelphia Pediatric Society has again appointed a committee to examine into the condition of the milk sold in this city, to be composed of the following: Dr. C. J. Marshall, veterinary inspector; Dr. M. V. Ravenel, bacteriologist; and Dr. Henry Leffmann, chemist.

**The Medico Chirurgical College** held its annual commencement at the Academy of Music on May 24, when 69 candidates received their degrees. A banquet was tendered the graduates on behalf of the Alumni Society on the evening of May 23. In class-day exercises were held in the clinical amphitheater on May 23, when ex-Governor Robert E. Pattison addressed the graduates.

**Smallpox.**—Since smallpox has been so widespread over the State of Pennsylvania and a portion of New Jersey the health authorities of this city are taking precautions to prevent it getting a firm foothold here. A joint letter from the boards of health of both Camden and Philadelphia was recently submitted to the board of health of Gloucester asking it to take the necessary steps to stamp out the disease.

**Anniversary of Class of '76.**—During the commencement week exercises of the University of Pennsylvania next month it is purposed to celebrate the 25th anniversary of the 1876 graduating class of the department of medicine with a dinner on June 11. At that meeting a permanent organization of the class for the benefit of its alma mater will be effected. The committee in charge consists of Drs. Charles A. Oliver, William H. Klapp and J. Francis Walsh.

**Interneships.**—On May 23 the Board of Charities and Corrections passed a resolution providing that the list of eligible applicants for positions as resident physicians of the Philadelphia Hospital (Blockley) be submitted to the authorities of the different medical colleges, namely: University of Pennsylvania, Jefferson Medical College, Medico-Chirurgical College, and the Woman's Medical College, and that the first three of these be permitted to name seven appointees each, and the last named three, subject to confirmation of the board.

**Epidemic of Typhoid Fever.**—A mild epidemic of typhoid fever has been prevailing for several days in West Philadelphia north of Market street, and west of the Schuylkill river. The number of cases have gradually increased until its extent has become quite noticeable. Of the 102 cases reported in the city last week 40 per cent were said to have occurred in the Twenty-fourth and Thirty-fourth wards. This entire section of the city receives its water supply from George's Hill in Fairmount Park. The disease has for the most part been confined to the district north of Market Street, while few cases have been reported south of that street, a locality which derives its drinking water from the same source. It is now believed that the increase of typhoid may have been caused by polluted milk or defective sewage. Medical inspectors have made an investigation of the Belmont pumping station, but nothing has been found. For the week ending May 25, fifty-three new cases were reported in this district.

### GENERAL.

**Smallpox in Alaska.**—There has been considerable excitement at Skaguay over the epidemic of smallpox in Southeastern Alaska. Quarantine has been declared against Sitka and other points and vaccination is going on everywhere in that country. Since January there have been over one hundred cases at Sitka.

**Hospital Corps Company of Instruction, Hospital No. 3, Manila.**—The third class of the Hospital Corps Company of Instruction of the Division of the Philippines, U. S. Army, held its graduating exercises March 27. The faculty of the

Company of Instructions consists of the following: Major John S. Kulp, U. S. A.; Captain Najeeb Saleeby, A. A. surgeon, U. S. A.; Capt. Jerome B. Thomas, A. A. Surgeon, U. S. A.: Lieutenant John C. Constable, 46th Infantry, U. S. V.; Lieutenant Clarence B. Millhoff, asst.-surgeon, U. S. A.; Lieutenant Walter D. Webb, asst.-surgeon, U. S. A., and Lieutenant William J. Lyster, asst-surgeon, U. S. A. Out of a class of fifty-one, nineteen passed the examination and received diplomas. Col. Charles C. Greenleaf, asst.-surgeon, U. S. A., Chief Surgeon Division of the Philippines, delivered the address to the class, and gave a brief history of the hospital corps. Lieut. Lyster, commanding the Corps of Instruction, gave a practical demonstration of what had been taught during the course, including first-aid, bandaging, application of temporary splints, improvised field hospital, ambulance work, surmounting of obstacles, travois, etc. The diplomas were presented to the class by Major-General Arthur MacArthur, U. S. A., Military Governor of the Philippines. Together with the report of the graduating exercises, Major Kulp has forwarded a schedule of instruction, which includes a fourteen-weeks' course of drills, dictation, spelling, arithmetic, hygiene, first-aid, minor surgery, elementary materia medica, nursing, elementary anatomy and physiology, pharmacy, clinical surgery, diet cooking, signal drills, the application of bandages and splints, and field work. The army is to be congratulated on the successful issue of the class of instruction. The continuance of such courses of study for the Hospital Corps would result in greatly increased efficiency of the corps and in incalculable good to the sick and wounded.

Capt. Saleeby. Lieut. Constable. Lieut. Lyster. Lieut. Webb.
Capt. Thomas. Maj. Kulp. Lieut. Millhoff.

**Exhibit of the Medical Department, U. S. A., at the Pan-American Exposition.**—A feature of the Exposition which will be of much interest to medical visitors is the exhibit of the Medical Department of the Army. As lack of floor space precluded an indoor display of sufficient scope to creditably represent the department, the exhibit has been confined to a 100-bed field hospital, equipped to take the field with an infantry brigade. This exhibit, in charge of Capt. E. L. Munson, assistant-surgeon, U. S. A., is centrally located immediately south of the Government Building, and visiting medical men are cordially invited to inspect its equipment and make it their headquarters on the Exposition grounds. The hospital is completely equipped down to the last tent peg and authorized ounce of supplies, and demonstrates the resources of the Medical Department, in respect to the brigade hospital unit, in quantity, size and capacity as well as in variety and quality. The exhibit is unique and particularly attractive by reason of the fact that the supply table of the Medical Department has been entirely revised within the past year, and scarcely an important article of equipment is shown which has not recently been adopted by the Medical Department. The exhibit thus represents the latest advances in every branch which has to do with the care of the sick and wounded in the field and the exhibit, as a whole, including tentage, camp furniture, instruments, dressings, medicines, hospital stores, cooking and messing facilities, represents a more modern and complete equipment than is possessed by any other army in the world. The transportation necessary to move the hospital with marching troops, together with its quota of ambulances—the latter of the new 1900 model—is also shown. Besides the equipment of the field hospital proper, the exhibit includes an enlisted personnel of twenty-four men of the Hospital Corps, U. S. Army, who act as attendants at the exhibit and also give an attractive series of exhibition exercises in litter drill, transportation of wounded, first-aid and bandaging, the method of establishing field hospitals, etc. The exhibit, while particularly valuable and instructive to medical officers of the National Guard, will prove of much interest to practitioners in civil life. Its completeness of equipment and excellence in respect to *personnel* reflect much credit upon the authorities of the Medical Department, and hence upon the profession at large, whose official representatives they are.

## CANADA.

**Unpaid Assessments.**—Ontario physicians who have not responded to the demands of the Medical Council to pay all arrears of assessments have had their month of grace extended thirty days. After June 19 prosecutions will be commenced. Dr. Pyne, the registrar, states that all but 300 of the 2500 have paid up to date.

**Financial Sympathy in Alleged Malpractice Suit.**—Some time ago mention was made in these columns of a case of suit for malpractice against Dr. J. M. Conerty, of Smith's Falls, Ont. The statement has lately been circulating that Dr. Conerty had compromised for $600. This is incorrect. He is still fighting the case and with the approval of his fellow practitioners throughout the Dominion. The Montreal Medico-Chirurgical Society, the Toronto Clinical Society, Dr. R. W. Powell, of Ottawa, and others are supporting him with their financial sympathy.

**Grave Robbing Case.**—A third year student in medicine at Queen's University, Kingston, was arrested in February last having the dead body of a woman in his possession presumably for dissecting purposes. The case against him was disposed of on April 22 when the judge of the County Court of Peterboro had him discharged on the first count, the prosecution failing to prove that he had opened the grave. On the charge of indecently interfering with a dead body the defendant was find $200, or in default, one year in gaol. For this misdemeanor the Ontario law provides five years in the penitentiary or a fine at the judge's discretion. The student's previous good character saved him from gaol. This is the first case of its kind to come before the Ontario courts.

**Winnipeg General Hospital.**—The regular monthly meeting of the board of governors of the Winnipeg General Hospital took place in the hospital building on the afternoon of May 24, when the report of the special committee appointed to secure the services of a pathologist and bacteriologist, was received and adopted. The Committee reported that they had arranged with Dr. Gordon Bell of Winnipeg, the provincial bacteriologist, to assume charge of this work at the hospital at an annual salary of $500, he to appoint his own assistant, who was to be present at the hospital daily for such hours as might be found necessary for carrying on this work. Dr. Bell will assume his new duties on June 1. Dr. Chestnut, the medical superintendent, resigned and Dr. Jasper Halpenny, who has been acting as assistant medical superintendent for the past four months was promoted to the position of superintendent. His appointment will be for one year dating from June 1.

**Ontario Vital Statistics.**—The monthly report of the provincial board of health for the province of Ontario shows that there have been 2427 deaths in April as compared with 2525 in March, and 2311 in April of last year. The deaths from contagious diseases were as follows: consumption, 236; diphtheria, 39; scarlet fever, 17; whooping cough, 14; typhoid fever 12. The deaths from consumption and diphtheria show increase, the figures in April, 1900, being respectively, 203 and 24. It will thus be seen that the mortality from consumption as mentioned in THE JOURNAL'S editorial of May 25 is not by any means one-fifth of the deaths in the province of Ontario. One-tenth appears to be nearer the mark; and it is certain that several, if not all of the provinces, can produce as good, if not

better showing than this. The report as regards smallpox shows that there have been over 600 cases during the present outbreak, with only six deaths; this is a death-rate of one per cent. of those afflicted.

**Public Works Health Regulations.**—The Canadian Government has adopted a new set of regulations for the preservation of health and the mitigation of disease among persons employed in the construction of public works. Some few months ago an inspector was appointed to enforce the act respecting the employees on public works and these new regulations define his duties. He is to act as chairman when present at meetings of health boards, to notify the Minister of Agriculture and the secretaries of the provincial boards of health wherein public works are being carried on of all cases of infectious diseases. Any person or persons or companies constructing public works must engage a medical officer for each five hundred employees and such medical officer must be properly supplied with medicines and a means of conveyance. The health board upon such works is to consist of the inspector, the medical officers and the government engineer; and when there is no hospital within reasonable distance of the work the contractors must establish one. They must also provide temporary hospitals sufficient to accommodate at least six patients, or more if necessary, with a medical officer, nurses and proper hospital supplies. Suitable accommodation must also be provided for isolating infectious diseases. The regulations provide for fines for breaches of or non-observance of the rules.

**Montreal General Hospital.**—The annual meeting of the governors of this institution was recently held, and the committee of management has determined to put a stop to the annual deficits. After June 1, a charge of 10 cents is to be made for the first bottle of medicine in the out-door departments and thereafter 5 cents for each bottle. Dr. John McCrae has been appointed resident assistant pathologist and Dr. von Eberts, the medical superintendent, has had his term extended to May 1 next, his staff to consist of ten house-surgeons and a lady superintendent with seventy nurses. A complete new sterilizing apparatus has recently been put in at a cost of $500. Dr. Finley, the secretary, reported that the expenditure for the past year was $84,280; income, $75,994; indicating an excess of expenditure of $8286 for the year, which added to the deficiency of last year, $14,149, gives a total debit balance of $25,000 nearly. Dr. Finley also presented the report of the medical work for the year. There were 250 deaths, of which 105 occurred within three days of their admission. The death-rate had been 8.85 per cent., or, excluding the 105 cases dying within three days of their admission, 5.13 per cent. The average number of patients in the wards was 178, an increase of 11 as compared with the previous year. The average number of days in hospital per patient was 22.3; and the aggregate number of days in the hospital for all patients was 63,018, an increase of 2946 as compared with 1899-90. The average cost per patient per day had been $1.37, as against $1.35 in the preceding year. In the out-door department there were 41,606 consultations, being an increase of 4,233 over the previous year. Of these there were treated in the medical department, 12,431; surgical, 14,378; eye and ear, 6099; gynecologic, 1495; nose and throat, 3068; dermatologic, 1861; dental, 144; emergency, 2130.

## FOREIGN.

**Plague in Cape Town.**—For the two weeks ending May 25, there occurred 56 cases and 33 deaths, making since the commencement a total of 666 cases and 308 deaths. The deaths include 55 Europeans. Judging by the returns, the disease seems to have reached its maximum and to be on the decline.

**New Russian Medical Journal.**—In the place of the Russian medical journal, *Vratch*, which suspends publication this year, the same publishers announce a new medical journal, *Russky Vratch*, to follow in the footprints of its predecessor. Professor Podwyssotski is to be the editor-in-chief. The new journal is to be dedicated to the memory of Manassein, the founder of the original *Vratch*.

**Smallpox in Glasgow.**—The epidemic of smallpox is rapidly dying out. On May 13 there were only 75 patients under treatment, and during the past fortnight there were only 28 fresh cases compared with 92 of the preceding. The total number of cases has now reached 1823, of which 232 were fatal. It is estimated that the extra expenditure of the city in connection with the epidemic will be $210,000 to $240,000. This is made up as follows: "Treating patients in hospital and isolating "contacts," $25,000 to $30,000; erecting temporary wooden pavilions and extending reception houses $35,000; preventive measures—including vaccination and revaccination—$150,000 to $175,000.

**Plague in India.**—For the week ending April 20 there were 6304 deaths from disease in all India, against 8429 of the previous week, again a considerable decrease. In Bombay there were 459 deaths—a decrease of 222, compared with the former week. A most satisfactory feature is that in the heart of Bombay there is for the first time for some months a considerable area from which the plague has disappeared. In Calcutta the present season's outbreak is nearing an end. Disinfection appears to have failed. Notwithstanding the extraordinary efforts during the intermission of the last year to thoroughly disinfect the slums of Calcutta the present recrudescence has been higher by about 50 per cent. than any previous one. Cases have repeatedly occurred in houses which have been disinfected repeatedly, so that little or no good appears to have resulted from the great expenditure on disinfectants. The effective disinfection of native houses seems impossible. At the end of March the weekly mortality rose to over 1100 in Calcutta, but in two weeks it had sunk to just one-half.

**Plague in Sydney.**—A fatal case has occurred at the quarantine ground. The patient was a man on board a troopship, which had just arrived from Cape Town, where it had been for two months. On the voyage a large number of rats died. The patient had been engaged in the hold of the ship assisting in removing the bodies of the rats. On arrival at Sidney the vessel was quarantined. Bacteriological examination showed that the rats were affected with plague bacilli. The ship was thoroughly fumigated and a large number of rats were killed. The period of quarantine—ten days— had just been completed and orders had been given for the release of the vessel when this man suddenly developed suspicious symptoms which proved to be plague. The board of health of Sydney is actively engaged in securing the cleanliness of every quarter of the city. Regulations have been framed that metal discs shall be fixed to ropes making vessels fast to wharves and that gangways shall be drawn up at night time so that rats shall be prevented from leaving ships. A penalty of $500 is attached to breach of these regulations.

**Dr. John Cavafy.**—Dr. John Cavafy, consulting physician to St. George's Hospital, died on the 28th ult. Though born in London, he was of Greek descent. He graduated at the University of London in 1867, and in the following year became a member of the Royal College of Physicians. He was appointed demonstrator of histology at St. George's Hospital, and showed great teaching abilities. He became in succession lecturer on comparative anatomy, medical registrar, lecturer on physiology, assistant physician, and physician and dermatologist. He was an excellent linguist and an artist of no mean capacity. His beautiful water-color drawings illustrating "Symmetrical Congestive Mottling of the Skin"—a condition described by him in the "Transactions of the Clinical Society"—adorn the museum of his hospital. He was not a voluminous writer, but something much better—one who wrote little but all of which was valuable. The following are a few of his most important papers: "Amœboid Movements in Leukemia," "Eruption after Salicylate of Soda," "Erysipelas with Low Temperature," "Urticaria Pigmentosa." "Sciatic Nerve-Stretching in Ataxia."

## LONDON LETTER.

**Thoracic Resonance in Left-Handed Persons.**—At the Clinical Society, Sir Hugh Beevor exhibited two healthy left-handed adults to illustrate the normal thoracic resonance in left-handed persons. They proved that the lesser resonance in right-handed persons was due to greater muscular development on that side. He remarked that the absence of emphasis on this point in text-books leads to mistakes in diagnosis. In these cases the pulmonary resonance did not rise so high above the left clavicle as above the right.

**Sir Frederick Treves.**—Mr. Frederick Treves has had the honor of knighthood conferred upon him by the King in person, who also invested him with the insignia of a Knight Commander of the Royal Victorian Order. Recently he was appointed Honorary Sergeant-Surgeon to the King. He was awarded C.B. for his services as consulting surgeon in the South African War. But entirely apart from his services in the war, Mr. Treves has earned sufficient distinction as a surgeon and surgical writer to entitle him to the highest distinctions from his sovereign. His works on "Intestinal Obstruction," "Surgical Anatomy," "Operative Surgery," and the "System of Surgery" edited by him, have long been standard books in the profession.

**Antivivisectionists Meet.**—The annual meeting of the National Antivivisection Society has been largely attended and the gathering included some very influential people—peers, bishops and other church dignitaries. A well-known lawyer, one of the most prominent of the antivivisection controversialists, moved a resolution advocating the total abolition of vivisection as morally wrong. He said that vivisectionists did not defend the torturing of animals, but alleged that no tortures were inflicted. But such plausible assurances were, he insisted, false. The Archdeacon of Westminster described some laboratory experiments, when he was interrupted by a lady, who said: "Oh, we can't bear this!" to which he replied: "You have not to bear it. These poor animals have to bear it." The resolution was carried unanimously.

**Laparotomy in Ascites.**—At the Clinical Society Mr. Leonard Bidwell described three cases illustrating the value of this procedure. In the first the liver and omentum were stitched to the abdominal parietes after evacuating the fluid. The patient recovered and had no return of the ascites. She remained well for nearly six months, when she suddenly died from hematemesis, the result of alcoholic excess. In the second case a child, aged 9, had ascites, which had been preceded and was accompanied by albuminaria and abdominal pain. There was also general anasarca. He had been tapped ten times and the fluid reappeared very rapidly. He is now quite well but for a trace of albuminaria. In the third case, also of a child, aged 9, the ascites was due to cardiac disease, and there was general anasarca and enlarged liver. In this case, too, there was no return of the ascites and the child was able to get about, but died of syncope shortly after returning home.

**Outbreak of Typhoid Fever Due to Fried Fish.**—A report has been presented to the London County Council dealing with outbreaks of typhoid fever which occurred in September last in Southwark, Lambeth and Kensal Town. Great difficulty was at first experienced in tracing the disease to its origin, until one day light was thrown on the matter when the mother of one of the patients was questioned as to what food her boy was in the habit of taking, remarked: "The only thing he ever did eat in this house"—for her son did not live in the infected area but only visited it—"besides bread and butter was a bit of fried fish." This led to further inquiry, and it was found that most of those attacked had consumed this article of food, and, moreover, had obtained it from a particular shop. It was found that in Southwark, if this shop were taken as a center and a circle of a quarter of a mile radius drawn round it, practically the ground in which the exceptional incidence of typhoid fever occurred was covered, and the cases were more thickly distributed towards the center. Out of 10,500 persons eating fried fish from the shop, 101 became infected, while there were only 11 cases in 14,500 persons not dealing at the shop. Again, in the adjacent district of Lambeth, where there were some 45 cases, only one occurred in which fried fish from a suspected source was not eaten. How the fried fish became a source of contagion has not been ascertained.

**Paracentesis of the Pericardium.**—At the Liverpool Medical Institution, Dr. Glynn described the following case: A boy aged 17 had pleuropneumonia eighteen weeks before admission to hospital, from which he never recovered. During the illness clear fluid was aspirated from the left side. On admission there was dyspnea, the respirations being 30 when he was propped up in bed. The pulse was 120, soft and irregular. There was periodical dullness 2½ inches to the right and 5 inches to the left of the middle line at the level of the nipple, and lower reaching the axillary line. The apex beat was absent, and the heart sounds were feeble. The temperature was normal. At the end of a fortnight the pericardium was aspirated and 14 ounces of clear fluid were removed. The urgent symptoms were relieved, the apex beat became perceptible, and pericardial friction sounds were audible for the first time. In a month the fluid reaccumulated and 23 ounces were removed. A mercurial manometer was used on this occasion to estimate the pressure of the fluid in the pericardium by means of a T tube behind the aspirating needle. At the commencement of aspiration the pressure was +2.1 cm.; at the end —2 cm. No organism was discovered in the fluid. The pericardial friction sounds again returned, but they disappeared in a week or two, and there was no evidence of recurrence of effusion. The patient left hospital apparently well at the end of March. It has just been reported that the effusion has returned.

**The Registration of Midwives.**—Last year a bill for the registration of midwives passed its second reading in the House of Commons by a large majority and went almost unaltered through the standing committee on law. It provided that all women who attend cases of natural labor for gain should undergo a course of training in midwifery, pass an examination and be placed on an official register. The value of such a measure is obvious. The majority of the women of the country either can not afford to pay for the services of a medical man or for other reasons are attended by midwives, most of whom are untrained and ignorant. England stands almost alone among the countries of Europe in allowing any woman, however competent, to practice midwifery. The Registrar-General's report shows an annual death rate of women in childbirth in England and Wales of between 3000 and 4000. Puerperal fever is responsible for between 2000 and 3000 of these deaths. When a midwife coming from a case of puerperal fever is warned both by the doctor and by the coroner, there is power to prevent her attending another confinement. Again and again a midwife has been proved to leave a train of deaths behind her. Further, unskilled aid during the puerperal period is responsible for the blindness which results from ophthalmia neonatorum. The bill for the registration of midwives was warmly supported by the leading obstetricians of the country, other eminent medical men and by the coroners. Unfortunately it received considerable opposition from the rank and file of the profession. The cry was raised that an inferior and imperfectly trained order of medical practitioners was being created whose recognition would be fraught with danger to the puerperal woman, who requires and should receive the highest skill, and not knowledge which could be acquired in a few months' training in a lying-in hospital.

**The Late Sir B. W. Richardson, F.R.S.**—A remarkable work entitled "Disciples of Æsculapius," by the late Sir B. W. Richardson, with a life of the author, by his daughter, has just been issued. The author was perhaps the most distinguished medical advocate of total abstinence. He was a very voluminous writer, and, like Mr. Jonathan Hutchinson, published a quarterly medical journal entirely written by himself. But the value of his work lies in its scholarship and literary qualities rather than in any scientific observations made by him. In the present work his daughter touchingly describes his last hours in an episode which recalls those of the venerable Bede: "Take your pen, please; I will add another chapter to 'Vita Medica'"—his last book. "Head the page 'A Last Word.'" He then dictated a few lines. "Yes, Sir Benjamin, that is all—the book is finished." So it was, and so was the life of the author. Two hours later he was seized with apoplexy, from which he died after two days of unconsciousness. The life of the immortal Harvey is briefly sketched. A most interesting account is given of the life of Keats. The idea suggested by Byron that he was "snuffed out" by an article in *Blackwood* or the *Quarterly Review* is declared to be simply nonsense. His death was due to consumption, and perhaps expedited by his own imprudence. The life of Walsley, the courageous founder of the *Lancet*, is full of interest. Among the many reforms due to him was the abolition of flogging in the army. He was coroner for Middlesex, and succeeded in obtaining a verdict of murder in the case of a soldier who had been whipped to death. This made the repetition of such a crime impossible. Another medical reformer, Benjamin Rush, is described as the "American Sydenham." "He was amongst the first to oppose the committal of murder by the state for the purpose of setting an example to individuals not to murder."

# Correspondence.

## Individual Rights and the County Medical Society.

SPOKANE, WASH., May 17, 1901.

*To the Editor:*—When a medical man or woman is a graduate of a reputable medical college, and has complied with the laws of his state, regulating the practice of medicine, and is apparently eligible in every way for membership in a county society, if for a trivial reason he is denied admission to his county society, an injury is done that is far reaching in its consequence, both to him, to the local society, to the state society and to the AMERICAN MEDICAL ASSOCIATION, and it tends to foster and keep alive a general opinion that county societies, as well as the state and national, are conducted for the benefit of the few, and that in place of these organizations

being scientific primarily, they have degenerated into social and mutual admiration societies.

By denying a person admission into the county society, one is denied admission into the state and national association. This state of affairs could hardly have been intended when the laws of these organizations were first instituted. I suspect the very respectable minority of the profession, if not a majority, would welcome some plan by which this condition could be altered, and by so doing have many energetic and capable medical men inside of these organizations, and thereby help to relieve the demoralized state into which the profession has fallen in many sections of the country.

It should not be possible for a county society to cast an unalterable stigma on a member of the profession, while at the same time he has no means of defending himself. Our general law convicts, no one without a fair trial by jury, and the applicant for membership in a county society should have the same privilege.

I have no ax to grind in bringing this subject forward, as I am a member in good standing in both my county and state societies, and am eligible to membership in the AMERICAN MEDICAL ASSOCIATION. One the contrary, I believe I am acting for the good of the whole profession in making an effort to have our societies placed on a solid and equitable foundation.

I have been steadily engaged in practice for over thirty-one years and have always taken an interest in medical society work. In the natural course of events, I will, in a few years, step down and out, and if I can in a small way help to start a movement that will be of benefit to the profession in general, I will feel amply repaid.

The remedy I would suggest—the national association at its meeting soon to take place, could profitably take up this subject, and by discussion secure a general opinion—is for the AMERICAN MEDICAL ASSOCIATION to require each state and county society to be chartered, then provide that an applicant shall have the right of appeal to the state and national societies in case of rejection. There is no doubt but there are many among the ablest in the profession, who are outside of medical organizations, and who claim that they have been deprived of a right, and without their side being allowed a hearing.

H. G. MAUZEY, M.D.

### Antiseptic Treatment of Smallpox.

HOUSTON, TEXAS, May 21, 1901.

*To the Editor:*—THE JOURNAL of May 11 contains a communication from Dr. A. Bryan, Detroit, Mich., in which he claims to be "the original author of what may aptly be termed the antiseptic treatment of the disease (smallpox)." The date of the publication of this theory and practice in regard to smallpox is given as 1895. This theory and practice may have been original with Dr. Bryan, but in March, 1894, this same treatment and theory was thoroughly presented in the *Texas Sanitarian*, as originating with Dr. T. C. Osborne, of Cleburne, Texas. Dr. Osborne, however, was not the first physician to publish this theory. In August, 1896, I had the pleasure of receiving from Dr. J. Kornitzer, of Socorro, N. M., a pamphlet published by him in February, 1880, at Cincinnati, Ohio, in which he set forth the same views as Dr. Osborne, and that were, later, set forth by Dr. Bryan.

The *Texas Sanitarian* is now the *Texas Medical News*, so if Dr. Bryan cares to look into the subject further he can obtain the desired information from the aforementioned journal of Austin, Texas. Very truly, S. C. RED, M.D.

[Several other communications have also been received relative to this matter, the others giving personal experience with no references.—ED.]

### A Suggestion to Preparatory Schools Regarding Morality from the Common-sense Standpoint.

NEW HAVEN, CONN., May 23, 1901.

*To the Editor:*—The prevention of venereal diseases is an important subject. Legalized prostitution has its advantages and disadvantages, but the teaching our young men the results of common venereal disorders, has never been attempted in the curriculum of our preparatory schools. If an obligatory course of lectures on the common complications of gonorrhea, chancroid, and syphilis were to be given in our large schools where young men are prepared for the universities, it seems as if it might have much weight.

The lectures should be given by a physician of experience and should cover the common dangers incident to the disorders, viz.: etiology, symptoms, complications, and sequels. If these lectures were delivered to the graduating class of the preparatory schools, it might have a good effect on the future actions of its members.

The lectures should not be intended to intimidate men, but simply to present morality from its common-sense standpoint, if nothing more.

To-day men are more enlightened than ever. Why not break down the so-called false modesty and educate our young fellows in the real dangers, as well as enlargement of their muscles. Men at college are influenced easily as a rule, if matters are set clearly before them, and if they knew beforehand, in most cases they would not make these mistakes.

G. TOTTEN-MCMASTER, M.D.

### Anesthetization During Sleep.

NASHVILLE TENN., May 20, 1901.

*To the Editor:*—If the anesthetization of children during sleep is of medicolegal interest I can add one case to the three reported by Dr. Paugh in THE JOURNAL of May 18. A boy of 18 or 20 months was brought to the clinic of Dr. J. A. Bodine, of the New York Polyclinic for circumcision. The child was found to be asleep in the mother's arms and the gradual administration of chloroform was begun without disturbing its slumbers. Complete surgical anesthesia was finally produced without any sign of irritation or symptom of awakening. Recovery from anesthesia was rapid, the child being in much better humor for having been spared the fright and shock of forced anesthesia. The procedure is uncommon, but by no means impossible or even difficult of achievement.

W. C. WELBURN, M.D.

### Memphis in 1902.

The Memphis Medical Society has, after thoroughly canvassing the situation through proper committees, unanimously voted to invite the AMERICAN MEDICAL ASSOCIATION to meet in Memphis, Tenn., at its regular annual meeting in 1902. The Cotton Exchange, Business Men's Club, Passenger Association and all commercial interests in the city are anxious to have Memphis selected as the next meeting-place. Memphis, while her hotel capacity is not as large as it might be, compares favorably with any other city of her size. The hotel capacity is approximately 1500, without crowding, and there are definite promises to care for 1560 comfortably, 2200 by crowding, and 3225 by auxiliary resources, namely respectable boarding-houses. The auxiliary resources will cover only rooms in easy reach of the hotels and cafes. Aside from the hotels Memphis offers her homes. Meeting-places for the different Sections, and banquet halls, etc., have been fully planned for

W. BRITT BURNS.

### Saratoga Springs in 1902.

In selecting a place for the next meeting of the ASSOCIATION, an effort should be made to find a place than can accommodate all possible delegates, friends and business people interested, and that too without crowding or making it necessary to engage accommodations two or three months in advance. Among the places that will extend an invitation to the ASSOCIATION for its next annual meeting will be Saratoga Springs, N. Y. In extending this invitation Saratoga Springs can and will guarantee, practically unlimited, thoroughly first-class accommodations at prices which will suit every purse. Its summer hotels are the largest in the world, and any or all of them will be open to the accommodation of the ASSOCIATION. Two of its largest hotels will accommodate about three thousand guests, two others about two thousand, and four or five smaller ones from three hundred to five hundred each, and all of these, including the convention hall, within a distance of each other of four city blocks, and this estimate is based on the actual num-

ber which are accommodated in ordinary times at the season's height. In addition to these, it boasts of a number of smaller hotels and many private boarding-houses. Saratoga can accommodate easily twenty thousand guests. The citizens have lately built a convention hall especially designed for the use of conventions. This hall will seat comfortably five thousand persons. Abundant facilities for the meeting of the different branches can be furnished. In addition to its superior and unusual accommodations as a convention town, Saratoga Springs is the health resort of the continent. It lies to the eastern spur of the Adirondacks and its climate is remarkably healthful. Saratoga is a village of unusually beautiful drives; its streets are well paved and delightfully shaded; so abundant is the shade that the village seems planted in the forest. Then we have Saratoga Lake, one of the most beautiful bodies of water to be found in the Adirondacks. This lake is easily accessible by trolley and by one of the most beautiful drives to be found anywhere in the world. Saratoga Springs and vicinity teem with historic interest. Only a few miles away the battles of Saratoga were fought, while a short distance to the north lie the beautiful and historic lakes George and Champlain. The village abounds in beautiful parks and elegant private grounds which are open to the public for drives. D. C. MORIARTA.

511 Broadway, Saratoga Springs.

# Association News.

### General Executive Committee.

The first meeting of the General Executive Committee of the AMERICAN MEDICAL ASSOCIATION will be held in Parlors 2 and 3, Hotel Ryan, St. Paul, Minn., on Monday, June 3, 1901, at 5 p. m. A full attendance is requested, in order that the committee may get to work early, and be ready for business referred to it by the ASSOCIATION. Subsequent daily meetings will be held in the same place, and about the same hour daily, unless otherwise ordered by the committee. L. DUNCAN BULKLEY, M.D., secretary.

### Kentucky State Medical Society.

At the annual meeting of this Society, held in Louisville, May 22, 23 and 24, Dr. J. N. McCormack outlined the salient features of the report of the Committee on Reorganization of the American Medical Association, after which a resolution was introduced and adopted unanimously, urging the delegates of the Kentucky State Medical Society to go to St. Paul and do all in their power towards the adoption of the report after its presentation.

### Illinois State Medical Society.

A motion was made and carried at the recent meeting of this Society, endorsing the report of the Committee on Reorganization of the American Medical Association, and the retiring president, Dr. George N. Kreider, was instructed to convey such information to the American Medical Association at St. Paul. A committee of five was also appointed to consider the revision of the Constitution and By-Laws of the Illinois State Medical Society, in conformity with what will be adopted at the American Medical Association meeting, and to report at the next annual meeting.

### Resolution of Nebraska State Medical Society.

Resolved, That this Society hereby endorses the plan of the Committee of the American Medical Association of a thorough reorganization of the American Medical Association and all affiliating societies, and all delegates of the Nebraska State Medical Society in attendance of the annual meeting of the American Medical Association at St. Paul are hereby instructed to use all diligent efforts for the accomplishment of this object, and all permanent members are respectfully solicited to do likewise.

### The Excursion to Yellowstone Park.

The General Manager of the Northern Pacific asks us to announce that those who have made reservations must deposit $13 per berth, or $26 per section, at the St. Paul ticket office on or before 6 o'clock p. m. Wednesday, June 5. It is necessary for those who are making the arrangements to know approximately how many will go two days before the time of starting so that ample equipment can be furnished and the necessary preparations made. Hence all who propose to go on this trip should secure their reservations as soon after their arrival in St. Paul as is practicable.

### Report of the Committee on Transportation.

The Committee on Transportation reports that since its announcement last week, it has been able to secure in the New England Passenger Association an extension of time limit to July 15, for the St. Paul meeting provided the return tickets are deposited with the joint agent not earlier than May 29, nor later than June 15, together with the payment of 50 cents extension fee. The Southeastern Passenger Association has granted the same time limit extension under the same conditions, but has failed to this date to announce a rate. The rate will probably be one and a third, but your Committee is endeavoring to secure the one fare plus $2 rate out of that territory. Your committee is particularly pleased that it has been able, at last, to secure a uniform time limit extension to July 15, under the usual regulations, in all of the railroad associations on the occasion of the various St. Paul meetings. The Western and Central Associations have granted us a one fare plus $2 rate for the round trip, and the Trunk Lines and New England roads have granted a one fare and one third certificate plan. The Southeastern Passenger Association rate has not been decided upon finally, but your committee will secure the lowest possible rate, which of course, will not be obtained in time for publication in THE JOURNAL prior to the St. Paul meeting. Delegates residing in this territory will learn the rate from their local ticket agents, and are advised to apply early for their rates and certificates. The same advice in the matter of certificates is hereby given to delegates residing in the Trunk Lines and the New England Territories. Delegates from any of the territories who desire to avail themselves of the stop-off privilege at Milwaukee on returning, are hereby informed that the only road of the Western Passenger Association territory granting this privilege at the request of your committee, and in the best interest of the physicians at large, is the Chicago, Milwaukee and St. Paul Railroad Company. This road in conjunction with the Pennsylvania and its connecting lines out of the East, in consequence of the better facilities offered, and their hearty co-operation with your Committee in the interest of the medical delegates, has been decided upon as the official route to and from the meeting at St. Paul. Your Committee, though human, has declined all personal courtesies offered by several competing roads, and have had, in advising you, but one object in view, our duty and your interests.—H. L. E. JOHNSON, Chairman.

# Deaths and Obituaries.

**Thomas F. Rumbold, M.D.**, Jefferson Medical College, Philadelphia, 1862, one of the pioneers in rhinology in the United States, noted for his work in this department, and for his contributions to its literature, a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in St. Louis, May 23, aged 71. The St. Louis Medical Society held a special meeting May 24, to take action on the death of Dr. Rumbold.

**Whitcomb Eliphalet Pratt, M.D.**, College of Physicians and Surgeons, Baltimore, Md., 1885, a widely known and popular physician of Buckingham Court House, Va., and a member of the Virginia State Medical Society and the AMERICAN MEDICAL ASSOCIATION, died from valvular heart disease, after a long illness, at Richmond, Va., May 16, aged 51.

**Alexander Stewart, M.D.**, College of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1889, state examiner for the Modern Woodmen of America and well-known for his professional ability throughout the state, died suddenly at his home in St. Thomas, N. Dak., May 19, from heart disease.

**Frederick L. Nutt, M.D.,** Chicago Medical College, 1878, a prominent and successful physician of McHenry County and a member of the AMERICAN MEDICAL ASSOCIATION, at his home in Marengo, Ill., May 23, from pneumonia, after an illness of two weeks, aged 49.

**Paul R. Moore, M.D.,** New York University, 1859, who retired from practice a number of years ago, and has since resided in Los Angeles, Cal., died at the residence of his son, Dr. Thomas B. Moore, Butte, Mont., May 13, from pneumonia, aged 65 years.

**Cyrus D. Morrill, M.D.,** New York University, 1859, one of the oldest practitioners of Madison, Me., formerly superintendent of schools and representative in the state legislature, died at his home in Madison, May 15, aged 70.

**Thomas Alexander Means, M.D.,** Atlanta Medical College, 1856, a well-known physician of Alabama, and a surgeon in the Confederate service throughout the civil war, died at his home in Montgomery, May 14, aged 69.

**George W. Pembroke, M.D.,** University of Maryland, Baltimore, 1868, died at Friendship, Anne Arundel County, Maryland, May 12, from the effects of a carbuncle on the neck.

**Dalton Trumbauer, M.D.,** Jefferson Medical College, Philadelphia, 1892, died from consumption, May 15, after a long illness, at his home in Coopersburg, Pa., aged 32.

**Jacob Derickson, M.D.,** University of Pennsylvania, Philadelphia, a retired physician of Wilmington, Del., died at his home in that city, May 16, aged about 70.

**Robert O Brien Durrett, M.D.,** University of Louisville, Ky., 1851, died at his home, Newstead, Jefferson County, Ky., May 12, from paralysis, aged 73.

**Conrad Wienges, M.D.,** College of Physicians and Surgeons, N. Y., died from multiple neuritis at his home in Jersey City, May 23, aged about 53.

**George W. Scott, M.D.,** Medical College of Virginia, Richmond, 1894, died from pneumonia at his home near Madison Run, Va., May 14, aged 28.

**John Adams Wells, M.D.,** College of Physicians and Surgeons, New York, 1879, died at his home in Englewood, N. J., May 21, from pneumonia.

## New Instruments.

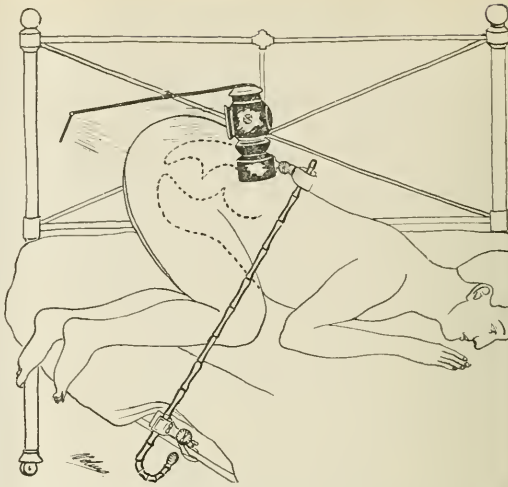
### New Mastoid Drill.

B. A. WASHBURN, M.D.
WICKLIFFE, KY.

End view of cutting surface.

I present herewith two illustrations of my mastoid drill or gouge. This instrument I have used almost exclusively in place of the regular gouges for mastoid work, and as it has proven very practical, it may be of interest to other members of the profession.

### A New Device,



Consisting of the combination of a bicycle lantern, mirror and bar, and a walking-stick, for illumination of the rectum at the bed-side. Thos. Chas. Martin, M.D., Cleveland.

## Miscellany.

**Value of Vaccination.**—Inspector Spalding, of Chicago, states that between Nov. 30, 1900, and May 8, 214 cases of smallpox were reported, of which 182 were of persons who never had been vaccinated, 21 had imperfect, doubtful marks, very old; 7 had fair but old marks, and 4 only had typical old marks.

**Primary Echinococcus of the Pleura Cured with Sublimate.**—J. Bokay describes in *Orvosi Hetilap*, 1900, 17, a case of primary echinococcus of the pleura in a boy of 5. Evidences of the parasite were discovered in the fluid obtained by an exploratory puncture and Bacelli's method of treatment was followed. After withdrawal of the fluid through a puncture between the fourth and fifth ribs, 20 c.c. of a filtered 1 per 1000 solution of sublimate was injected. The temperature rose to 39.2 C.for five days, but the symptoms gradually improved. A second injection like the first, a month later, was followed by the rapid disappearance of all symptoms and the patient was dismissed cured with a gain of three kilograms in weight.

**Bier's Improved Method of Spinal Cocainization.**—The improved technique which Bier has heralded and which he presented at the German Congress of Surgery, April 11, is a combination of subarachnoid injection of cocain and an elastic ligature around the neck to restrict the action of the cocain to the spine and keep it out of the brain. According to the report in the *Semaine Méd.* of April 17, he injects a much weaker solution of the cocain than is generally used at present, and aspirates a corresponding amount of cerebrospinal fluid to make room for it. An elastic band is fastened around the neck sufficiently tight to induce slight cyanosis without much discomfort. By this combination he has been able to reduce to a remarkable extent the unpleasant consequences of medullary analgesia as the increased intracranial pressure interposes an obstacle to the diffusion in the cocain. Further researches in this line, he added, will result in the evolution of a perfected technique of spinal cocainization free from all danger. Constriction of the neck to induce hyperemia of the brain has been utilized recently by Bier as a therapeutic measure, as described in THE JOURNAL of January 12, p. 144.

# Societies.

## COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
American Academy of Medicine, St. Paul, Minn., June 1-3.
National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
Association of American Medical Colleges, St. Paul, June 3.
American Medical Editors' Association, St. Paul, June 3.
Minnesota State Medical Society, St. Paul, June 3.
Indian Territory Medical Association, Vinita, June 4-5.
American Proctological Association, St. Paul, Minn., June 4-5.
American Dermatological Association, Chicago, June 4-6.
Rhode Island Medical Society, Providence, June 6.
South Dakota State Medical Society, Huron, June 10-11.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
Oregon State Medical Society, Portland, June 11-12.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.
Colorado State Medical Society, Denver, June 18.
American Orthopedic Association, Niagara Falls, June 11-13.
Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.
Medical Association of Nevada, Reno, July 1.
American Ophthalmological Society, New London, Conn., July 17.

**Indian Territory Medical Association.**—This association will hold its annual meeting at Vinita, June 4 and 5.

**Schuylkill County (Pa.) Medical Society.**—At the meeting of this society, May 7, delegates were appointed to the AMERICAN MEDICAL ASSOCIATION.

**La Salle County (Ill.) Medical Society.**—At the annual meeting of this society, in Ottawa, April 30, Dr. William H. Fraser, La Salle, was elected president.

**American Association of Life Insurance Examining Surgeons.**—The next session of this Association will be on June 3, in St. Paul, Minn., in the Masonic Hall.

**Buffalo Academy of Medicine, Medical Section.**—At the recent meeting of the section Dr. Julius Ullman was elected chairman and Dr. Albert E. Wochnert secretary.

**South Dakota Medical Society.**—The twentieth annual meeting of this society will be held in Huron, June 10 and 11, under the presidency of Dr. C. M. Keeling, Springfield.

**Medical Society of the State of Washington.**—This society will hold its annual meeting, in Seattle, June 18, 19 and 20, under the presidency of Dr. Park Weed Willis, of that city.

**State Medical Society of Wisconsin.**—The fifty-fifth annual meeting of this society will be held in Waukesha, June 26, 27 and 28, under the presidency of Dr. John F. Pritchard, Manitowoc.

**Medical Society of New Jersey.**—The annual meeting of this society, which was organized in 1766, will be held at Allenhurst, June 25, 26 and 27, under the directorship of Dr. John D. McGill, Jersey City.

**Bristol County (Mass.) Medical Society.**—At the annual meeting of this society, at Fall River, Dr. Milton H. Leonard, New Bedford, was elected president, and Dr. John W. Coughlin, Fall River, vice-president.

**Union District Medical Society.**—The annual meeting of this society was held in Rushville, Ind., April 25. Dr. Mark Millikin, Hamilton, Ohio, was elected president, and Dr. Everett R. Beard, Liberty, secretary.

**Muscatine (Iowa) Medical Society.**—At the annual meeting of the society, held May 2, Dr. Henry M. Dean was elected president, Dr. Calvin W. Smith vice-president, and Dr. John L. Klein secretary and treasurer.

**Washington City (Iowa) Medical Society.**—This society was organized April 26, with the following officers: Dr. Edmund R. Jenkins, president; Dr. J. C. Boice, vice-president, and Dr. George W. Hay, secretary and treasurer.

**Albert Lea District Medical Society.**—The second annual session of the society was held at Albert Lea, Minn., May 21. Drs. Albert C. Wedge and Hamilton H. Wilcox were re-elected president and secretary respectively.

**Spartanburg County (S. C.) Medical Society.**—This society was reorganized May 15, and elected Dr. Hugh R. Black president, Dr. Lewis J. Blake vice-president, Dr. G. De Foix Wilson secretary, and Dr. George R. Dean treasurer.

**Alumni Association of Cincinnati College of Medicine and Surgery.**—At the annual meeting of this association, May 1, Dr. William Roush, Spencerville, Ohio, was elected president, and Dr. Edward S. Johnston, Cincinnati, secretary and treasurer.

**Charleston (W. Va.) Medical Association.**—This association, which was recently organized, has elected Dr. Alfred S. Patrick president; Dr. William W. Tompkins, vice-president; Dr. Timothy L. Barber, secretary, and Dr. John L. Stump, treasurer.

**Albert Lea District (Minn.) Medical Society.**—This Society, at its annual meeting elected the following delegates to the Association: Drs. Berthold M. J. Conlin, Owatonna; Peter H. Vesterborg, Forest City, Iowa; and Hamilton H. Wilcox, Albert Lea.

**Fort Dodge (Iowa) Medical Society.**—At the meeting of this society, May 9, Dr. Alanson M. Pond, Webster City, was elected president; Dr. Thomas F. Grayson, vice-president; Dr. Harley G. Ristine, treasurer, and Dr. W. R. Bates, secretary, all of Fort Dodge.

**Savannah (Ga.) Academy of Medicine.**—This society has effected permanent organization, with the following officers: Dr. Arthur A. Morrison, president; Dr. Frederick Wahl, vice-president; Dr. J. Oliver Cook, secretary, and Dr. George L. Harman, treasurer.

**La Porte (Ind.) Medical Society.**—At the annual meeting of this society, at La Porte, April 30, delegates to the AMERICAN MEDICAL ASSOCIATION were appointed; Dr. Horace Wardner was reëlected president, and Dr. Eber L. Annis reëlected secretary, both of La Porte.

**Franklin County (Vt.) Medical Society.**—At the annual meeting of the society, held at St. Alban's Hospital, May 9, Dr. E. Merriman Brown, Sheldon, was elected president; Dr. William R. Prime, Burlington, vice-president, and Dr. James N. Jenne, St. Albans, secretary.

**Dorchester County (S. C.) Medical Association.**—The physicians of Dorchester County met at St. Georges, May 15, to organize a county medical association, and elected Dr. P. L. Horn temporary chairman and Dr. John B. Johnston temporary secretary, both of St. Georges.

**Aesculapian Medical Society of the Wabash Valley.**—The annual meeting of this society was held at Mattoon, May 16. Dr. John A. Baughman, Neoga, was elected president; Dr. Francis D. Lydick, Paris, vice-president, and Dr. Harry McKennan, Paris, secretary and treasurer.

**Center County (Pa.) Medical Society.**—This society held its regular monthly meeting on May 14, at Bellefonte, and elected the following delegates to represent it at the meeting of the AMERICAN MEDICAL ASSOCIATION in St. Paul: Drs. S. M. Huff, J. Y. Dale, and H. S. Braucht.

**Clay County (Mo.) Medical Society.**—At the annual meeting of this society, held at Liberty, April 29, Dr. Leander J. Jones was elected president; Dr. John J. Rice, Kearney, vice-president; Dr. F. H. Matthews, Liberty, secretary, and Dr. John H. Rothwell, Liberty, treasurer.

**Franklin District (Mass.) Medical Society.**—At the annual meeting of this society, held in Greenfield, May 14, Dr. Halbert G. Stetson, Greenfield, was elected president; Dr. Francis J. Canedy, Shelburne Falls, vice-president, and Dr. Benjamin P. Croft, Greenfield, secretary and treasurer.

**Middlesex East District (Mass.) Medical Society.**—At the meeting of this society held May 9, in Woburn, Dr. Charles E. Chase, Woburn, was elected president; Dr. Joseph W. Heath, Wakefield, vice-president; Dr. Ernest S. Jack, Melrose, secretary, and Dr. Charles Dutton, Wakefield, treasurer.

**Fifth District Branch of the New York State Medical Association.**—The newly elected officers of the association are: Dr. Emil Mayer, New York, president; Dr. Mary Gage-Day, Kingston, vice-president; Dr. Edmund L. Cocks, New York, secretary, and Dr. Edward H. Squibb, Brooklyn, treasurer.

**Colorado State Medical Society.**—The coming meeting of this Society at Denver, June 18, 19 and 20, promises to be of unusual interest. A special feature of the first day's program is a report on the history of medicine in Colorado, and on the second a symposium on diseases of the kidney will be held.

**Connecticut River Valley Medical Association.**—The annual meeting of this Association was held at Bellows Falls, Vt., May 7. Dr. James A. Craig, Westmoreland, N. H., was elected president; Dr. J. Sutcliffe Hill, Bellows Falls, Vt., vice-president, and Dr. Edward R. Campbell, Bellows Falls, Vt., treasurer.

**Clinical Society of the District of Columbia.**—This society gave its annual banquet May 28. An elaborate program was prepared by the committee, of which Dr. Wilfred M. Barton is chairman, and Drs. Wells, James, Ramsburgh and De Vries the other members. The society then adjourned for the summer.

**Union County (Ky.) Medical Society.**—The annual meeting of this Society was held in Morganfield, May 6. The following officers were elected: Dr. Vaudois E. Handley, Sturgis, president; Drs. R. L. Martin, Bordley, and I. D. Winston, Sturgis, vice-presidents, and Dr. Wiley L. Dixon, Morganfield, secretary and treasurer.

**Essex North District (Mass.) Medical Society.**—The annual meeting of this Society was held in Lawrence, May 1. Dr. Frank B. Flanders, Lawrence, was elected president; Dr. John F. Croston, Haverhill, vice-president, Dr. Maurice D. Clarke, Haverhill, secretary and treasurer, and Dr. Alphonso B. Brown, Newburyport, corresponding secretary.

**Washington County (Pa.) Medical Society.**—The annual meeting of this Society was held in Washington, May 14, when the following officers were elected: Dr. William R. Thompson, Washington, president; Dr. George A. Linn, Monongahela, vice-president; Dr. John A. McKean, Washington, secretary, and Dr. Albert E. Thompson, Washington, treasurer.

**New Hampshire Medical Society.**—The one-hundred and tenth annual meeting of this Society was held in Concord, May 16 and 17. The following officers were elected: Dr. Daniel S. Adams, Manchester, president; Dr. Irving A. Watson, Concord, vice president; Dr. Marcellus H. Felt, Hillsboro Bridge, treasurer, and Dr. Granville P. Conn, Concord, secretary.

**Ex-Internes' Association of Good Samaritan Hospital, Cincinnati.**—At the third annual reunion and banquet of this Society the following officers were elected: Dr. Frank Brunning, president; Drs. Jephtha D. Davis, Frank L. Ratterman and Dudley Webb, vice-presidents; Dr. Robin W. C. Francis, secretary and Dr. John P. Miller, treasurer, all of Cincinnati.

**Hampshire District (Mass.) Medical Society.**—This Society convened for its annual session at the Northampton Insane Hospital, May 10, elected delegates to the AMERICAN MEDICAL ASSOCIATION and the following officers: Dr. John A. Houston, president; Dr. Clarence R. Gardner, vice-president, and Dr. Arthur G. Minshall, secretary, all of Northamptom.

**Buffalo Anti-Tuberculosis Society.**—The name of the Erie County Society for the Prevention of Tuberculosis has been changed to the Buffalo Anti-Tuberculosis Society. An exhibit will be shown at the Pan-American Exposition, and among other things a stained preparation of a tubercle bacillus found in the expectoration on the floor of a street-car will be shown.

**Worcester District (Mass.) Medical Society.**—The annual meeting of this Society was held at Worcester, May 8. Dr. Edward R. Wheeler, Spencer, was elected president; Dr. Samuel B. Woodward, Worcester, vice-president; Dr. Lester C. Miller, Worcester, secretary; Dr. George O. Ward, Worcester, treasurer, and Dr. Charles A. Peabody, Worcester, orator.

**Alumni Association of Dartmouth Medical College (Hanover, N.H.).**—The following officers were elected at the annual meeting of this Association held in Concord, May 16: Dr. Granville P. Conn, Concord, president; Drs. Milton S. Woodman, West Lebanon, and Alonzo S. Wallace, Nashua, vice-presidents, and Dr. Howard N. Kingsford, Hanover, secretary and treasurer.

**Chattanooga Medical College Alumni Association.**—At the annual meeting of this Association, May 23, the following officers were elected: Dr. D. W. C. Genter, Middlesboro, Ky., president; Drs. Thomas H. Appleton, Collinsville, Ala., J. B. Hughes, Spring Place, Ga., and J. J. Stringer, Oak Vale, Miss., vice-presidents, and Dr. German Haymore, Chattanooga, Tenn., secretary.

**Middle Tennessee Medical Association.**—The fourteenth semi-annual meeting of this organization was held in Shelbyville, May 16 and 17. Fayetteville was selected as the next place of meeting. Dr. Reginald Stone-street, Nashville, was elected president; Dr. George W. Moody, Shelbyville, vice-president, and Dr. James K. P. Blackburn, Columbia, secretary and treasurer.

**Brazos Valley (Texas) Medical Association.**—This Association held its semi-annual meeting at Calvert, May 15, and elected Dr. Daniel Parker, Calvert, president; Drs. Felix R. Collard, Wheelock, and Selwyn P. Rice, Marlin, vice-presidents; Dr. John W. Hudson, Milano, secretary, and Dr. Wellington B. Briggs, Easterly, treasurer. The November session will be held at Bryan.

**Worcester North District (Mass.) Medical Society.**—The annual meeting and banquet of this Society was held at Fitchburg, April 22. Dr. Herbert H. Lyons, Fitchburg, was elected president; Dr. Charles E. Bigelow, Leominster, vice-president; Dr. Walter F. Sawyer, Fitchburg, secretary; Dr. Eustace L. Fiske, Fitchburg, treasurer, and Dr. Atherton P. Mason, Fitchburg, librarian.

**Long Island College Hospital Alumni Association.**—The twenty-first annual reunion and banquet of this body was held May 13, the graduating class being the guests of the Association. Dr. William F. Campbell was elected president; Dr. Burr B. Mosher, vice-president; Drs. Thomas A. McGoldrick, secretary; Dr. John O. F. Hill, treasurer, and Dr. William S. Hubbard, historian, all of Brooklyn.

**Erie County (Ohio) Medical Society.**—The annual meeting of this Society was held in Sandusky, May 2. The following officers were elected: Dr. Charles Graefe, Sandusky, president; Drs. Maro J. Love, Bloomingville, and Elwood Stanley, Sandusky, vice-presidents, and Dr. Henry C. Schoepfle, Sandusky, secretary, and treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also elected.

**Camden County (N. J.) Medical Society.**—The annual meeting of this Society was held May 14, and the following officers were elected: Dr. William R. Powell, president; Dr. John G. Doron, vice-president; Dr. Paul M. Mecray, secretary; Dr. Ernest S. Ramsdell, treasurer; and Dr. Harry H. Sherk, historian, all of Camden. A large number of delegates to the AMERICAN MEDICAL ASSOCIATION were elected.

**Baltimore County (Md.) Medical Association.**—The annual meeting of this Association was held at Towson, May 16. The following officers were elected: Dr. James F. H. Gorsuch, Fork, president; Dr. R. Percy Smith, Sunny Brook, vice-president; Dr. William P. E. Wyse, Pikesville, recording secretary; Dr. Richard C. Massenburg, Towson, corresponding secretary, and Dr. Harry S. Jarrett, Towson, treasurer.

**Michigan State Medical Society.**—The following officers were elected at the annual meeting of this Society: Dr. Leartus Connor, Detroit, president; Drs. Beverly D. Harison, Sault Ste. Marie, Charles Douglas, Detroit, and Lincoln P. Parkhurst, Middleville, vice-presidents; Dr. Andrew P. Biddle, Detroit, secretary, and Dr. Charles E. Hooker, Grand Rapids, treasurer. It was voted to hold the 1902 meeting in Port Huron.

**Jefferson Medical College Alumni Association.**—The annual meeting and banquet of this Association was held, May 14, in Philadelphia. The following officers were elected: Dr. William H. Hartzell, Allentown, president; Dr. Henry Tucker, Philadelphia, corresponding secretary; Dr. Frank C. Hammond, Philadelphia, treasurer; Drs. Hobart A. Hare, Orville Horwitz, Joseph S. Neff, and George B. McClellan, vice-presidents.

**Southern Illinois Medical Association.**—At the annual meeting of this Association held in Metropolis, May 17, the following officers were elected: Dr. Obed A. Dean, Campbell Hill, president; Drs. James A. Helm, Metropolis, and M. D. Empson, Hartford, vice-presidents; Dr. Orange B. Ormsby, Murphysboro, secretary; Dr. Charles E. Riseling, Murphysboro, assistant secretary, and Dr. Alexis T. Telford, Menard, treasurer.

**Mercer County (N.J.) Medical Society.**—At the annual meeting of this Society, held in Trenton, May 14, Dr. George H. Parker was elected president; Dr. Alexander Armstrong, vice-president; Dr. George R. Moore, secretary; Dr. Dunbar Hutchinson, recording secretary, and Dr. Irenaeus M. Shepherd, treasurer, all of Trenton. Delegates to the State Medical Society and the AMERICAN MEDICAL ASSOCIATION were also selected.

**Iowa Medical Women's Social Society.**—The fourth annual session of this important adjunct to the Iowa State Medical Society was held in Davenport, May 14. The following officers were elected: Dr. Margaret E. Colby, Clear Lake, president; Drs. Lenna L. Meanes, Des Moines, and Kate A. Hogle-Mason, Mount Vernon, vice-presidents; Dr. Jennie McCowen, Davenport, secretary, and Dr. Agnes Eichelberger, Sioux City, treasurer.

**Arkansas State Medical Society.**—The twenty-sixth annual meeting of this Society was held at Hot Springs, May 14, 15 and 16. The following officers were elected: Dr. Frank Vinsonhaler, Little Rock, president; Drs. C. R. Chenault, Helena, and William N. Yates, Fayetteville, vice-presidents; Dr. Joseph P. Runyan, Little Rock, secretary, and Dr. Richard C. Thompson, Pine Bluff, treasurer. Little Rock was selected as the meeting-place for 1902.

**Medical Association of Montana.**—The twenty-second annual meeting of this Association was held in Great Falls, May 15 and 16. The following officers were elected: Dr. Thomas J. Murray, Butte, president; Drs. T. J. McKenzie, Anaconda, and Louis Bernheim, Butte, vice-presidents; Dr. Benjamin C. Brooke, Helena, secretary; Dr. James F. Spelman, Anaconda, corresponding secretary and historian, and Dr. George H. Barbour, Helena, treasurer. The next meeting is to be held in Butte.

**Morganfield District (Ky.) Medical Society.**—At the fifth annual meeting of the society held at Henderson, May 13, it was decided to change the name of the organization to the "Ohio Valley Medical Association." The following officers were elected: Dr. Cyrus B. Graham, Henderson, president; Drs. Thomas A. Frazer, Christian County, James W. Stone, Henderson, and Labe J. Sigler, Clay, vice-presidents; Dr. Wiley L. Dixon, Morganfield, secretary; Dr. J. A. Humphrey, Henderson, librarian, and Dr. S. S. Amerson, Sullivan, treasurer.

**William Pierson Medical Library Association.**—Formal organization of this Association was effected at Orange, N. J., May 14. It was announced that in addition to her gift of the extensive and valuable medical library of Dr. Pierson, his widow had given the association $5000 as an endowment fund. Arrangements have been completed for housing the library in a special alcove at the Stickler Memorial Free Library, where the books will be available for the study of any regular physician, and for a room in the library building for the exclusive use of the members of the association, where they may read or study the books in the medical library alcove and where meetings may be held. The following officers were elected: Dr. Thomas W. Harvey, Orange, president; Drs. William J. Chandler, South Orange, and Dr. Richard C. Newton, Montclair, vice-presidents; Dr. Richard D. Freeman, South Orange, secretary; Dr. J. Hammond Bradshaw, Orange, treasurer, and Dr. M. Herbert Simmons, Orange, librarian.

## PHILADELPHIA PATHOLOGICAL SOCIETY.

*Meeting held April 25, 1901.*

President Dr. Frederick A. Packard in the chair.

### Trichinella Spiralis, Trichinosis and Trichina Inspection. A Zoological Study.

DR. CHARLES WARDELL STILES, Washington, spoke upon this topic. According to the speaker the subject of trichina might be viewed from several aspects, such as the hygienic and economic. On this occasion he felt that the choice of the subject was an appropriate one since the discovery of this disease had been made by a Philadelphia physician and scientist—Dr. Joseph Leidy in the year 1847. It was interesting to note the incidents connected with this finding. The history was that while this scientist was eating a ham sandwich, he observed that in the meat small peculiar bodies could be seen scattered throughout its substance. Brushing a few particles aside, he subsequently placed them under a microscope, and found the trichina. As a result of this discovery the most bitter political fight has been made against an American food-stuff than from any discovery ever made. It has cost more paper, ink, and money than any hygienic discovery. In one sense it has given more impetus to bacteriology than any other discovery. In 1848 a German investigator found the trichina spiralis in another animal than the hog. In 1870 when American pork began to compete with other markets of the world the discovery which Leidy had made, was used as an argument for the exclusion of American pork. It is difficult to estimate the financial loss to this country resulting from this controversy, but it doubtless runs up into hundreds of thousands of dollars. Later American pork was admitted to the market through the custom houses in Germany, and what has been the result? By this admission the most thorough system of preventive measures against diseased foods that has probably ever been instituted.

The speaker then outlined the life history of the trichina spiralis dividing it into three stages. The worm is swallowed by man and on gaining admission into the alimentary tract, the females burrow into the muscular walls and become encysted. Subsequently the male and female embryo burrow outward toward the muscles and undergo the same process. Hogs contract the disease by eating infected human offal. Rats by eating infected pork, human cadavers, and by eating one another. Unlike diphtheria and smallpox, trichinosis does not give rise to epidemics.

As to the prevention of the disease the German method is to prohibit as an article of food pork which has not been thoroughly cooked. That degree of temperature which will coagulate albumin, will kill trichina. The government of Germany has also instituted a very expensive system of inspection of pork, by a corps of meat-inspectors supported by the state at an expense of $3,700,000 per year. To do such work in America a corps of 65,000 microscopists would be necessary. Observations have demonstrated that 2 per cent. of the hogs of America are infected with trichina. The largest outbreak of the disease restricted to one community occurred in Massachusetts where 48 cases had been reported.

The speaker was opposed to the system of trichina inspection by Government microscopists. This system would tend to lead to a false feeling of safety, and persons might then eat infected pork, thus increasing the number of cases of the disease. Thus of 3388 cases of trichinosis found in Germany 132 deaths had resulted from errors of inspection. During the exclusion period of American pork 4083 cases of trichinosis had occurred in Germany. During the years from 1892 to 1898 not one case of trichinosis could be traced to American pork.

In discussing this paper Dr. F. A. Packard stated that several years ago he had endeavored to infect guinea pigs with meat containing trichina without successful results.

DR. J. A. SCOTT spoke of the occurrence of eosinophilia in trichinosis.

DR. RANDLE C. ROSENBERGER spoke of a recent case of trichinosis occurring at the St. Joseph's Hospital in which the eosinophiles numbered 4 per cent.

DRS. A. A. ESHNER and J. D. STEELE spoke.

In closing Dr. Stiles detailed the method of "pickling" American pork by injecting down the sheath of the long bones a preservative fluid such as saltpeter, salt, and sugar. The old method consisted in simply allowing the pork to be immersed in this fluid, which was not so apt to destroy trichina nor to prevent decomposition of the meat, as by the newer method. Pork packers have been warned to never use borax as a preservative. The government exercises no control over the sale of pork to be carried from one of its cities to the other, nor of the chemicals to be used. As to pork for exportation it must always be thoroughly pickled.

After the meeting Dr. Stiles was tendered a reception at the University Club.

*Meeting held May 9.*

President Dr. Frederick A. Packard in the chair.

### Case of Ball-clot in the Auricle. Death by Occlusion.

DR. W. S. WADSWORTH reported and exhibited specimens from such a case. The previous history was not known except that the man had for some time been on a prolonged debauch, and had been an employe of a factory where he was doing very hard work. His death came on suddenly. At the autopsy a round and large clot was found loose in the auricle, and surrounded by a currant-jelly clot. The clot was round or oval in shape, and probably two inches in length and one and a half inches in thickness. It was enveloped in a more or less tenacious coat which stripped off readily. The center of the clot was a deeper red color. No organization of the clot had probably taken place. The length of time which it had been in the heart of course could not be estimated accurately, but it had probably been present in the auricle for a month or more.

DR. JOSEPH MCFARLAND had seen emboli in nearly all the cavities of the heart. In one case an embolus was the size of a grape. He had recently seen two cases of ball thrombi in the left auricle.

### Hemorrhagic Pachymeningitis and Spinal Tumor.

DR. F. S. PEARCE presented "Two Specimens of Hemorrhagic Pachymeningitis, and Tumor in the Spinal Cord." One specimen of pachymeningitis had occurred in the service of Dr. James Tyson, and the other in his own ward. Both of the patients had been males, both were unilateral, and both were probably of chronic duration. One patient was 38 years, the other 71 years of age. In his patient it was suspected that cerebral hemorrhage had taken place. In the case of Dr. Tyson the patient had suffered from hemiplegia, later dying of nephritis. In this latter case a spastic condition was present. In the case of Dr. Tyson the hemorrhage involved the right side of the body, while in his patient the hemorrhage was on the opposite side.

The tumor of the spinal cord seemed to spring from the dura mater in the thoracic region of the cord and producing pressure to such an extent that the cord was completely flattened. In this case the sensation of the lower extremities were only slightly obtunded, but the functions of the cord did not seem to be otherwise impaired.

DR. JOSEPH MCFARLAND then detailed the microscopical appearance of the tumor. He had found a great deposit of lime salts, which was deposited in a peculiar fashion while the general histologic appearance was unusual. The tumor might have been an endothelial growth of cholesteotoma.

### Diphtheria Bacilli in Noma.

DR. J. WALSH, after studying several cases of noma, had in several found pure cultures of diphtheria bacilli. He had made diagnosis of diphtheria bacilli only after subjecting the microorganisms to certain tests, such as injecting it into guinea-pigs, and rabbits, and afterwards by culture methods. Smear cultures had also been made, and afterwards the staining properties had been studied. In most of the cases there had been a mixture of the streptococci, staphylococci and other microorganisms together with the diphtheria bacilli. The speaker then detailed a series of seven cases giving the result of his findings in these cases. Four of these cases had begun as stomatitis. Of 15 cases of ulcerative stomatitis, in only one was diphtheria bacilli found. In one instance at a certain hospital there were 15 cases of stomatitis, but in these no diphtheria bacilli were found. In some of the cases of noma there had been a previous history of diphtheria a short while before the development of noma. The speaker stated that in this disease different writers had found different kinds of micro-organisms. Noma is often present after an attack of measles.

### New Apparatus.

DR. W. W. BARCOCK exhibited apparatuses for rapidly measuring culture media, for washing pathological specimens, and for mounting specimens imbedded in celloidin. The first apparatus consisted of a tube serving the purpose of a burette, which was graduated and under the control of two pinch cocks, which on being pressed would alternately open and close two separate rubber tubes, thus allowing the fluid to run out of one tube while at the same time the other tube would become full of fluid from atmospheric pressure. The second apparatus was for washing morbid specimens. It consisted of a copper pan, inside of which was another smaller compartment, and so arranged that when a wire sieve was placed over it, and water allowed to enter the pan it would circulate up into the bottles containing the specimens which were inverted over this sieve. In this way a constant stream of water could be made to permeate the specimens quite rapidly.

### Rupture of Aorta.

DR. W. E. HUGHES and DR. JOSEPH MCFARLAND presented specimens of a "rupture of aorta." The patient had been a man of 40 years, but the history was indefinite. At the autopsy the pericardial sac was filled with blood. The pericardium itself was normal. The weight of the heart was 650 grams, and contained currant-jelly clots. All the great vessels were filled with blood. A few patches of atheromatous plates had been found. In the ascending arch of the aorta there had been a laceration of the inner coats thus permitting the blood to dissect its way upwards. The lungs were edematous, and the pleura contained serous fluid.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting of Section of Medicine, April 16, 1901.*

Dr. E. Franklin Smith in the Chair.

### Case Illustrating the Influence of Arterial Spasm on Left Heart.

DR. JUDSON DALAND, Philadelphia, reported this case as an introduction to a discussion on the relation of arterial changes to the heart. The case was that of a healthy girl of 10 years who, after having eaten a large quantity of a certain table sauce, the chief ingredient of which was apparently capsicum, had been made so ill that she had been admitted to hospital. She suffered from headache, fever, anorexia, difficulty in swallowing and convulsions, and the urine contained a few blood cells and albumin one-fourth by bulk. The pulse was over 100 and somewhat irregular, and the radial arteries felt like wires. From the physical signs in the chest it was inferred that the condition of the heart was rather one of acute dilatation than of hypertrophy. Most of the symptoms had disappeared in a few days, and in two weeks the condition of the urine and of the blood vessels was once more normal.

DR. WILLIAM H. THOMPSON said that in all probability acute dilatation of the heart was quite common in scarlatina and in acute rheumatism, as a result of arterial spasm. The small, high tension pulse was so characteristic of scarlet fever that when a physician was called to see a child who had been suddenly taken ill with vomiting and high fever, there was good reason to suspect scarlet fever, even though the eruption had not yet appeared. Dr. Thomson said that he had made a number of observations on the specific gravity of the urine in chronic nephritis, and these had revealed the fact that there were remarkable fluctuations in the specific gravity not only from day to day, but from hour to hour. During these observations the total quantity of urine for the twenty-four hours had been determined, and no change had been made in diet or medication. His explanation was that vasomotor storms occurred in the splanchnic area, and this he considered significant as pointing out the fact that the heart is probably often subjected to intermittent strain, and that this may explain the tendency to cardiac hypertrophy. This strain occurs prior to the atheroma, for it was well known that there may be extensive atheroma without cardiac hypertrophy. He believed that arterio-capillary disease is always the result of toxemia, and that the great therapeutic measure in such cases was fresh air, because this tends to counteract the chemical changes in the blood.

DR. BEVERLEY ROBINSON said that as it was well known that under certain circumstances cardiac hypertrophy is a beneficent provision of nature, it behooved the physician to think carefully before prescribing nitroglycerin or other vasodilators merely with the object of overcoming an increased arterial tension.

DR. RICHARD VAN SANTVOORD remarked that his experience had taught him that the loudness of the second heart sound is no indication of high arterial tension or of the strength of the heart, and this he explained on the theory that the energy with which the valve closes is dependent upon the difference in the blood pressure on the two sides of the valve.

### The Climate of Long Island.

DR. LEGRAND DENSLOW read a paper on this subject, based on careful observations made by the government metereological observers. In this study and analysis the author brought out the novel and important practical information that there is a region in the eastern end of Long Island where the atmosphere is remarkably dry and where each year there are over 100 more days of sunshine than in New York City. In these respects this region compares favorably with other and better known places in the far West. Such a place should prove desirable for residence for persons suffering from diseases of the heart, lungs and kidneys, or from rheumatism.

*Stated Meeting of Section on Genito-Urinary Diseases, April 17.*

Dr. William K. Otis in the Chair.

### Gonorrheal Myositis.

DR. MARTIN W. WARE reported this case, commenting upon

the great rarity of the condition in medical literature, and presenting sections under the microscope and photomicrographs. He had been able to find only three cases of gonorrheal myositis on record.

### Modification of Cook's Method of External Urethrotomy Without a Guide.

DR. PERCY R. BOLTON described the method as follows: The position of the apex of the prostate is determined through the rectal wall, and with the finger on this part, the knife is carried up toward the apex until the urethra is entered. The external wound is then enlarged and the division of the stricture completed. His modification consists in making a curvilinear incision across the perineum, exposing the tendinous center of the perineum. The attachment of the sphincter ani is divided and reflected, and the triangular ligament incised transversely. The anterior fibers of the levator ani are pushed backward and the prostate exposed. With the apex of the prostate as a guide, an incision is made into the urethra in the middle line, and prolonged forward.

### Gonorrheal, Auto-Reinfection of the Urethra.

DR. FERD. C. VALENTINE presented a paper on this subject. He maintained that in every case the focus of disease could be detected by persistent search. The best aid to diagnosis was a microscopical examination of the sedimented urine. The best treatment was by dilatation and irrigation. Sometimes the diagnosed glands would require direct applications. For purposes of diagnosis one was warranted in producing sufficient irritation to set up a discharge.

DR. LOUIS HEITZMANN said that after many years of patient work he was in a position to assert most positively that microscopic examination of the urine was of very great value in determining the locality of the disease. If a number of examinations of the same case were made at different times, and inflammation of the genito-urinary tract was present, the epithelia sought for would be found.

DR. JOHN R. VAN DER POEL thought many cases of auto reinfection were the result of involvement of the prostate. In such cases, massage of the prostate followed by irrigation was the proper treatment. Good results often followed extreme dilatation, by means of special dilators, of certain portions of the anterior urethra.

DR. DOUGLAS H. STEWART remarked that he had never met with a case exhibiting slight moisture of the urethra in which the urine did not respond to Heller's test for albumin.

DR. FREDERICK R. STURGIS did not believe that the gonococci often invade the prostate. He had had poor success with irrigations, and preferred local applications of a 10 per cent. solution of protargol through the endoscope. For the anterior urethra he often made use of zinc injections with a hand syringe.

DR. W. W. OTIS said that the wonder was not that one occasionally met with cases of auto-reinfection, but that gonorrhea ever was thoroughly eradicated. The surface of the urethra was dotted over with hundreds of openings—the glands of Littré—openings large enough to admit a bristle. It must be evident that the germicides can not get down to the bottom of these glands or into the ducts of the prostate. Why some recover from gonorrhea without the use of a germicide, or, indeed, without any treatment, while others are persistently reinfected though subjected to the most approved treatment, was still an open question, but apparently the element of personal immunity was an important factor.

*Stated Meeting of Section on Obstetrics and Gynecology, April 25.*

Dr. A. Brothers in the chair.

### Dilatation of the Cervix.

DR. H. J. GARRIGUES read a paper on this subject. Among the medical methods of favoring cervical dilatation during labor were injecting into the cervix 1/40 of a grain of atropin dissolved in sterile water; painting the cervix with a 10 per cent. solution of cocain; the administration of 15 grains of chloral every twenty minutes for three or four doses; the administration of 10 grains of antipyrin every half hour for three doses. A slow but useful mechanical method of dilating the cervix was by inserting a strip of iodoform gauze into the cervical canal and packing the vagina with creolin gauze until the following day, when the dressing was to be renewed, and the packing carried still higher up into the cervical canal. Where a rapid dilatation was demanded, the manual method would be found excellent. It consisted in introducing first one finger, then two, three and four fingers, and finally the whole hand in the shape of a cone. The various forms of rubber-bag dilators were then described, and the statement made that lateral pressure was to be preferred to the pushing upward of a large conical mass. In urgent cases, some practitioners made use of Duhrssen's deep cervical incisions, but while they may occasionally save a child's life that might otherwise be lost, they exposed the mother to immediate danger and remote suffering.

### Axis Traction Forceps.

DR. EGBERT H. GRANDIN said that few teachers of obstetrics and few practitioners seem to understand the advantages, under certain conditions, which this form of forceps has over all others. It was surprising that in this country axis traction had never gained a foothold. In 1879 it had been his privilege to attend for a number of months the wards of the maternity in Paris under Professor Tarnier, and he could vividly recall with what enthusiasm Tarnier had demonstrated to him the advantages of the axis traction forceps. Subsequently in his services at the New York Maternity Hospital and at the New York Infant's Asylum he had had ample opportunity to test this instrument and it was now his custom to carry an axis traction forceps to obstetric cases. Over and over again he had succeeded in effecting delivery where other men, more skilful than he, had failed with other types of forceps. Leverage was a necessary accompaniment of traction because it was infinitely difficult to pull in a straight line. Forcible rotation endangers the maternal parts, and moreover the fetus may not follow the movement of the forceps. For the low operation any variety of obstetric forceps should answer. The high forceps operation was limited in his hands to cases in which the membranes had ruptured and the presenting part had engaged. For the high operation traction must be made in the correct axis with the least expenditure of energy upon the part of the operator and with the least interference with the normal mechanism, such as rotation; also with the least compression of the fetal head and with the least danger to the mother's parts. These requirements were certainly best met with the axis traction forceps. With this instrument one substituted, for blind traction, sentient traction. The seesaw motion which almost inevitably enters into the application of the ordinary forceps does not enter into the application of the axis traction forceps. The following cardinal rule must be observed or the axis traction forceps would almost certainly slip: "While making traction the traction rod must ever remain parallel to and almost in contact with the handles." Neglect of this rule made the axis traction forceps a very dangerous instrument.

### Version: Indication, Limitation and Technique.

DR. S. MARX at the outset confessed that he was strongly of the opinion that there is a large field for perforative instruments, believing that the life of the mother should be given preference over that of the child. He elects version over forceps for all cases in which the head remains above the brim. In all positions, good or bad, in which the head remains above the brim version should be elected early. In transverse or atypical positions prophylactic version, done as soon as the membranes have ruptured, serves the best purpose. In cases of placenta previa or where prolapse of the funis threatens the child's life, version is indicated. In general, version was indicated in all cases in which the life of the mother was threatened, as for example in uremic convulsions or embolism of the lung, presupposing, of course, full dilatation of the cervix. If the cervix were not fully dilated it must be rapidly secured by manual dilatation or by deep incisions before the version. The following rules should be borne in mind: Always be sure of the position and of the presentation. 2. Be sure that the

fetus is alive, or that its life is in no great danger, as determined if necessary by the introduction of the hand into the uterus and palpating the umbilical cord. 3. Do version if possible before rupture of the membranes or as soon as possible afterward. 4. As clinical experience has shown that after manual dilatation of the cervix the latter is prone to contract again speedily after the delivery of the head, immediate extraction in such a case should be practised after version. Dr. Marx said that he felt that an error was too commonly committed of using the feet as a means of traction during the extraction of the head, and that it was better to use them as a guide and trust largely to the *vis a tergo* for the delivery of the after-coming head. No operative method except perforation should be done in the presence of a dead or dying fetus. When the head was passing the contracted inlet a gain of three-fourths of an inch in the conjugate could be obtained by putting the woman for the time being in a position of exaggerated extension.

### Symphyseotomy.

DR. EDWARD A. AYERS discussed this subject, based on a personal experience with the operation in 11 individuals and done 13 times. There had been no death attributable to the operation, no infection of the joint, no serious hemorrhage, and no general disability. No sutures had been used. Injury to the sacro-iliac joint need not occur, and union at the symphysis was greatly aided by slinging the pelvis in a U-shaped hammock. It was very important to secure full cervical dilatation before operating. The great majority of cases of pelvic contraction beyond the range of the forceps could be delivered by symphyseotomy.

### Cesarean Section.

DR. E. B. CRAGIN discussed this operation. He said that he had done it nine times in the last three years, and had saved both mother and child in every instance except one. In that one the operation had been undertaken solely with the object of easily delivering a woman who at best was so far advanced in carcinoma of the uterus that she had but a short time to live. If the woman were in such poor condition as not to be able to stand an operation like Cesarean section, craniotomy should be done. If both mother and child were in good condition, and delivery by forceps or version were impossible, Cesarean section should be selected in hospital practice. In conditions of moderate pelvic contraction one must decide between Cesarean section and symphyseotomy. The abdominal incision could be made shorter by incising the uterus before bringing it up into the abdominal wound. To avoid adhesions forming between the uterus and the abdominal wall a portion of the omentum should be placed between them.

DR. CHARLES JEWETT said that version was an operation too much neglected, yet he sometimes used the forceps when the head was above the brim provided he could readily crowd it into the brim and hold it there while applying the axis traction forceps. The open wound for symphyseotomy seemed to him preferable to Dr. Ayers' subcutaneous method. The field for this operation was a small one. The results for both mother and child were not so good from symphyseotomy as from Cesarean section, but symphyseotomy presented some advantages where the woman had been long in labor.

## CHICAGO MEDICAL SOCIETY.

*Regular Meeting held April 24.*

President Dr. James H. Stowell in the chair.

### Four Cases of Surgery of the Ureters.

DR. EDWARD EVANS, of La Crosse, Wis., read a paper, by invitation, on this subject. Reference was made to the bibliography of ureteral surgery: its experimental exploitation; the demonstration of its practicability in the human subject; its technique; the possibility of relieving suffering thereby, preserving useful organs and prolonging life. Credit was given to the work of Van Hook, Martin, Frank, Peterson, Connell, Fenger, and others.

Case 1.—Intermittent hydronephrosis of fourteen years' duration; abnormal vessels adherent to ureter and causing kinking of same; ureterolysorthosis; recovery.

Case 2.—Valvular obstruction of left ureter due to oblique insertion; extra-pelvic operation; division of spur; transverse union; recovery.

Case 3.—Intermittent hydronephrosis; hugely distended pelvis and sacculated kidney; lateral implantation of ureter and kinking of same; extra-pelvic operation through lumbar incision after opening abdomen in mistaken diagnosis.

Case 4.—Cystitis; ureteritis; disappearance of right kidney by inflammatory changes; pyelonephritis of left kidney; suprapubic cystotomy; nephrolithotomy; rectal implantation of left ureter; death twenty months later from uremia.

DR. WILLIAM T. BELFIELD emphasized the use and value of the X-ray in the diagnosis of kidney and urogenital lesions prior to operative measures.

DR. CARL BECK stated that the results of implantation of the ureters into the bowel were uniformly the same, experiments on animals having shown that after some months, sooner or later, degenerative or infective processes in the kidneys took place. He referred to a case which had remained in very good condition a year and a half after he had implanted the ureters into the sigmoid flexure.

DR. JACOB FRANK pointed out that one very peculiar feature following implantation of the ureters was that the cystitis always terminated at the neck of the bladder, the inflammation never extending to the urethra.

DR. L. E. SCHMIDT spoke on the diagnosis of ureteral obstruction, and mentioned a method introduced by Dr. Kolischer and himself which had proved valuable in several cases.

### A Symposium on Ulcer of the Stomach.

DR. N. S. DAVIS, JR., dwelt on the "Symptoms and Diagnosis of Gastric Ulcer." Attention was called to the frequency with which the malady occurs. Many pathologists have found evidences of former gastric ulcer or existing ulcer in from 3 to 10 per cent of those who were examined at autopsy. By the majority of practitioners only those cases are recognized in which hematemesis occurs, that is, in about one-third of all cases. A majority, instead of a minority, of all cases should be recognized. It is true that in certain ones a diagnosis is impossible. The characteristic symptoms of those in which hematemesis does not occur, but in which a diagnosis can be made, were fully described. The diminished acidity of the urine and the occurrence of an alkaline wave after meals, and the diminished amount of chlorids in the urine were described as evidences of hyperacidity of the stomach and as occurring in strange contrast to the conditions existing in cancer and chronic gastritis with which round ulcer is so often confused. Digestive leucocytosis exists in cases of gastric ulcer, but as a rule is slight or wanting in cases of cancer and chronic inflammation. Persistent and even anemic leucocytosis occurs in most cases, of course, but does not occur in round ulcer. The ratio of hemoglobin to red corpuscles often resembles that of pernicious anemia in cancer, but that of chlorosis in round ulcer. In both maladies hemorrhages often reduce both equally, at least for the time being. The differential diagnosis of the disease was fully described.

DR. WILLIAM A. EVANS discussed the "Pathology of Ulcer of the Stomach," describing sizes, outlines and situation. As to location, the seats of ulceration are the lesser curvature, the posterior surface, and near the pylorus. Other regions are less often affected. Occasionally the duodenum and the esophagus are the seat.

Under pathology the speaker discussed some questions of greater interest because of their obscurity, and some of these were the relation of sex; the relation of hyperacidity, chlorosis, thrombus and embolus, syphilis, method of healing, comparison with hemorrhagic erosions, question of scars, and the relation of ulcer to carcinoma.

The analysis of 7700 autopsies by Stawell would indicate that ulcer of the stomach is about as frequent in men as in women. Gluzinski says the majority of the ulcers occur in men. The usually accepted figures are, about twenty times as often in women as in men. Greenough and Joslin, as a result of a study of the cases in the Massachusetts General Hospital from 1888 to 1898, conclude that it is four times as frequent

in men as in women. Saundby says it is twenty times as frequent in women as in men.

Hyperacidity and ulcer of the stomach are generally associated. The speaker's opinion is that the hyperacidity results from the continued irritation of the ulcer, and not the ulcer from the hyperacidity. Neumeister and Frenzel have shown that the hyperacid gastric juice does not digest as readily as that which is normal. In any case of marked hyperacidity in a young woman, ulcer as an etiological factor is to be borne in mind. In ulcer of the duodenum no hyperacidity of the gastric juice can be demonstrated as a general proposition.

Among the other etiological factors recognized are embolus and thrombus. The anatomical arrangement of the celiac axis and of the gastric artery would make embolus infrequent. Besides, embolus is not common in people presenting the clinical picture manifested by a case of ulcer of the stomach. Thrombus can frequently be demonstrated.

That there is a relation to chlorosis is beyond question. Again, there is the difficulty of deciding which is the primary lesion. On the one hand, the loss of blood, and, perhaps, more important still, the direct absorption through the ulcer of incomplete digestion products can produce chlorosis. Usually the degree of anemia bears some relation to the loss of blood. On the other hand, women with ulcer of the stomach usually give a history of anemia preceding the ulcer. The same is not true of men. The ulcer does not repair until the anemia is lessened according to Fütterer. This might be true, and the chlorosis be only a contributing factor. Hemmeter and Stokes have collected 21 cases of syphilitic ulcer in the literature up to 1900.

Under the head of results of ulcer of the stomach, the essayist considered methods of healing, scars, carcinoma springing immediately from the ulcer and developing carcinoma from the scar. It is stated by Welch that 5 per cent. of all autopsies reveal scars at the site of healed stomach ulcers. But not every case of ulcer produces permanent scars—scars persisting for years. Scars in actively working organs tend to disappear in course of time. Ziegler in a late study says that ultimately muscle scar tissue is replaced by functioning muscle in many cases.

As to the relation of ulcer to carcinoma, Fütterer holds that carcinoma develops right in the ulcer as a result of physical injury. It develops on the side of impact. Billings quotes Lebert, Rosenheim, Zenker, Hemmeter and Kollmann as believing that carcinoma usually develops in healed gastric ulcer areas. Lebert states that 9 per cent. of carcinomas grow from such scars. Rosenheim says 6 per cent.; Zenker says most of the cases originate in such areas.

DR. JAMES B. HERRICK read a paper on "Treatment of Ulcer of the Stomach." He called attention to the fact that many of these ulcers healed spontaneously, as is proven by the clinical history of cases and by postmortem examinations, with accidental findings of typical scars. The conditions that tend to keep up the process are the general chlorotic state, the local circulatory condition, but above all, the irritation from food which excites peristalsis and vomiting and causes an outflow of the hyperacid gastric juices. Theoretically the best results should be obtained from the treatment securing most nearly perfect rest of the stomach, including freedom from peristalsis, from movements of the viscus, and attending movements of the body. Experience shows it to be true, that the more nearly these ideal conditions are met the better the result. Drug treatment is unsatisfactory. Treatment by light or milk diet gives better results. The results of Leube and others who employ his method are by far the best. Leube puts his patients to bed, applies hot applications over the epigastrium, and gives a minimum amount of a carefully selected food, with occasional drugs to correct hyperacidity. Of 556 cases Leube had examined, there was recovery in 74 per cent., improved in 22 per cent., unimproved 1.6 per cent., deaths 2 per cent.

The treatment by rectal feeding and rest in bed is really but a modification of the treatment of Leube, but it carries the rest of the stomach one degree nearer the ideal of complete rest.

Dr. Herrick then stated the objections to the method, that it was unnecessary, that it was impracticable, that the rectum would become intolerant, that nourishment was not absorbed, that the patient could not stand it and would become dangerously weakened, that the treatment was inefficient, and answered each objection in detail, showing that where the treatment was carefully carried out the objections did not hold. The objection, also urged, that it is difficult to make an accurate diagnosis of ulcer of the stomach, and that the patient might be subjected to this method of treatment when no ulcer was there, was admitted to be perfectly true, yet he regards it as much better to treat for ulcer what is not that disease than to let ulcer go untreated, and no case of gastric disease treated in this manner could be seriously harmed, even though it were not ulcer.

The technique of the treatment was described in detail, importance being laid on securing consent of the patient by a clear explanation of the reasons for the treatment and the advantage of having the patient under the care of a skilled nurse. Absolute rest in bed of from two to six weeks was advocated. Nothing should be allowed by the mouth, not even water, for from three days to three weeks. Nourishing enemas should be given at regular intervals; a cleansing enema of water given every morning; gradual substitution of liquid by the mouth for the enemata could be allowed when the pain, tenderness and vomiting had entirely ceased. It was better in all cases, if possible, to keep the patient on rectal feeding for at least one week. Light diet should be continued many weeks after the patient had left the bed. Attention should be given to the anemia, preferably by the administration of iron. The results of the treatment were almost immediate disappearance of the nausea, vomiting, and pain, and a rapid lessening of the tenderness on pressure. Hunger, thirst and sleeplessness were scarcely complained of after the first 24 hours. Emaciation and weakness rapidly disappeared when the feeding by the mouth was begun. In recent cases of ulcer a cure can be quite confidently predicted. In older cases, of months' or years' standing, there is generally an improvement, occasionally a cure. Certain cases are clearly surgical, chiefly those with alarming severe hemorrhage, or repeated small hemorrhages, not disappearing under rest and rectal alimentation; also cases of perforation, with peritonitis; cases complicated with adhesions, perigastritis, dilatation, etc., and cases with obstinate vomiting, or severe pain that resists the treatment by alimentation. Believing that other methods of treatment are unsatisfactory, and that this method by rest and rectal feeding offers the most favorable conditions for the natural healing of the ulcer, that it is safe, practicable and efficacious, he believes it should be tried in all cases and not reserved for the complicated or desperate ones.

DR. E. WYLLYS ANDREWS read a paper on "The Complications and Surgical Treatment of Gastric Ulcers." Complications requiring surgical treatment are: 1, perforation; 2, hemorrhage; 3, stenosis of the pylorus and vague incurable troubles from ulcers not cured by medical treatment. The writer believes that gastric ulcer is a surgical disease, just as much as an ulcer on the tongue would be. Only the dangers and difficulties of operating cause any such cases to be left in medical hands. As surgery justifies itself by its results, it transfers whole classes of cases to the surgical domain. Those which in the present status of the art may be claimed by surgeons are: All cases of perforation seen early; all cases of bleeding ulcer which have repeated hemorrhages, and most of those which have more than one very large hemorrhage; all cases of intractable gastric ulcer, which, with or without stenosis of the pylorus, seem likely to be benefited by gastroenterostomy or pyloroplasty.

The technique of laparotomy for perforation was given. Operations for bleeding ulcer are much less common, but have shown brilliant results. Two new cases were reported by Dr. Andrews. A new method of removing the ulcer by ligature *en masse* was described, with animal experiments to confirm the conclusions. Cases by Mansell-Moullin and other English surgeons were quoted in which the writer's technique had been adopted.

Operations for incurable stomach ulcer causing stenosis and other forms of disturbance were also alluded to. It was declared by the writer that most of the improvements in gastric surgery were being made by the French and German specialists, whereas American surgeons had taken the lead in intestinal surgery. Gastro-enterostomy is employed by Mikulicz, Doyen, Küster, König and others with brilliant results in gastric ulcer. Pyloroplasty has been done through the floor of a bleeding ulcer. The writer has had best success with pyloroplasty by the Heineke-Mikulicz method and believes it the safest operation, although a majority of writers favor gastroenterostomy.

DR. ARTHUR DEAN BEVAN spoke of the difficulty of making a diagnosis between gastric ulcer and carcinoma. He has seen several cases in the last few years where, on account of the youth of the individual, the history of the case, the excess of hydrochloric acid, the symptom-complex generally, a diagnosis was made of gastric ulcer, and yet operation disclosed carcinoma. He could not agree with Dr. Andrews that gastric ulcer was a surgical disease, any more than cholelithiasis was always a surgical affection. The treatment outlined by Dr. Herrick he considers of great value and rational. Rectal feeding and putting the stomach at rest constitute as rational a treatment for many cases of gastric ulcer as does gastroenterostomy.

DR JACOB FRANK mentioned retroperistalsis following rectal enemata in a case of gastric ulcer which came under his observation in 1883.

DR. HERRICK, in closing, said he had never seen retroperistalsis following rectal enemata, although a physician with whom he saw a case in consultation told him that he was positive the patient had vomited material which had been introduced per rectum.

## THE AMERICAN SURGICAL ASSOCIATION.

*Meeting held in Baltimore, May 7, 8 and 9, 1901.*

*(Concluded from p. 1491.)*

### Treatment of Arterio-venous Aneurysm of the Subclavian Vessels.

DR. R. MATAS, of New Orleans, read this paper and reported a case of perforation of the right subclavian artery and vein, through the scalinus anticus, by a bullet, the patient being a young man aged 24. The bullet also injured the brachial plexus and caused paralysis of the corresponding upper extremity. Ten days subsequent to the injury the operation was performed. An osteoplastic resection of the clavicle with disarticulation at the sterno-clavicular joint was made under local infiltration anesthesia with eucain B. and a temporary traction loop of silk was applied under the first portion of the anomalous subclavian artery, the innominate being absent. The vein was provisionally compressed above and below the anastomotic orifice. Profuse hemorrhage occurred when the vein was detached from the artery in spite of the fact that complete control of the subclavian at its orifice had been obtained, the bleeding being stopped by the application of double ligatures above and below the perforation of the artery. Indirectly the bleeding had its source in the vertebral and internal mammary. The artery between the ligatures was divided, the orifice in the vein closed by a lateral suture and venous circulation re-established. An undeformed bullet, 38 caliber, was extracted, and shock followed, the patient being restored by saline infusion. Primary healing of the operative wound and recovery, with partial loss of the hand and forearm from mortification caused from arterial ischemia and insufficient collateral circulation followed.

### Phlebitis following Abdominal Operations.

DR. ALBERT VANDER VEER, Albany, N. Y., read a paper on this subject. Abdominal work gives more anxiety during an epidemic of grippe. Acute, perforative appendicitis is more prevalent in August and September, because of the diet in which young people indulge; also in December and January, because of exercise and exposure. In operations deep in the pelvis, ligating the uterine and ovarian vessels and applying a mass of ligature, it is fortunate we do not have more serious complications than is generally met with. Where these do arise suspicion may occur at once as to some failure in technique, but we should consider the great range of pathological lesions met with in the pelvis. It is very unpleasant, but very necessary, in these cases to keep the patient two or three times as long as promised at first. The essayist discussed four cases of phlebitis from his own experience.

The literature on this subject is very scarce and there is great question as to whether phlebitis in these cases is of septic origin. In his own cases he was not altogether sure but that the tight bandage may have had something to do with at least two of them. Never has there been delay in the union of the wound. Pain was one of the pronounced symptoms. When the lesion presented there was also a varying and accelerated temperature and pulse. Sex makes no apparent difference, neither does the nature of operation. In all four cases the patient was in a horizontal position, so there was no extra pressure upon the vessels of the extremities. The pelvis was not elevated. Loss of blood slight. Patients all strong previous to the operation, with the exception of case one. Ligatures used were silk; no catgut in the peritoneal cavity.

### An Operation for the Radical Cure of Umbilical Hernia.

DR WILLIAM J. MAYO, of Rochester, Minn., stated that patients suffering from umbilical hernia are usually obese, with attenuated muscles. It is sometimes wise to reduce the weight before operating. The neck of the protrusion should be exposed early and its omental contents ligated off at this point, saving time. The writer has made the following method nineteen times. The steps of the operation are as follows: A transverse elliptical incision is made at the base of the hernial protrusion to and through the peritoneum. Traction upon the hernia exposes its contents at the point of entrance. Return of intestine, if present, and ligation of extruded omentum. Exposure of the aponeurosis above and below the margin of the incision. The lower flap of aponeurosis and peritoneum is slid upward three quarters of an inch into a pocket previously formed, between the upper margins of aponeurosis and the peritoneum; retention by two rows of buried sutures. The sliding can be made from side to side in the same manner, and was so performed in ten of the nineteen reported cases. If the ring is very large the overlapping from above downward is easier of performance.

### Prevention and Cure of Post-operative Hernia.

DR. JAMES E. MOORE, of Minneapolis, in this paper said that ventral hernia is rare among good operators except after operations for acute appendicitis. The causes of ventral hernia are sepsis, improper closure of the wound and drainage. The location of the wound is of less importance than its proper closure. Each tissue should be united to its own kind by through and through stitches of silk-worm-gut and buried sutures if absorbable material. Buried sutures of unabsorbable material are objectionable and unnecessary. The crossed suture of Dr. Fowler is a very good one, but requires more time to apply it and causes more pain when removed than the through and through suture. Always avoid drainage when possible. Most cases of pelvic surgery requiring drainage are best drained through the vagina.

#### AFTERNOON SESSION.

DR. S. H. WEEKS read a paper on "Fractures and Dislocations of the Spine."

### Giant Sacrococcygeal Tumors.

DR. CHARLES A. POWERS, of Denver, presented, with photographs, a paper on this subject. A male child was first seen at 3 months of age, at which time there was found an enormous growth occupying the sacrococcygeal region, extending laterally to the buttocks and forward in front of the anus. It was irregularly ball-shaped and in size as large as the head of a child of 6 years. Below and in front the growth was cystic; above and laterally it was firm and in places nodular. The skin over the tumor was of a bluish-red over the cystic parts, normal above and at the sides. Deep palpation showed

no gap in the bony structures. There was nothing abnormal about the rectum. The tumor was moved by the gluteal muscles, but the tension of the mass was not changed when the child cried. There was no paralysis nor anesthesia of the lower extremities. No operation was advised and the growth underwent spontaneous contraction. The skin did not ulcerate, the contents of the cystic portion were absorbed, and when the child was 3 years and 9 months old the tumor had shrunk to the size of a man's fist and was well flattened out over the sacrococcygeal region. The boy is as strong and healthy as other lads of his age; lies on his back and sits like other children; except for its mere presence the tumor gives no symptoms. While this growth lacks pathological confirmation, it is assumed that it is a teratoma or embryoid tumor having a double germinal substratum.

### Radical Cure of Inguinal and Femoral Hernia.

DR. W. B. COLEY, of New York, made a report of 800 cases operated upon from 1891 to 1901. The writer believes that the decade that has just passed may be said to have definitely settled the question as to the possibility of permanently curing inguinal and femoral hernia by operative treatment. Whereas ten years ago the mortality of the operation for non-strangulated hernia was not far from 6 per cent. today, in competent hands, it is not more than one-half or one-quarter per cent. In addition to the comparatively large mortality ten years ago, the fact that 50 per cent. of the cases relapsed within two to three years after operation was sufficient to prevent the majority of patients from undergoing operations for radical cure. The writer believes that the method introduced by Bassini in 1890 the highest point in the evolution of the ideal operation for hernia.

### Use of Silver Wire and Electricity in the Treatment of Aneurysms.

DR. LEONARD FREEMAN, of Denver, read this paper; it was discussed by Dr. J. M. T. Finney, of Baltimore, Dr. De Forest Willard, of Philadelphia, and Dr. R. Matas, of New Orleans.

DR. M. L. HARRIS, of Chicago, read a paper on "Movable Kidney: its Cause and Treatment," which appears in this issue of THE JOURNAL.

DR. S. J. MIXTER, of Boston, read the following papers: 1. "Two Cases of Abdominal Contusion: Fracture of Spleen—Splenectomy—Recovery: Fracture of Kidney—Nephrectomy—Recovery." 2. "Nephrolithotomy on Both Kidneys." 3. "New Method of Closing the Defect Following the Thorough Removal of the Breast."

### Resection of the Chest Wall for a Large Sarcoma. Successful Use of the Antistreptococcic Serum.

DR. W. W. KEEN, of Philadelphia, read this paper. The author referred very fully to the details of the operation, together with the condition of the patient before and after. In concluding his remarks he called particular attention to: 1. The method of separating the tumor from the chest wall so as to determine more exactly the limits of the disease and lessen the size of the opening to be made in the chest. 2. The division of the ribs anteriorly and posteriorly prior to opening the pleural cavity; this diminished very much the period of danger in the collapse of the lung. 3. The use of Fels' apparatus, which was not satisfactory in this case and for which he prefers to substitute the apparatus of Dr. Bloom, of New Orleans, which he then showed to the Association or the apparatus of Matas, which was then demonstrated by its inventor. 4. The suture of the lung to the chest wall, which was followed by no untoward surgical result. It diminished very greatly the amount of post-operative pneumothorax and in fact one might almost say abolished it. 5. The use of the anti-streptococcic serum and as to whether it was the cause of the fall in temperature or only a coincident, the results seeming to be so striking. 5. The examination of the blood which was of great value as showing the reason for the continued high temperature and led to what the author believes to have been the proper treatment for the condition.

In the opinion of the Doctor it is too early to determine what will be the future of the patient but up to the present time, a period of nearly seven months, the results have been entirely satisfactory.

### Pneumotomy of the Lung.

DRS. HEARN AND ROE reported and exhibited a case of a large abscess of the lung, of 22 years' duration, probably the result of local gangrene following pneumonia, in a male patient aged 26. Pneumotomy was performed and the abscess drained for two years with much improvement in general health; marked lessening of the previous horribly offensive odor, but without any healing or reduction in the size of the cavity. They again operated and excised a portion of the abscess wall, stitching the margins of the remainder to the skin surface, thus converting it into an open cavity, with relief from the annoyance of wearing a drainage tube and of cleansing the cavity and with practically entire cessation of odor. Although about six months have elapsed, the cavity remains unchanged and there is evidence of secondary bronchiectasis for which they assign two probable causes; i. e., cough and cirrhosis of lung tissue. To obliterate the original cavity and to relieve the bronchiectasis or cure it, they propose to remove the greater portion of the lower ribs, with their periosteum, in this way allowing the chest wall to collapse upon the lung.

# Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### Insomnia in Melancholia.

R. Hyoscinæ hydrobromatis ..... gr. 1/4 | 015
Camphoræ monobromatæ ..... 3i | 4

M. Ft. Cap. No. xii. Sig.: One capsule every two or three hours until effective.

### Treatment of Typhoid Fever.

As stated in an article in Louisville *Jour. of Med. and Surgery*, the time to push medicine in treatment of typhoid fever is in the beginning. Produce free elimination by administering either magnesium sulphate or mercurous chlorid. The article further states that the use of intestinal antiseptics should be begun early. The following are recommended:

R. Sodii sulphocarbolatis ..... 3iiss | 10
Ext. hydrastis fluidi ..... 3ii | 8
Aquæ destil. q. s. ad ..... 3ii | 64

M. Sig.: One teaspoonful in water one-half hour before taking nourishment, giving the nourishment at 3, 6, 9 and 12 o'clock. As a substitute for the sodium sulphocarbolate guaiacol carbonate may be given in 10-grain doses.

After taking nourishment the following should be given:

R. Pepsini (scale) ..... 3iss | 6
Acidi hydrochlorici dil. ..... 3i | 4
Aquæ destil. q. s. ad ..... 3ii | 64

M. Sig.: One teaspoonful after each feeding.

If constipation is present the substitution of cascara sagrada for the hydrastis in the first prescription is recommended, and the use of normal saline enemas to aid in making the bowels move.

### Glycerin as an Antiseptic.

Glycerin is used a great deal as a basis for various medicines. Wunschheim, in *Indian Med. Record*, states that he has investigated its antiseptic properties. He tested the effect of glycerin on various forms of germs, alone and in combination with various antiseptic preparations. It has no special value as an antiseptic, and if used in combination with carbolic acid and other preparations, the antiseptics must be stronger than if used with water. A concentration of 10 per cent. carbolic acid is about as effectual as a 5 per cent. solution in water; but if glycerin be mixed with equal parts of water the disinfectant value is as good as in pure aqueous solution.

### Leucorrhea.

According to *Merck's Archives* the following is of service in treatment of leucorrhea:

WHEN AN ACID DISCHARGE IS PRESENT.

| | | | |
|---|---|---|---|
| R. | Sodii boratis | ℥iv | 128 |
| | Sodii bicarb | ℥viii | 256 |
| | Pot. chloratis | ℥iv | 128 |

M. Sig.: Two level tablespoonfuls in two quarts of warm water twice daily as a douche.

WHEN ULCERATION OF CERVIX IS PRESENT:

| | | | |
|---|---|---|---|
| R. | Ichthyol | ℥iv | 16 |
| | Iodoformogeni | ℥i | 4 |
| | Lani | ℥v | 20 |
| | Vaselini | ℥iii | 12 |

M. Sig.: Apply twice daily with a swab.

### Ulcers of the Leg.

O. Schulze, as noted in *N. Y. Med. Jour.*, gives the following as dressing in ulcers of the legs:

| | | | |
|---|---|---|---|
| R. | Camphoræ (triturated) | gr. vi | 36 |
| | Zinci oxidi | ℥i | 4 |
| | Adipis q. s. ad | ℥v | 20 |

M. Sig.: Use as a dressing to the ulcer; or:

| | | | |
|---|---|---|---|
| R. | Camphoræ (triturated) | gr. xii | 72 |

dissolve in

| | | | |
|---|---|---|---|
| | Olei olivæ | ℥v | 20 |

and add:

| | | | |
|---|---|---|---|
| | Zinci oxidi | ℥v | 20 |

M. Sig.: Apply as a dressing upon gauze and renew twice a day.

### Non-indications for the Use of Carbolic Acid.

The *Internat. Jour. of Surgery* states that it is better to discard carbolic acid entirely in treatment of wounds in children. Not only do they develop gangrene very readily from its continuous effect in wet dressing, but fatal cases of poisoning have been known to occur from the application of so weak a solution as 1 in 40.

### Impetigo.

Impetigo is a disease which is very frequently found among the poorer classes, and several members of the family may be affected in routine order. Jay F. Schamberg, in *Internat. Med. Mag.*, advises that the crusts first be removed, followed by mild antiseptic applications. He advises the following lotion applied through the day:

| | | | |
|---|---|---|---|
| R. | Hydrarg. bichloridi | gr. i | 06 |
| | Glycerini | ℥i | 4 |
| | Spts. vini rect. | ℥i | 32 |
| | Aquæ q. s. ad | ℥iv | 128 |

M. Sig.: Apply locally several times through the day.

The following ointment should be applied at night:

| | | | |
|---|---|---|---|
| R. | Hydrarg. ammon. | gr. x-xx | 66-1 |
| | Pulv. amyli | | |
| | Pulv. zinci oxidi, āā | ℥ii | 8 |
| | Petrolati | ℥ss | 16 |

M. Sig.: Apply locally at night.

He states that some lesions upon the face will yield more quickly to the following ointment:

| | | | |
|---|---|---|---|
| R. | Resorcini | gr. xv | 1 |
| | Lanolini | | |
| | Petrolati, āā | ℥ss | 16 |

M. Sig.: Locally applied.

Or as a lotion the following may be used upon the face:

| | | | |
|---|---|---|---|
| R. | Resorcini | gr. xl | 2 66 |
| | Acidi borici | gr. xl | 2 66 |
| | Glycerini | ℥i | 4 |
| | Alcoholis | ℥ss | 16 |
| | Aquæ q. s. ad | ℥iv | 128 |

M. Sig.: Apply locally to the case as a lotion.

He further states that to patches upon covered surfaces, a 10 to 20 grain solution of silver nitrate may be applied.

### For Mosquito Bites.

M. Manquet recommends the following application to be applied to the face, upon tender surfaces, and in cases of very young children:

| | | | |
|---|---|---|---|
| R. | Formalin (40 per cent. sol. formalheyd) | ℥v | 20 |
| | Alcoholis | | |
| | Aquæ, āā | ℥x | 40 |

M. Sig.: Apply locally lightly without reaching the smarting point and thus avoid caustic action.

### Ingrowing Toe Nail.

| | | | |
|---|---|---|---|
| R. | Sol. plumbi subacetatis | ℥iv | 16 |
| | Tinct. opii | ℥v | 20 |
| | Aquæ q. s. ad | ℥viii | 256 |

M. Sig.: Apply on lint to reduce the inflammation and ease the pain.

### Treatment of Cancer.

The *Med. Standard* gives the following formulæ in treatment of cancerous growths where surgery is non-indicated:

| | | | |
|---|---|---|---|
| R. | Acidi arsenosi | gr. xv | 1 |
| | Alcoholis (absolute) | ℥iiss | 75 |
| | Aq. destil | ℥iiss | 75 |

M. Sig.: Cleanse and dry the ulcer and apply with a brush. If no pain is caused in five minutes, another layer should be applied. —*Trunecek.*

Another formula is given as follows:

| | | | |
|---|---|---|---|
| R. | Acidi arsenosi | | |
| | Orthoformi, āā | gr. xv | 1 |
| | Alcoholis | ℥iiss | 75 |
| | Aquæ | ℥iiss | 75 |

M. Sig.: Apply locally.

Bougard's paste is also mentioned as recommended by Danial Lewis, as follows:

| | | | |
|---|---|---|---|
| R. | Wheat flour | | |
| | Amyli, āā | ℥ii | 64 |
| | Acidi Arsenosi | gr. xv | 1 |
| | Cinnabar | | |
| | Ammon. chloridi, āā | gr. lxxv | 5 |
| | Hydrarg. chloridi mitis | ℥iss | 48 |
| | Sol. zinci chloridi (52 degrees F.) | ℥viii | 240 |

M. Sig.: Spread a thick layer upon cotton and leave in position for twenty-four hours.

### Treatment of Scabies.

Hopf, as noted in Internat. Med. Mag., states that miraculous results are obtained by the use of the following ointment, first having the patient thoroughly scrubbed for several minutes with green soap and hot water. He then puts the patient into a hot bath for several minutes with continued scrubbing. By this method the pustules and burrows are open. The ointment is then well applied:

| | | | |
|---|---|---|---|
| R. | Sulphuris loti | ℥v | 20 |
| | Potassii carbonatis | ℥iiss | 10 |
| | Adipis | ℥iv | 128 |

M. Sig.: Apply thoroughly and allow the ointment to remain on for twenty-four hours.

### Treatment of Pertussis.

The *Brooklyn Med. Jour.* gives the following formula in treatment of pertussis during the paroxysmal stage:

| | | | |
|---|---|---|---|
| R. | Extracti belladonnæ | gr. i | 06 |
| | Aluminis | 5ss | 2 |
| | Glycerini | | |
| | Syr. zingiberis | | |
| | Syr. tolutani | | |
| | Syr. acaciæ āā | ℥ii | 64 |

M. Sig.: One teaspoonful four times a day for a child 2 years of age.

### Treatment of Keratitis (Inflammation of Cornea.)

| | | | |
|---|---|---|---|
| R. | Acidi borici | gr. ii | 12 |
| | Atropinæ sulphatis | gr. 2/3 | 04 |
| | Aq. destil. | ℥ii | 8 |

M. Sig. Put one drop into the eye morning and night until the inflammation subsides.

**Treatment of Pulmonary Emphysema.**

Dr. Cailla, in *Post-Graduate* recommends the following in treatment of emphysema following pertussis in children:

| | | |
|---|---|---|
| R. | Potassii iodidi ..... | 3ii 8 |
| | Spts. ammon. arom. ..... | 3i 4 |
| | Tinct. opii camph. ..... | 3i 4 |
| | Syrupi simplicis ..... | 3iv 16 |
| | Aquæ destil. q. s. ad..... | ℥iii 96 |

M. Sig.: One teaspoonful in water every three hours.

# Medicolegal.

**No Damages for Death of Man or Beast from Fright.**—The Supreme Court of Iowa says, in the case of Lee vs. the City of Burlington, that, as a general, settled rule with reference to human beings, no recovery may be had for injuries resulting from fright caused by negligence of another, where no immediate personal injury is received, and it sees no reason why the same rule should not be applied to animals. Damages, to be recoverable, must be such as, in the ordinary course of things, naturally follow from the act complained of, while death from fright alone is so unusual and extraordinary that one ought not to be held liable therefor.

**Damages for Partial Paralysis and Mental Suffering.**—The Court of Civil Appeals of Texas affirms, in the case of the Missouri, Kansas & Texas Railway Company of Texas vs. Miller, a judgment for $10,000 damages for a freight-train conductor who was alleged to have been seriously and permanently injured to the extent that he was rendered unable to work, had his health destroyed, suffered partial paralysis of his lower limbs from the hips down, and constantly suffered from mental anguish and pain. The court was satisfied by the evidence that he had been made a physical wreck, and a constant sufferer, both physically and mentally, and says that it is unable to see why his mental sufferings in contemplating his changed condition from a bright, happy life to a living death should not form one of the natural results of such an injury, and a proper subject of evidence and of damages.

**Extent to Which Physician's Return is Evidence.**—The Supreme Court of Illinois holds, in the case of Howard vs. the Illinois Trust and Savings Bank, that the rule which makes official registers of births and deaths admissible in evidence to prove the facts recorded without the usual tests of truth includes only those facts which occur in the presence of the physician making the return. The return is not evidence of matters of mere hearsay gathered up by the physician, of which he knows nothing. It is only evidence of facts necessarily within the knowledge of the person making the entry. Wherefore, for example, the court holds that a physician's return was not evidence that the child, the birth of which was reported, was his mother's second child.

**Medical Examiner made Agent of Company.**—The Supreme Court of Rhode Island holds, in the case of Leonard vs. the New England Mutual Life Insurance Company, that where an application for life insurance says, "The medical examiner will put the following questions, and fill out the answers in his own handwriting," this clearly makes the examiner the agent of the company for this purpose, and the company writes the answers as with its own hand. Moreover, in view of the facts in this case, that the application in question was signed without written answers to the medical part, that it was handed to the expressly authorized agent of the company to receive both the answers and the application, that there was nothing to show that the answers as given were false, and that under the terms of the application the examiner was acting for the company, and not for the insured, in writing down the answers, the court sees no valid ground of objection by the company to a finding which must result in excluding them from being any part of his application. And it holds that if the answers were correctly given, as must be assumed in this case, and mistakenly or wilfully written wrong—the application having been accepted in blank—the fault would lie with the insurance company, and not with the insured.

**Insanity that Will Prevent Pronouncing of Judgment.**—The Supreme Court of Arkansas says, in the case of State vs. Helm, that the reason of the rule for prohibiting the trial of a person while he is insane is the incapacity of one who is insane to make a rational defense, and for prohibiting the pronouncement of judgment against him while he is insane is, if sane, he might be able to show cause why judgment should not be pronounced against him, but, being insane, though having a sufficient cause, he might not make it known. It also concludes and decides that, if a person convicted of a crime is, by reason of a disease of the mind, unable to understand the nature of the indictment upon which he was convicted, and the verdict thereon, when explained to him by the court, and is unable to comprehend his own condition in reference to such proceeding, and by reason thereof might not make known to the court or the attorneys in charge of his defense the facts within his knowledge, if any, which would show that judgment should not be pronounced against him, he is, as to the pronouncing of such judgment, to be deemed insane, within the meaning of a statute which forbids the pronouncement of judgment against any person while he is in a state of insanity. But ignorance of the law it holds, is not competent or sufficient to show such incapacity. And it holds that an instruction should not have been given which authorized the jury to find the defendant insane if they found from the preponderance of the evidence that he could not "intelligently reason."

**Power to Exclude Unvaccinated Pupils.**—The Supreme Court of Pennsylvania has affirmed the decision of the court of common pleas in the case of Charles J. Field vs. Martha L. Robinson, principal of the Keystone public school in Philadelphia, referred to on pages 101 and 167 of volume XXXV of THE JOURNAL. Here it was sought by mandamus to compel the principal to admit to the school a pupil without a certificate of having been vaccinated or had the smallpox. The principal's answer was that, under the act of 1895, she was compelled to exclude the child. This answer was demurred to, and the demurrer overruled. The "per curiam" (by the court) opinion of the supreme court is, in full, as follows: "We think the court below did not err in the ruling referred to in the assignments. In Duffield vs. School District, 162 Pa. 476, we held that school directors, in the exercise of a sound discretion, may exclude from the public schools pupils who have not been vaccinated. Whether a resolution excluding from the school pupils who have not been vaccinated is a reasonable one, is to be judged of in the first instance by the school directors. In the present state of medical knowledge, and of convincing opinion of those having charge of the public health, the courts will not say that such a resolution is an abuse of official discretion.' It has not been shown to our satisfaction that the act of June 18, 1895 (P. L. 203), is unconstitutional. For the reasons above stated, we dismiss the assignments and sustain the conclusions of the court below. Judgment affirmed."

**Physical Condition as a Collateral Issue.**—The Supreme Court of Iowa says, in the breach of promise case of Vierling vs. Binder, that it is true, no doubt, that physical defects or disease which incapacitate the woman for the marriage state or for the birth of children, if unknown to the other party to the contract at the time the contract was entered into, may be pleaded and proven in bar to an action for breach of the contract of marriage. Likewise the incapacity or unfitness of the man for the marital relation, accruing after the making of the contract, without his fault, or unknown to him at the time the contract was made, may be shown. But the diseased condition of the plaintiff, which the defendant set up in this case, was alleged as bearing on the question of whether the defendant had entered into any contract of marriage, and not as a bar to the action for breach of contract. Wherefore, the supreme court holds that the trial judge properly limited the jury, in the consideration of the evidence as to the plaintiff's physical condition, to the question of whether a contract of marriage was made, and properly refused to give instructions asked by the defendant directing the jury to consider this evidence as

tending to show that he was not liable for breach of the contract, if made. Furthermore, without discussing the question whether, if the defendant had properly pleaded such defensive matter as a bar, a physical examination of the plaintiff by physicians to be appointed by the court could have been ordered, on the defendant's motion, for the purpose of determining whether her physical condition was such as to present an obstacle to marriage, the court holds that it was not error to refuse to sustain such a motion in this case. It says that, as bearing on the question as to whether the defendant did promise to marry the plaintiff, the evidence of her physical condition was collateral only, and did not relate to the matter immediately under investigation. Certainly a physical examination should be ordered only when it is necessary to determine the existence of the very cause of action or defense pleaded in the case. Such an examination is for the purpose of bringing before the jury, as nearly as may be, the real evidence relating to the cause of action or defense.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## Boston Medical and Surgical Journal, May 16.

1 *The Treatment of Psoas Abscess by Incision. Robert W. Lovett.
2 *Infantile Scorbutus. John Lovett Morse.
3 Neuritis Recurring after Atrophy of Both Optic Nerves in a Case of Brain Tumor. Edward R. Williams.
4 A Case of Accidental Inoculation of Cancer in a Fresh Wound. A. T. Cabot.

## Medical News (N. Y.), May 18.

5 *On the Modern Treatment of Acute Gonorrhea. George Knowles Swinburne.
6 Chronic Gonorrhea. John Van Der Poel.
7 On Gonorrheal Conjunctivitis. Ward A. Holden.
8 Treatment of Gonorrheal Stricture of the Urethra. James R. Hayden.
9 The Treatment of the Complications of Acute Gonorrheal Posterior Urethritis. James Pedersen.

## Philadelphia Medical Journal, May 18.

10 *The Disinfection of Wounds with Pure Carbolic Acid. Dr. Von Bruns.
11 A Further Report on a Case of Presystolic Murmur Associated with Pregnancy, etc., Originally Reported at the Meeting of the Association in May, 1899. James Tyson.
12 An Exceedingly Rare Case of Imperforate Anus. Charles B. Kelsey.
13 *The Relation of the Public to the Medical Profession. Wm. H. Thomson.
14 Gastric Tetany, with Report of Cases. Wm. Gerry Morgan.
15 *The Functional Tests of Hearing. William L. Ballenger.
16 Report of a Case of Rupture of the Eyeball from Contusion—Luxation of the Lens—Hernia of the Iris and Ciliary Body. J. W. Sherer.
17 Anisometropia. Norburne B. Jenkins.

## Medical Record (N. Y.), May 18.

18 *The Recent Buffalo Investigations Regarding the Nature of Cancer. Roswell Park.
19 *Contracture of the Neck of the Bladder. Charles H. Chetwood.

## American Medicine (Philadelphia), May 18.

20 Disease and Deformity of the Knee: Etiology, Diagnosis and Treatment. Daniel W. Marston.
21 *The Toxin of the Colon Bacillus. Victor C. Vaughan.
22 *A Plea for Uniformity of Technic in Widal's Reaction. Randle C. Rosenberger.

## New York Medical Journal, May 18.

23 *The Pathology and Bacteriology of Uretero-Intestinal Anastomosis. (Concluded.) F. Robert Zeit.
24 *Air, a Factor in Digestion. Edwin W. Moore.
25 *The Proper Administration of the Schott Exercises. Victor Neesen.
26 *The Use of the Suprarenal Capsule in Diseases of the Heart. (Concluded.) Samuel Floersheim.
27 Relations of Vascular Disease to Heart Disease. William H. Thomson.

## Cincinnati Lancet-Clinic, May 18.

28 Valedictory Address, Cincinnati College of Medicine and Surgery. W. H. Wenning.
29 Progressive Medicine. Franklin H. Lamb.
30 Valves of the Rectum. Geo. J. Monroe.

## St. Louis Medical Review, May 18.

31 *Ureter Catheterization in the Male; A New Ureter Cystoscope Bransford Lewis.
32 *Veratrum Viride. R. C. Atkinson.
33 What Should be the Legal Requirements for the Commitment of Insane Persons to Hospitals for Care of the Insane. A. B. Richardson.

## Medical Age (Detroit, Mich.), May 10.

34 Clinical Lectures in Neurology. Harold N. Moyer.
35 The Practice of Medicine as a Source of Income. D. A. K. Steele.
36 The Artificial Anastomosis of the Portal and Systemic Veins. Byron Robinson.

## Medical Fortnightly (St. Louis), May 10.

37 The Surgical Treatment of Fibroid Tumors of the Uterus, with Specimens. W. W. Williams.
38 *Strangulated Hernia. J. J. Brownson.
39 Diseases of the Stomach. (Continued.) J. M. G. Carter.
40 *Research Experiments on the Physiological Action of Petroleum. G. Burbridge White.

## Archives of Pediatrics (N. Y.), May.

41 The Blood in Infancy and Childhood. (Concluded.) Alfred Stengel and C. Y. White.
42 The Value of the Widal Reaction in Infancy and Childhood. John Lovett Morse.
43 Experiences in an Epidemic of Typhoid Fever: Fetal and Infantile Typhoid, Scarlatina Complicating Typhoid, and Vice Versa. J. Finley Bell.
44 A Case of Streptococcal Infection Successfully Treated by Antistreptococcus Serum. J. S. Fowler.

## Journal of Nervous and Mental Diseases (Nyack, N. Y.), April.

45 *The Clinical Value of Astereognosis, and its Bearing Upon Vertebral Localization. G. L. Walton and W. E. Paul.
46 The Babinski Reflex. C. Van Epps.

## Journal of Nervous and Mental Diseases (Nyack, N. Y.), May.

47 *A Study of the Cases of Tabes Dorsalis in Prof. M. Allen Starr's Clinic, Columbia University, from January, 1888, to January, 1901. Allan Blair Bonar.
48 *The Scapulo-humeral Reflex of Von Bechterew. William Pickett.
49 Psychical Form of Epileptic Equivalent. Charles Cary and Julius Ullman.
50 Cases Illustrating the Different Diagnosis of Cerebral and Hysterical Hemi-anesthesia. Charles K. Mills and Theodore Weisenberg.

## New York State Journal of Medicine (N. Y.), May.

51 The Reason for the Existence of the New York State Medical Association. Alvin A. Hubbell.
52 *Ulcer of the Placenta; Umbilical Cord Severed Before Birth. Eden V. Delphely.
53 *Problems in Etiology, Diagnosis and Treatment of Tubercular Disease of the Upper Air Passages. Jonathan Wright.
54 Heart Disease. J. J. Walsh.
55 Unity of Action in the State Association. Parker Syms.

## Physician and Surgeon (Detroit and Ann Arbor, Mich.), May.

56 *The Elimination and Curability of Syphilis. William F. Breakey.
57 *Predisposing Causes of Pulmonary Tuberculosis. Donald S Campbell.
58 *The Early Diagnosis of Pulmonary Tuberculosis. Preston M. Hickey.
59 A Short Sketch of the Surgical Treatment of Otitis Media Suppurativa. Emil Amberg.
60 The Nonsurgical Treatment of Diseases of the Middle-ear. Eugene V. Riker.
61 The Cause and Failure After Club-foot Operations. Daniel LaFerte.
62 The Management of Trachoma. Charles H. Baker.
63 The Etiology and Rational Treatment of Disease. George B. McCallum.

## Illinois Medical Journal (Springfield), May.

64 *The State Care of Consumptives. John A. Robinson.
65 *Sanitarium Treatment of Pulmonary Tuberculosis in Illinois. Florence W. Hunt.
66 Observations as to the Efficiency of the Chicago Health Department Method of Fumigation. Adolph Gehrmann.
67 *Cholelithiasis. J. W. Hairgrove.
68 A Gynecologic Examination. C. C. Hunt.
69 The Colonial Treatment of Epilepsy. Daniel R. Brower.
70 Diagnostic Sign of Smallpox. J. C. Sullivan.
71 Obstructions in the Pathway of Legitimate Medicine. J. H. Miller.
72 Surgical Introspection. H. W. Chapman.

## Annals of Surgery (Philadelphia), May.

73 *The Surgery of the Spleen. J. Collins Warren.
74 *Concerning Prompt Surgical Intervention for Intestinal Perforation in Typhoid Fever, with the Relation of a Case. Harvey Cushing.

75 *Operative Paralysis of the Spinal Accessory Nerve. Pearce Bailey.
76 Hydatid Cyst of the Prostate. L. Bolton Bangs.
77 *The Surgical Treatment of Amebic Dysentery. Francis W. Murray.
78 *Some New Points in Tendon Surgery. F. S. Coolidge.
79 *Some Errors in Diagnosis in Conditions Resembling Appendicitis. George Emerson Brewer.
80 *Rare Complications after Operations for Appendicitis. Willy Meyer.
81 Report of Three Cases of Properitoneal Hernia. John Chadwick Oliver.

### Indiana Medical Journal (Indianapolis), May.

82 Apparent Periodical Vomiting, with Report of a Case. B. Van Sweringen.

### Buffalo Medical Journal, April.

83 *Paresis and Cerebral Syphilis. Arthur W. Hurd.
84 Surgical Complications of Typhoid Fever, as Observed at U. S. General Hospital, Fort Myer, Va. Vertner Kenerson
85 Excision of Hemorrhoids. William L. Dickinson.
86 Functional Disorders of Digestion. Clarence King.
87 A Brief Resume of the Grosser Animal Nature and its Application in Medicine. G. N. Jack.
88 Clinical Quantitative Analysis of Protoids in Stomach Contents. A. L. Benedict.
89 Mental Aberration, Consequent upon Pelvic Disease. L. G. Hamley.

### New York Medicinische Monatsschrift, April.

90 *Einige Bemerkungen ueber Practische Harnanalyse. Louis Heitzmann.
91 Die Behandlung der Mittelohreiterung. J. Holinger.
92 Ein Fall von Schwerer Morphiumvergiftung Subcutane Einspritzungen von Hypermangansaurem Kali geheilt. Leonard Weber.

### Journal of Tuberculosis (Asheville, N. C.), April.

93 Primary Pharyngeal and Laryngeal Tuberculosis, two Cases Cured. J. W. Gleitsmann.
94 *Ten Years' Experience with the Tuberculins. Chas. Denison.
95 Home Treatment of Tuberculosis. Lawrence F. Flick.

### Medical Summary (Philadelphia), May.

96 Emulsion—Specimen Formulæ. Robert C. Kenner.
97 La Grippe. Geo. J. Monroe.
98 Typhoid Fever, etc. Floyd Clendenen.
99 Is Malarial Hematuria Produced by the Administration of Quinin? B. P. Wilson.
100 A Review of Hypnotics and Nerve Sedatives. C. W. Canan.
101 Sugar and the Doctor. Edwin W. Pyle.
102 Some More Dont's. D. H. Keller.
103 The Law of Growth, and the Cause of the Action of All Remedies. W. T. Ball.
104 Some Notes Concerning the Administration of Quinin. W. Thorntoo Parker.
105 The Seidlitz Salt. W. C. Buckley.
106 Fever and its Treatment. J. L. Wolfe.

### Chicago Medical Recorder, May.

107 *Some Forms of Meddlesome Obstetrical Practice. J. Clarence Webster.
108 Four Cases of Ureteral Surgery. Edward Evans.
109 *The So-called Cardiac Neuroses: Classification; Etiology; Pathology. Lewellys F. Barker.
110 A Short Consideration of Some of the Points in the Pathology of Ulcer of the Stomach. W. A. Evans.
111 *The Surgery of Gastric Ulcer. Edward W. Andrews.
112 *The Treatment of Ulcer of the Stomach. James B. Herrick.
113 *The Gynecological and Obstetrical Significance of Girlhood. Henry P. Newman.
114 *The Skull and its Contents. W. H. Earles.
115 Endocarditis in Children, with Report of a Case. Rosalie M. Ladova.
116 A Case of Atresia Ani Vesicalis. Carl Beck.

### Hot Springs Medical Journal, May.

117 Surgical Treatment of Abdominal Dropsy following Cirrhosis of the Liver. James T. Jelks.
118 Chronic Urethral Discharge due to Seminal Vesiculitis. Donald Kennedy.

### Southern Practitioner (Nashville, Tenn.), May.

119 Removal of Foreign Bodies from the Trachea, with Report of an Interesting Case. Paul F. Eve.
120 A Modern Surgical Dressing. W. C. Wile.
121 A Corrector of Iodism. W. H. Morse.

### Archives of Ophthalmology (New Rochelle, N. Y.), May.

122 Some Advancements without Tenotomies: a Description of the Operation Employed, and Remarks upon the Theory of Advancements in Such Cases. Herbert Wright Wootton.
123 *Alcohol and Tobacco Amblyopia in Cuba. C. E. Finlay.
134 Angiosarcoma of Choroid: Four Years' Observation. Kaspar Fischel.
125 An Arterio-Venous Aneurysm of the Retina. Dr. Seydel.
126 *A Contribution to the Symptomatology and Histology of Primary Myxosarcoma of the Optic Nerve, and the the Operative Removal of Such Growths by Kronlein's Method. Th. Axenfeld and Fr. Busch.
127 *Symblepharon Operation on the Double Everted Upper Lip with the Suturing of a Transplanted Flap to the Tendinous Expansion of the Superior Rectus Muscle, thus Forming a Permanent Retrotarsal Fold. Hugo Wolff.
128 *Changes in the Fundus in Pregnant and Lying-in Women Bruno Bosse.
129 *On the Nutrition of the Cornea. Prof. Ulrich.

### Texas Medical Journal (Austin), May.

130 A Brief History of the Recent Outbreak of Smallpox in Guadalupe County, and Remarks. Wm. Myers.

### Charlotte Medical Journal, April.

131 Asthma. Charles S. Jordan.
132 Intubation and Antitoxin in the Treatment of Laryngeal Diphtheria. J. W. Long.
133 The Surgical Treatment of Empyema. Southgate Leigh.
134 Determination of Sex: a Review of the Subject, with Remarks. C. W. Canan.
135 Galvanic Electricity for the General Practitioner. A. G. Servoss.
136 Bromidrosis Pedis. F. R. Millard.

### Medical Times (N. Y.), May.

137 Acute Endocarditis: Benign and Malignant, with Illustrative Cases. Thomas E. Satterthwaite.
138 A Clinical Lecture Delivered at the New York Post-graduate Medical School and Hospital, April 1, 1901. Henry Dwight Chapin.
139 Fecal or Intestinal Fistula. Wilfred G. Falick.
140 Alcohol in the Practice of Medicine. I. A. McSwain.
141 Diseased Tousils a Menace to Health. C. F. Wahrer.

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## AMERICAN.

1. **Psoas Abscess.**—The questions discussed are: What is the result of incising psoas abscess as far as life and the function of the limb are concerned and, if the incision is advisable, what is the best method of operation. Fifty-four cases of psoas abscess treated at the Children's Hospital, Boston, between 1890 and 1900, are analyzed to answer these questions. The facts as to the age, sex, duration and location of the disease, site of abscess, temperature, mode of operation, after-treatment, results, time and cause of death, mortality, etc., are all taken up in detail. The practical conclusions, so far as they can be deduced from so small a number of cases, are: That fever is not necessarily an accompaniment of psoas abscess formation; that where it does occur the prognosis is not so good as where it is absent; that the best method of operation is by a lumbar or an iliac incision, and preferably the latter. It seems, on general principles, desirable to avoid recumbency for long periods, which makes drainage by an iliac incision almost impossible. It seems, therefore, best to put on a plaster jacket almost immediately after operation, to enable the patient to sit erect and the abscess to drain almost from the first. In this way the writer has obtained better results than by any other method.

2. **Infantile Scorbutus.**—Morse reports six cases of infantile scurvy, and discusses the etiology, treatment, etc. Anemia and general mal-nutrition are probably the earliest symptoms, but are not alone sufficient to warrant the diagnosis. Pain is almost always the first symptom, occurring on motion or handling; is generally in the legs, and next in the back and arms. From the patient's unwillingness to move on this account, paralysis is sometimes suspected. The extremities are often held rigid, and the legs usually flexed at the thighs and knees. Swellings appear as the disease progresses, usually at the ends of the diaphyses, and pyriform or symmetrical in shape. They are due to subperiosteal hemorrhage. If this is extreme, separation of the epiphyses may result. Sponginess and swelling of the gums are the most common symptoms that appear later. Cutaneous hemorrhages are common in severe cases. Hemorrhages from the nose, stomach and bowels are not very infrequent in the worst cases, and hemorrhages at the orbit may cause proptosis. Hematuria is rare and albuminuria rather infrequent. Fever is not a prominent symptom, and usually accidental. The pathologic lesions are, briefly, anemia, hemorrhage, and ulcerative stomatitis. Nephritis is an uncommon complication. The diagnosis is from

rheumatism, purpura, rickets, syphilis, Pott's disease, infantile paralysis and injury. Rheumatism is rare at the age at which this disease occurs. Purpura may be confusing in very severe forms, though the order of the symptoms is somewhat different. The early symptoms in scurvy become the latest in the purpura. Compared with rickets the diagnosis is easy, and if there is any question, the condition is almost certainly scurvy. Syphilis is also characteristic and generally easily distinguished. Pott's disease is rare in the first two years of life. Injury might be suspected if there has been a blow or fall, but other signs usually prevent confusion. An unaccountable stomatitis, with general hyperesthesia and pain on being removed, especially if it occurs on the child's being taken up, and in bottle-fed babies, should excite suspicion. The chief, if not the sole cause of infantile scurvy, is found in the diet, but it is sometimes difficult to see to what error scurvy is due. Generally it occurs in babies fed on prepared foods, but at present it is impossible to draw any definite conclusions as to just what elements in the food are responsible. The conclusions of the Committee of the American Pediatric Society seem within our knowledge, and more specific ones are considered hardly justifiable. They are, viz.: "1. The development of the disease follows in each case the prolonged employment of unsuitable diet. 2. In general, the farther a food is removed in character from the natural food of the child, the more likely it is to be followed by scurvy." In unrecognized and untreated cases death may occur, but with proper treatment recovery is certain. Treatment consists in the regulation of diet and the administration of orange or lemon juice; either alone may be sufficient, but a combination is best. No drug is of any use. Quiet on account of pain is advisable.

5. **Gonorrhea.**—The modern treatment of gonorrhea depends largely upon the microscopic diagnosis, which is insisted upon by Swinburne, and we cannot intelligently treat the disease without it. The findings of the microscope, however, may be misinterpreted, and he gives an instance in which the absence of the gonococci, after the use of a protargol injection, led to a serious mistake. In acute gonorrhea we have a self-limited disease, which, however, is capable of becoming indefinite in duration by neglect, mal-treatment or lack of constitutional vigor. The earlier the diagnosis and treatment the better the results. The germicide treatment favored by the author is the use of protargol in .5 to 2 per cent. solution heated for ten minutes. He dilutes this with a 2 per cent. cocain solution at first, gradually reducing the cocain with subsequent injections. If the case presents itself with the disease in full blast, this is still the best treatment, and if considerable progress has been made he still advises local treatment rather than wait for the decline. In the case of infection of the posterior urethra he uses a soft rubber catheter with a fountain syringe, passing the solution well into the bladder, it being shortly after urinated out. It is important in all cases that the patient should call for examination six weeks after all treatment has ceased to be sure of success.

10. **Carbolic Acid.**—Von Bruns recommends the use of pure carbolic acid as an application to wounds, immediately following it or counteracting it with alcohol, according to the method described by Phelps. He thinks that carbolic acid applied but once, markedly influences the condition of septic wounds, making their course simpler and less interrupted than is ordinarily observed.

13. **The Public and the Profession.**—The chief theme of Thompson's article is the need of public education on medical matters, which would do away with the popular delusions of "Christian Science," etc., if thoroughly carried out.

15.—See abstract in THE JOURNAL of March 30, p. 912.

18. **Cancer.**—The article by Park reviews some of the main conditions and findings in cancer, especially those reported in the Buffalo laboratory, which have been recently published by Gaylord. It is an argument for the infective and protozoan theory.

19. **Contracture of the Neck of the Bladder.**—The condition here mentioned as contracture of the bladder neck, consists of fibroid stenosis of the vesical sphincter or the fibrous infiltration of the glandular or muscular tissue encircling the neck and simulating, symptomatically, stone in the bladder and resembling senile prostatic hypertrophy by the obstruction it produces. The special instrument devised by the author, and his method of operating, which is similar to the Bottini operation excepting that it is made through a perineal opening, are described. A number of cases are reported.

21. **The Colon Bacillus.**—A previous article by Cooley and Vaughan, reporting attempts at isolation of the toxins from the bacilli cells, is mentioned and the facts learned in regard to the substance obtained are here summed up in the following: 1. The toxin is contained within the germ from which it does not, at least under ordinary circumstances, diffuse into the culture-medium. 2. The toxin is not extracted from the cell by either alcohol or ether. 3. Very dilute alkalies do not extract the toxin from the cells. 4. The germ substance may be heated to a high temperature in water without destruction of the toxin. 5. Boiling with a .2 per cent. solution of hydrochloric acid has but little, if any, effect upon the germ cell or its contained toxin. 6. Heating the germ substances for hours at a temperature of the water-bath, with water containing 1 to 5 per cent. of hydrochloric acid, breaks up the cell walls and lessens, but does not destroy, the toxicity of the cell content. Prolonged heating may render the toxin inert. 7. The toxin is separated from the cell wall by the digestion of the latter with hydrochloric acid, and pepsin is markedly active. Each of these propositions is demonstrated by experiments that are here detailed. There are many questions which the authors do not feel free to answer, such as: How is the toxin set free when the germ is introduced into the animal? What is the chemistry of the toxin? Is it a definite compound or is it composed of many substances, as mentioned by Ehrlich in his theory concerning the constitution of toxins? Does not the bacterial cell contain both the toxin and an immunizing body, or may the toxin be changed into an immunizing substance, either by artificial means or in the animal body? These questions await further study. The fact, however, that at least one of the bacterial toxins is a remarkably stable body, and can be retained in a dry stage in permanent form, justifies us in taking a somewhat more optimistic view concerning the probability of ascertaining the chemical constitution of these bodies than that recently expressed by Brieger and accepted by Ehrlich.

22. **Widal's Reaction.**—Difficulties in the recognition of Widal's reaction are pointed out by Rosenberger, who remarks on various methods and modifications that have been advised. Among these he mentions the time limit, which some observers think should occur within fifteen minutes, others requiring longer time. The method of preparing the dilution, the variations in the tests made, size of loop, etc., are also noted, and the points emphasized are: 1. The use of a uniform dilution. 2. A definite time limit. 3. An agreement as to what constitutes a positive reaction. 4. The use of a culture of definite age, and a clear statement as to incubation or non-incubation. 5. A decision as to whether dried blood, fresh blood or serum is to be used. 6. A stated number of tests to be made in a given case. 7. To drop the terms "doubtful" and "pseudo" reaction. 8. Use of terms "positive" and "negative" only.

23. **Uretero-Intestinal Anastomosis.**—The conclusions of Zeit's article are that: 1. Descending infection always results from ureteral implantation into the rectum. The bacillus coli communis is the infecting germ. 2. The primary mortality is large, 84 per cent. in any operation. 3. In 120 dogs operated on, 91 per cent. died of peritonitis due to leakage of the urine and general sepsis and pyelonephritis during the first ten days. 4. Dogs living a longer time died of pylonephritis, pyelonephrosis and pyemia. 5. Dogs that apparently recovered had granular contracted kidneys due to induration and cicatrization of diseased areas. The rectum acts as a fair substitute for the bladder in such cases. 6. Dogs which had fully recovered from unilateral implantation were living by the other kidney, that of the side operated on being atrophied and granular from an earlier pyelonephritis. The active kidney was two to eight

times the size of the atrophic one. 7. A review of the literature shows that no better results can be expected in man than in animals. 8. The ureters are frequently dilated, but show little or no disease, no matter how extensive the kidney infection. 9. The bladder is always infected by the way of the urethra, whether emptied by operation or not. A purulent cystitis from staphylococcus and bacillus coli was found in every case. 10. An artificial immunity to infection by the colon group is the only hope of making uretero-intestinal anastomosis feasible.

24. **Air in Digestion.**—Moore's article insists on the importance of pulmonary aeration of the blood as a final factor in nutrition.

25. **Schott Exercises.**—Neesen's paper gives the proper method of making the resisting exercises of the Schott treatment, with illustrations.

26. **Suprarenal Capsule.**—The final installment of Floersheim's paper gives cases and concludes by saying that after administration of the suprarenal powder: 1. A weak and irregular-acting heart became stronger and more regular. 2. A dilated heart was contracted. 3. A diffused apex beat became localized. 4. A diffused, loud, and rough mitral regurgitant murmur became localized, smoother, and lessened in intensity, while in some cases the murmur disappeared. 5. A murmur which, owing to the extreme weakness of the heart, could scarcely be heard, became more distinct, thus aiding in the diagnosis. 6. The normal cardiac sounds, when indistinct, became clearer and more easily distinguished. 7. In some cases a rapid pulse became less rapid; in other cases a slow pulse became faster. 8. Patients who were very weak, with organic heart disease, were improved. 9. No effect was observed in organic heart disease when the pulse was strong and regular.

31. **Urethral Catheterization.**—Lewis describes a cystoscope devised by himself, which has the advantage of being readily sterilizable by heat or steam, and hot water, and is especially adapted to ureteral catheterization, and also of value for intravesical inspection and for applications to the vesical membranes.

32. **Veratrum Viride.**—The value and comparative harmlessness of this drug is mentioned by Atkinson, who says he has never heard of any fatal cases of poisoning from its use.

38. **Hernia.**—The conclusions of Brownson's article are in substance as follows: The danger of strangulated hernia is in delay. In all cases of abdominal pain a careful examination should be made. The mode of procedure will depend on whether the physician is a surgeon. In any case, gentle taxis may precede operative measures, but if it still fails under anesthesia, the surgeon should be called in. Every case of hernia, strangulated or not, should be subjected to radical cure.

40. **Petroleum.**—From an experimental investigation on animals, and also clinical experience with petroleum, White concludes that petroleum emulsion is inhibitory to the growth of putrefactive and pathogenic bacteria that interfere with digestion, and is, therefore, an agent for relieving flatulence, and an internal antiseptic. By its stimulation of peristalsis and increased diffusion of intestinal contents it aids nutrition, helps the natural movements of the bowels, relieves constipation and favors elimination. Its weight-increasing action is beyond doubt, from the experiments recorded. The weight gained under its influence is much greater in proportion than it or any other oil could afford, even if digested and absorbed. While petroleum is uncombinable and indigestible in itself when mixed with emulsion or digested food material, the effect is very different. It then causes an increased flow of this digested assimilated material through the portal system, and produces tissue more readily.

42.—See abstract in THE JOURNAL of May 11, p.1343.

45. **Astereognosis.**—Walton and Paul discuss the subject of astereognosis with special reference to its localization and publish a number of cases. They find the symptoms present in a very large percentage of hemiplegics, perhaps one third or more. The difficulties of examining for it are noticed. Every case of Rolandic disease coming under their observation since commencing this study has presented this symptom. In most of these cases capsular lesion was indicated by the paralysis, and it can be fairly assumed that in such cases involvement of the posterior limb is common, or that the sensory and motor fibers have no sharply defined line, but are more or less mingled. In case of complete hemianesthesia involving the trunk the condition is apt to be one of hysteria, with perhaps a superimposed organic lesion. In such cases as reported here, where the astereognostic type of anesthesia is the initial or prominent symptom, the authors say they must remain in doubt as to whether the sensory fibers of the internal capsules or cortical areas are primarily or solely involved, unless focal symptoms or other diagnostic features are added. The practical advantage of localizing the affection lies in the assistance it would give in selecting the seat of operation in case of suspected tumor or other lesions capable of surgical relief. Where there is no other localizing symptom than astereognosis, they think it would be a safe working plan in operable cases to select, for the center of the area to be exposed, a point in the ascending convolution at a height corresponding to the motor representative of the extremity involved. Such cases, however, will be few as compared with those in which the astereognosis is merely an additional symptom with others.

47. **Tabes Dorsalis.**—Bonar has analyzed cases of tabes which appeared in the neurological department of the Vanderbilt clinic since 1901, 286 in number, comprising about 1.2 per cent. of the whole number of cases. Of these, 84.6 per cent. were males, and 15.38 per cent. females, or a proportion of over 6 to 1. The various symptoms are discussed, and they are summed up in the order of their frequency, giving the percentage of cases in which each symptom was noted as follows: Loss of knee-jerks, 95.2; changes in knee-jerks, 3.69; Romberg symptom, 79.02; change in pupillary reaction, 78.67; pains in the legs, 78.67; ataxia in legs, 70.62; vesical disturbance, 62.23; paresthesia and numbness, 54.54; girdle sensation, 48.6; loss of muscular sense, 28.32; crises, 16.78; pains in trunk, 12.93; optic nerve atrophy, 8.74; ataxia in arms, 7.69; pains in arms, 6.99; loss or diminution of sexual instinct, 6; pains in thighs, 4.89; ocular paralyses (strabismus, diplopia, etc.), 3.21; nystagmus, 2.44; arthropathies, 2.09; constriction around legs or thighs, 1.74; tremors, 1.74; perforating ulcers of foot, 1.39; muscular atrophy, 1.39; anosmia, 1.04; deafness, .69; vertigo, .34; loss of taste, .34. These percentages are of interest considering the large number of cases studied. Only one or two of the symptoms were not recorded in all the cases.

48. **Scapulo-Humeral Reflex.**—Pickett has studied the scapulo-humeral reflex of Von Bechterew, which has its center in the cervical enlargement and is claimed by its finder as more constant than the biceps and triceps jerks or the scapular and palmar cutaneous reflexes. It is elicited, he claims, by the percussion hammer along the entire inner edge of the shoulder-blade, most markedly, however, at the inner edge of the scapula near the inferior angle, and consists in adduction of the corresponding humerus toward the trunk, often, also, in slight outward rotation, mainly produced by contraction of the infraspinatus muscle and apparently of the teres minor. Occasionally, by extending to the deltoid and flexors, it leads to abduction of the arm and slight flexion in the elbow-joint. It is claimed by Beehterew that it is absent in poliomyelitis, in the spinal form of progressive muscular atrophy, in neuritis involving the shoulder-girdle muscles; is diminished or absent in muscular dystrophy and spinal rigidity, and is exaggerated in cerebral hemiparesis, especially when there is marked atrophy of the shoulder-girdle muscle; 122 cases were examined by Pickett, of various diseases, including locomotor ataxia, Pott's disease, disseminated sclerosis, etc. From an analysis of the results he finds that it is increased in lesions of the upper segment of the motor system (pyramidal tracts) and is diminished or absent in those involving the reflex path (peripheral

nerves or spinal cord); it is less constant than those involving the biceps or triceps. It or a similar reflex may be obtained about as well at the point of the shoulder, may be elucidated at the base of the scapular spine as well as, or even better than, at the lower angle. Its muscular components are so variable and extensive, and the reflex is so complicated and indefinite as compared with others, that he does not feel much confidence in any deductions drawn from it until clear post-mortem data shall have established its exact correspondence with a somewhat limited portion of the cervical enlargement.

52.—This article was abstracted in THE JOURNAL of March 9, p. 681.

53.—Ibid., xxxv., p. 1171.

56. **Syphilis.**—The principal point of Breakey's article seems to be the treatment of syphilis by aiding elimination and allowing Nature to take its course and produce secondary symptoms before applying the specific treatment. The eruption is in a way eliminative, and active specific treatment should not be advocated until the situation is clear and it has a certain prospect of doing good.

57. **Tuberculosis.**—The theory adopted by Campbell is that the predisposition to tuberculosis and scrofula is due to hereditary syphilitic taint, not directly in the family but in the race. The contagiousness of tuberculosis must depend upon this primary condition. The question then is, can syphilis be subdued and controlled, and, if it can, we shall have accomplished more toward prevention of the spreading of tuberculosis and other kindred diseases than by all the other prophylactic measures that have been proposed.

58. **Tuberculosis.**—The importance of a thorough examination of a patient where tuberculosis is suspected is insisted upon by Hickey. He thinks that the question of infection from tubercular areas other than the lungs should be carefully investigated, the digestion and general condition thoroughly looked into, the microscopic examination of the sputum more thoroughly resorted to and the physical signs specially studied. Particular attention should be paid to the expiratory sound, since a diminished and weakened murmur, with prolonged and high-pitched expiratory sound, is the earliest change to be recognized. He thinks the x-rays are likely to be a valuable aid in the early diagnosis, though he has himself as yet been unable to anticipate the results of auscultation by their aid.

64.—See abstract in THE JOURNAL, xxxv., p. 1491.

65.—Ibid.

67.—Ibid., p. 1415.

73. **Surgery of the Spleen.**—The conditions under which splenic surgery has been tried are enumerated; the operation itself is not a new one. In malarial enlargement numerous operations have been made and the mortality is diminishing. Splenic anemia is treated at some length and a successful case of splenectomy for its relief reported. In splenic leukemia the operation has been almost invariably fatal. Chronic enlargement in infants usually yields without operation. In Banti's disease the mortality is not excessive and surgery seems to afford relief. A number of other conditions, such as abscess, sarcoma, etc., are mentioned, and the operation has a much wider range than might be generally supposed. The reduction in the mortality is largely due to judicious selection of cases. The size of the spleen is less a contraindication than the adhesions it forms. The operation is only distinctly contraindicated in such grave organic lesions as leukemia, cirrhosis of the liver, and amyloid disease. In other affections its merits remain to be tested. The after results are not constant, as a rule, except for the reduction of hemoglobin and red corpuscles and the increase of white corpuscles, and these are only temporary and do not debar the patient from complete restoration to health after splenectomy. A case is reported, besides the one mentioned, where sarcoma of the spleen resulted in death, and one of splenic leukemia with recovery, reported in full detail, one of rupture and one of splenoplexy.

74. **Intestinal Perforation in Typhoid.**—Cushing notices the hopeful feeling in regard to operation for this condition, which exists in this country as compared with Europe, and thinks that 37 cases of actual recoveries after perforation is a cause for congratulation, no matter what the number of failures may have been. Up to the present time 12 cases in Osler's clinic have been operated on, 5 have recovered, and some of the others would have been saved had they been operated on earlier, and had exploratory operation been considered justifiable, as is now the case. It is now a custom there to keep the operating-room ready for immediate use when there is a suspicious case of typhoid in the wards, and most careful watching is kept over all typhoid patients. These, he thinks, will be the occasion of saving 50 to 60 per cent. of the cases of typhoid perforation in the future. Of the 12 cases, all but 3 have been previously reported; one of the 3 is here given.

75.—**Spinal Accessory Paralysis.**—Post-operative or traumatic paralysis of this nerve is treated by Bailey, and a case reported which is of interest as bearing on the question of the nerve supply of the sternomastoid and trapezius muscle. He reviews other cases, and comes to the conclusion that there is more or less variation in this nerve supply. While the sterno-mastoid seems to have its innervation from the accessorius, the trapezoid may be supplied also by some of the cervical nerves. He takes the variation to be as follows: "The spinal center situated between the first and fifth cervical segments of the cord is fixed and constant. As a general rule, the cells of this center send their axones to the trapezius through both the spinal accessory and the cervical nerves. But sometimes there is a variation from this arrangement, in that all the axones pass to the muscle in the spinal accessory, leaving the cervical nerves without function, as far as the trapezius is concerned. Under these circumstances, the motor impulses reach the trapezius exclusively through the spinal accessory, and section of it consequently means total palsy."

77. **Colostomy for Chronic Dysentery.**—The method of treatment advocated for chronic cases of amebic dysentery failing to respond to medical treatment, by Murray, is the production of an artificial anus early in the disease. He would recommend this if after four months of medical treatment the dysentery is not cured. Setting the colon at rest is the only reliable method. He would leave the artificial anus open for a long time, and it should not be closed until it is certain that the ulcer has healed. This can be ascertained by the long rectal tube of Kelly. This method is not of recent date, but has been carried out successfully for several years, in cases of ulceration of the sigmoid and rectum, and by English surgeons in membranous colitis, but it has not been generally put in practice in case of chronic dysentery. He reports a case.

78.—**Tendon Surgery.**—The utility of tendon surgery is pointed out by Coolidge, who emphasizes the necessity of special study of the muscles involved and transplanting or ligating living tendon to replace the paralyzed ones if it can be done. The important points to be considered are: 1. The time of operation, which should not be until the reparative process, after the attack of infantile paralysis, has reached its limit. 2. The amount of strength of muscle to be grafted as compared with the work it will be called upon to do. 3. The location of the grafting. 4 .The method of joining the tendon together. 5. The choice of material; the chromicized catgut with a life of four to six weeks ought to suffice. 6. The post-operative treatment should be at least four weeks in the plaster bandage, then massage and passive movement, usually with some appliance to keep the foot in its proper position, for a couple of months more. The use of tenotomy in spastic cerebral paralysis is also mentioned, and cases reported.

79.—**Appendicitis.**—Brewer reports cases illustrating the errors of diagnosis: In 2 the symptoms were found to be due to renal calculi, in 4 to disease of the uterine appendages, in 1 to sarcoma of the ileum, in 1 to cholecystitis, in 1 to suppurative pancreatitis, and in 2 to general sepsis. The cases are reported in detail.

80.—**Complications of Appendicitis.**—The complications mentioned by Meyer are thrombosis of the femoral veins, of which he reports two cases and discusses the cause. He is inclined to believe in the infectious origin of this condition, though the mechanical theory as brought out by Lennander can not be lost sight of. Another complication is intestinal obstruction occurring sometimes after operation for acute perforative peritonitis. In the first case reported the cause of the obstruction was concluded to be abscess perforation into the descending colon, upon the occurrence of which a coil of the small intestine, which had been under great tension during the full expansion of the abscess, became kinked on its sudden withdrawal, and thus formed the cause of obstruction. The second was obstruction from a minute band passing from the cecum over the small intestine to the root of the latter's mesentery, which was successfully relieved.

83. **Paresis and Cerebral Syphilis.**—Hurd holds that there is a difference between true paresis and syphilitic pseudo paresis, and quotes Meckel's table of points of differential diagnosis. One of the strongest points, he maintains, is the different results of specific treatment in cases of syphilitic history and with lesions apart from cerebral. He does not fully accept the dictum of "no syphilis, no general paralysis," though admitting the predominance of syphilitic antecedents. He calls attention to a clinical manifestation of the paresis, which he thinks is quite rare, that is the sudden and acute exacerbation after a more or less prolonged prodromal period, with symptoms of low-grade cerebral inflammation, and holds it is probable that there is here a true localized inflammation of the brain substance distinct from motor tracts and the basal ganglia. Another point that he especially notices is the influence of a traumatism or an ordinary attack of insanity in the induction of paresis.

90.—This article has appeared elsewhere. See THE JOURNAL of May 4, ¶ 32, p. 1279.

94. **Tuberculin Treatment.**—Denison has experimented with Tuberculin treatment in a large number of cases, with Kleb's tuberculin, and antiphthisin, Mumford's asses' serum, Fisch's antiphthisis serum, T. R., Hirschfelder's oxytuberculin, von Ruck's tuberculin and his watery extract; he tabulates the results. The best results were obtained with the watery extract. Out of 45 cases thus treated, 28, or 62 per cent., are living in apparent immunity, 40 of these apparently cured, 49 per cent. much improved, and only 11 per cent. retrograded. This method of treatment, however, covers a shorter period than the others, which perhaps should be considered in the estimation.

107. **Meddlesome Midwifery.**—Webster protests against the use of antiseptic douches which are unnecessary in the absence of any local or chronic infection or venereal disease of the vulva, vagina and cervix, though in such cases vigorous use of an antiseptic may be necessary. He reviews the literature of the normal and pathologic bacteriology of the vaginal contents at considerable length, as supporting his view that prophylactic douching in the majority of cases is unnecessary. Contamination is sometimes produced by unnecessary vaginal examinations by the physician or nurse, and he insists on the importance of cleanliness and believes that boiled rubber gloves should always be used. The over-use of the forceps is also deprecated, and he gives a tabulated statement of the percentage of cases in which these are used in the leading European clinics.

109. **Cardiac Neuroses.**—The anatomic and physiologic data, as far as their bearing on the production of these conditions is concerned, are noticed by Barker. He makes the suggestion that there is much to be hoped for from an analysis of irregularities based upon modern physiologic and pharmacologic research. The most important feature of such analysis at present is in the emphasis laid upon the importance of the heart muscle itself. He thinks it would be well to be chary in the future use of the term "cardiac neurosis" until the dynamics of the processes concerned are better understood, and suggests grouping them simply under the term "disturbances of cardiac motility."

111. **Gastric Ulcer.**—Andrews reviews the methods and indications of surgical interference in case of gastric ulcer, and offers the following conclusions: "1. Gastric ulcer is a surgical disease. 2. Perforating ulcer should be treated by laparotomy as early as possible. 3. Bleeding gastric ulcer should be treated by operation after resisting medical treatment. 4. Gastric ulcers produce, and are also caused, by pyloric obstruction, and this calls for operation. Many obscure and obstinate stomach troubles are caused by this cicatricial obstruction, and can be cured very safely by surgical intervention."

112. **Gastric Ulcer.**—Herrick describes in detail the method and technique of the rest and rectal feeding method of gastric ulcer, which he thinks offers the most favorable conditions to aid the natural tendency of the lesion to heal, and should receive more attention in text-books and other medical writings. It consists in putting the patient to bed under the care of a trained nurse, emptying and cleansing the bowels, allowing no food to be given at first, except possibly water in small amounts, giving a cleansing enema high in the rectum at regular intervals of four hours. As the pain, tenderness and vomiting decreases or ceases, the rectal feeding is gradually stopped, and feeding by the mouth with a specially prepared diet substituted. The patient is not allowed to get out of bed until rectal feeding has been entirely stopped and food been taken alone by the mouth for several days, and resuming of activity should be gradual. The whole treatment may last for two to six weeks at least, and possibly longer.

113. **Girlhood.**—The points made by Newman are the importance of the proper physical training of girls during the developmental period of puberty, and the prevention of lack of development of the cervix and uterus, which is a serious handicap to their future sexual life, and possibly may result in serious and even fatal conditions after marriage. For this condition of undeveloped cervix he suggests dilatation under anesthesia, supplemented by plastic work to restore the cervix and maintain a proper lumen, as better than subjecting the patient to a course of local treatment in the gynecologic chair.

114. **The Skull and its Contents.**—Earles's paper calls attention to the importance of dural and sclerotic conditions in the cortex following injuries, as being responsible for many epileptic seizures and other troubles, and he advises the uses of the trephine or chisel in every case of severe injury to the head, as evidenced by the symptoms and degree of force received. Careful examination of the soft parts and immediate repair of the injuries should be done as soon after the injury as the circumstances will permit, to avoid sclerosis. When this has been thoroughly established, the sclerosed area should be thoroughly excised and care be taken that the offending area is the one removed.

123. **Alcohol and Tobacco Amblyopia in Cuba.**—Finlay finds that both Cubans and Spaniards in Cuba are far from being immune to alcohol and tobacco amblyopia, and presents 92 cases, which he has met with in a total of 4300; 5 cases of purely alcohol, 31 of tobacco, and 56 from mixed alcohol and tobacco amblyopia. The cases are given in a tabulated form.

126. **Myxosarcoma of the Optic Nerve.**—After reporting a case in which a myxosarcoma was removed from the posterior orbit, surrounding the optic nerve, with microscopical examinations, Axenfeld and Busch call attention to the noteworthy features, which are: 1. The periodic variation of the exophthalmus, with accompanying fever. 2. The almost perfect acuteness of vision and complete field on the day of operation after the exophthalmus had lasted eight months and a considerable tumor of the nerve had developed. 3. The extirpation of the tumor by Kronlein's method, with permanent preservation of the ball. 4. The extensive improvement of the paralysis of the ocular muscles after the operation. 5. The condition and distribution of the medullated fibers in the optic nerve. 6. The existence of hyaline cartilage in the nerve.

127.—**Symblepharon Operation.**—The difficulty of making a permanent retrotarsal fold is considerable in all the symblepharon operations hitherto practiced. From a study of the anatomy, Wolff concluded that the tendinous expansion of the superior rectus, which lies just beneath the conjunctiva, is the natural insertion of the upper conjunctival arch, and might serve as the desired fixed point of attachment for the new-formed upper retrotarsal fold. He has recently had the opportunity to give this operation a trial and reports the case. In future cases, he says, he will do the operation in the following manner: After separating the adhesions until the upper lid can be doubly everted, a horizontal incision will be made in the expansion of the rectus, where the retrotarsal fold should lie. Then, in order to prevent excessive swelling, the lid will be replaced, and perhaps tampons be introduced to check the hemorrhage. After dissecting up the flaps the lid will be everted, so that the flaps may be sutured to the expansion of the rectus in the manner described. It would seem better to cover the tarsal wound also, so as to prevent later a growing over it of the transplanted flap and to avoid the checking of the movements of the upper lid. The advantages of the method lie in the fact that all the available anatomical and pathological relations are taken into consideration: 1. The transplanted flap is attached to the fornix as a natural point. 2. From this it follows that the flap is capable of following all the changes of position of the lid with respect to the eyeball. 3. The transplanted flap is, through this fixation, better adapted to its surroundings and to its base, and therefore more readily becomes attached. 4. Later the expansion of the rectus exercises a constant traction on the new-formed fornix in the direction of the depth of the orbit, and thus prevents the shrinking that often occurs later.

128. **Changes in the Fundus in Pregnancy.**—From a study of 124 gravid women, ranging from the fourth month on, about one-half of them in the tenth month, Bosse concludes that "in a large number of pregnant women there are changes in the fundus, located at the optic disc, and consisting in cloudiness and swelling due to venous stasis and transudation. These neuritic changes are innocent in that functional disturbances of the eye do not occur, or at least are not subjectively recognized, and that they appear soon after labor, without distinction as to whether it is the first pregnancy or a later one."

129. **Nutrition of the Cornea.**—Ulrich experimented on transmission of the fluids through the endothelium on Descemet's membrane, which he thinks does not check the entrance of the aqueous humor into the cornea, but only limits it. He uses ferrocyanid of potassium in his experiments, and he finds that a small amount of aqueous humor thus entering is carried off toward the conjunctiva, thus preventing opacity and swelling. He also made experiments to see the effect of scar tissue, which seemed to show that it is less capable of imbibition than the normal corneal tissue, and that perhaps the lymph circulation offers certain hindrances.

British Medical Journal, May 11.

**Experiments upon the New Specific Test for Blood.** GEORGE H. NUTTALL and E. M. DINKELSPIEL.—The recent discovery of specific precipitins that act on various bacterial products—milk, peptone, eggs, albumin and different kinds of blood—has led the authors to undertake the investigation, of which the present paper gives an abstract. They injected rabbits intraperitoneally with horse, dog, ox, sheep, and human serum, and were able to observe the formation of specific precipitins in their blood, the antiserums from these animals being tried on twenty-four different bloods with uniformly negative results, excepting a slight action exerted by the antiserum for human blood on the blood of two species of monkey, where a slight reaction was obtained not at all comparable in intensity to that shown on the addition of the antiserum to human blood. A slight cloudiness was produced by the antiserums for ox blood when added to sheep's serum, and *vice versa*. Some animals already gave an effective serum after the third injection. Bloods which had been dried for two months and preserved at room temperature in the dark or daylight, or in the dark at 37 C., and also such as had been exposed for a week to sunlight, as well as serum from a blister, the result of a burn, all gave positive reaction when tested for their particular antiserum. Some human blood which had undergone putrefaction for two months, when diluted 1 to 100 with normal salt solution, gave a marked reaction with the antiserum for human blood, which it did not do with other blood serums. A rabbit that was treated with some old antidiphtherial horse serum preserved with tricresol in a corked bottle for two years and seven months yielded a specific precipitin for horses' serum. Positive results were also obtained by treating a rabbit with a pleuritic fluid which had been kept in the laboratory for from five to six months and preserved by the addition of chloroform. A slight but distinct reaction was obtained with human nasal and lachrymal secretion. Dilutions of human blood—1 to 100—mixed with an equal volume of dilutions of the blood of ox, sheep, dog and horse and tested for human blood, all gave a positive reaction, and *vice versa*. The control experiments with normal rabbits' serum, as also with non-homologous antiserums, gave negative results. These investigations confirm and extend the observations of others with regard to the formation of specific precipitins in the blood serum of animals treated with various serums. The authors, therefore, conclude that these precipitins are specific, although they may produce a slight reaction with the serums of allied animals. The substance which brings about the formation of precipitins, and the precipitin itself, are remarkably resistant. This new test can be applied to blood which has been mixed with that of another animal, and the authors claim that we have in this test the most delicate means thus far discovered for detecting and differentiating bloods, and trust it will be put to forensic use.

The Lancet, May 11.

**The Importance of the Teaching of Insanity to the Medical Student and Practitioner in Relation to the Prevention of Insanity.** ROBERT JONES.—The responsibility of the doctor in cases of insanity is first alluded to, especially as regards certifying cases, and Jones notices the needs of special knowledge in this regard. The doctor is, moreover, a consultant in regard to engagements, marriages, civil and testimonial capacity, etc., where such knowledge is essential, also in cases of criminal responsibility, and he should have some knowledge also of the subject of anthropology and the signs of degeneracy. The severe mental symptoms arising in the course of bodily disease may also call into play his best efforts. Another of the chief reasons why the medical student should be made familiar with insanity is that it is best treated in its early stages, hence the importance of its early recognition. We are probably on the threshold of important discoveries in regard to this matter, and the need of research is emphasized. The student should be conversant with neurologic methods, especially in histology, should know the changes in the normal secretions, should be familiar with the use of physiologic instruments, blood examinations, etc. A knowledge of psychology or mental physiology is also urged, and the different forms of insanity should be described in a systematic course of lectures, illustrated by actual cases in hospitals and asylums. Jones advocates the issuance of a diploma in mental medicine similar in scope to that in public health, and requiring it to be obtained by all who wish to be medical officers to asylums and hospitals of the insane and those attached to licensed houses for their case. Finally, he would have every public asylum in the country a school for a post-graduate course in mental diseases.

**Mental Fatigue in School Children.** JOSEPH BELLEI.—The author examined 320 boys of the average age of 11 years, 4½ months, and 140 girls of the average age of 11 years and 8 months, 460 children altogether, by the methods of writing from dictation at various periods during the school hours to test the effect of school fatigue. The conclusions he arrives at are as follows: 1. No conclusion can be drawn as to the influence of single subjects of teaching. 2. The first hour of lessons is a useful mental exercise, because the children are able during that time to overcome the state of inattention in

which they were at the time of coming to school. 3. The morning lessons do not produce great mental fatigue. 4. The midday rest is of great use to the children because it does not destroy the good effects of the mental exercise in the morning and enables them to do work of better quality than that which they produce after a long rest, as one observes at the beginning of the morning lessons. 5. Though immediately after the midday rest the children are in the best condition of mind, an hour or so of application in the afternoon is sufficient to produce such a mental fatigue as to lead, at the end of the afternoon lesson, to the worst work of the day. Therefore, if the morning application does not fatigue, it consumes the mental energy of the children in such a manner that they can not undertake light work in the afternoon without falling into great mental fatigue.

The Practitioner, May.

**Composition and Action of Orchitic Extract.** WALTER E. DIXON.—The author first notices the historic interest of this extract, showing that it was used by the ancient Romans and was employed up to the end of the seventeenth century, from which time it was dropped until Brown-Séquard revived it. The opposing views held by various persons as to its effects are noted, and he remarks that a very slight glance at the literature shows that tests have been made under widely differing conditions. Some observers use the dried, others the fresh, organs, some sterilize in dubious ways, and some administer the extract by the mouth. The amounts used also vary widely. These should be considered in estimating the value of the different opinions. Brown-Séquard and his immediate followers insisted on the use of the fresh extract, and that it should be injected practically unaltered. It is not fair to condemn their views from experiments performed in altogether different ways. The composition of orchitic extract is noted. It contains a large number of proteids, almost entirely nucleoproteids, also a number of extractives, among which is spermin with others in equal quantity, and probably, at least, as important. Orchitic extract has a decided action on animals, whether injected subcutaneously, or directly into the circulation, and the question arises which of the constituents is the active one. Dixon considers the theory of Pohl that the spermin is especially active and an intra-organic ferment of oxidation not confirmed by the facts. The nucleoproteid is discussed at length, and the author finds that it has a decided action in producing hypoleucocytosis in rabbits. The diminution in the number of leucocytes is mainly at the expense of the polynuclear variety, the lymphocytes being least affected. It also produces a profound alteration in the appearance of the corpuscles; they have an ill-defined contour and show fewer granules; their nuclei are markedly swollen and stain more faintly with methylene blue. When given by the mouth, however, it appears that an immediate hyper-leucocytosis is produced and the excretion of $P_2O_5$ is increased, the reverse of which appears to be the case with its injection. When injected directly into the circulation orchitic nucleoproteid has an effect upon both the heart and peripheral vessels. The heart is slow, the blood pressure falls and the peripheral vessels dilate; occasionally there is an initial short constriction. The extracts of epididymis and vesiculæ seminales are similar to the extracts of testis, but the effect on the heart is less, while the vasodilatation is greater. Clinical experiments with orchitic extracts are not numerous, but Pregl has found, from the use of ergographic experiments, that its injection leads to increased muscular efficiency, and Zoth has obtained similar results. Henocque found that Brown-Séquard's injections produced a permanent increase in the hemoglobin in phthisis, and, therefore, concluded that they had a beneficial effect on the blood. There is yet much to be learned concerning the action of orchitic extract. Its active constituent is not detected, but it is probable that experiments on eunuchs would lead to valuable results. Orchitic injections administered as suggested by Brown-Séquard have a powerful influence on metabolism, especially showing itself by changes in the urine, in the leucocytes and in the blood pressure.

**The Ovary as an Organ of Internal Secretion.** WALTER E. DIXON.—The effect of ovarian extract is also studied by Dixon, who notices the effect of castration, its influence on mammary secretion in animals, all indicating the existence of an internal secretion, and the fact that any portion of the ovary being left in the system, no matter where, in the living condition, prevents the effect of their ablation is still further evidence. The administration of ovarian extract in menstrual disorders and on women with induced climacteric as a result of double ovariotomy has been tried in many cases, and on the whole with beneficial results. He sums up as follows: 1. The presence in the body of ovarian tissue, however small in amount, is sufficient to prevent the distressing symptoms which frequently arise after complete double ovariotomy. It does not appear to matter in what position in the body the portion of ovary remains, and even a transplanted ovary is sufficient to prevent the untoward consequences. 2. The administration of ovarian tissue by the mouth exerts a beneficial effect in patients in whom menstruation has ceased in consequence of disease or complete ovariotomy, and many physicians advocate its use during the menopause. 3. Ovariotomy has a distinct effect on metabolism, as shown by the diminution in gaseous metabolism, the increase in body weight due to deposition of subcutaneous fat, and the diminished excretion of $P_2O_5$ in the urine. In conclusion, it may be asserted that the ovaries exert a decided influence over the organism as a whole, and all evidence is strongly in favor of the theory that this influence is the result of internal secretion which favors katabolic changes. The secretion may be eliminated either as the result of disease or double ovariotomy, when the well-known series of changes characteristic of the menopause are developed. Castration, therefore, both in the male and female, deprives the organism of a stimulant of oxidation, but no chemical substance has been isolated to which the properties of such an internal secretion can be ascribed. It is probably different, however, in the two sexes.

**The Therapeutic Value of Suprarenal Preparations in Addison's Disease.** CHARLES R. BOX.—Experiments in the treatment of six cases of Addison's disease by the administration of suprarenal preparations, keeping the patients under daily observation; two of these for a very prolonged period, and observation of two other cases similarly treated, lead Box to the opinion that in these patients it would appear either that: 1. the active substance has not been properly administered; or 2. the requisite material is not present in the suprarenal bodies as at present prepared for administration; or 3. the lack of a certain internal secretion is not the sole or predominant factor in Addison's disease.

Bulletin de la Soc. Med. des Hop. de Paris, May 9.

**The Blister Test.** H. ROGER AND O. JOSUÉ.—The serum of a blister contains a number of cells in suspension. In health the polynuclear cosinophiles predominate, while they are scanty or entirely absent in the case of infectious diseases, although they reappear as the organism triumphs over the disease. In chronic tuberculosis the number of polynuclear cells may attain or exceed 90 to 95 per cent. In consumptives the cells seem to be swollen as if dropsical. This appearance of the cells may sometimes reveal a latent, unsuspected tuberculosis. The blister test is a valuable index of the intensity of an infection. It is extremely sensitive; a trifling secondary infection superposed may alter the proportions of the cells in the serum.

**Lumbar Puncture for Persistent Headache of Bright's Disease.** P. MARIE AND LE GENDRE.—Marie reports a case of severe headache in the course of Bright's disease, rebellious to all therapeutic measures. He withdrew 6 c.c. of cerebrospinal fluid by lumbar puncture, and permanently relieved the patient. Le Gendre reports a similar case, the patient a house painter, a victim of lead poisoning, suffering from myosis, cephalalgia and insomnia. The withdrawal of about 13 c.c. of cerebrospinal fluid restored him to comparative health.

Journal de Medecine de Bordeaux, May 5.

**Raisins in Urotherapy.** P. CARLES.—When the urine is excessively acid Carles counteracts this tendency by administering an acid which becomes transformed in the organism into an alkali, such as potassium bitartrate for instance. The

tartaric acid is consumed and the substance is transformed into potassium carbonate. Being acid, it moderates the gastric acidity rather than stimulates it, while during its transformation into an alkali, it dissolves and carries away with it the uric acid generated in the organism, and re-establishes the balance of the urinary acidity as it reaches the bladder. The potassium bitartrate is more readily soluble when it is in combination with various organic matters, as in grapes. The sugars in the grape have also a diuretic effect. When grapes are in season they are preferable, but during the remainder of the year Carlos finds that Malaga raisins answer the same purpose and he prescribes 100 gm. of raisins a day, to be eaten at dessert. Analysis shows that 100 gm. of raisins contain half their weight of sugar and about 2 per cent. of potassium bitartrate or other organic acid salts. Combustion of this amount furnishes 73 cg. of potassium carbonate or 50 cg. of alkaline potassium, and this potassium is able in turn to transform 90 cg. of free uric acid into a neutral, soluble potassium urate. This is about the amount excreted in twenty-four hours in health. Five patients with urinary acidity three times the normal, were restored to normal in twenty-four hours and the total amount of uric acid was diminished, by the simple process of eating 100 gm. of raisins during the day.

Progres Medical (Paris), April 27.

**Idiocy and Diplegia in Two Brothers: Atrophy of the Cerebellum.** Bourneville.—Two brothers were received at Bicêtre, aged 10 and 13, both presenting all the cerebrospinal symptoms of infantile cerebral spasmodic diplegia—both complete idiots. The parents were healthy, free from alcoholic or syphilitic taint, and their other five children were healthy. One of the idiots died and the cerebellum was found in a pronounced condition of atrophy. The pyramidal tracts in the spinal cord also showed symptoms of degeneration. He had had measles at 18 months. It is impossible to tell whether the other brother will show the same atrophy of the cerebellum at his autopsy. Thomas was able to find only 28 cases of bilateral atrophy of the cerebellum, mostly post-mortem discoveries in adults. Only three cases are on record that date from childhood. Bourneville is inclined to doubt whether this atrophy of the cerebellum is sufficient to explain the entire clinical picture, which is duplicated in the brother.

May 4.

**Transmission of Scarlet Fever to Cats.** E. Rapin.—Some children with scarlet fever had a young kitten for a playmate and the latter soon exhibited all the symptoms of scarlet fever, including the period of desquamation and shedding its fur, which lasted for several weeks. Another kitten brought to the children was affected in the same way and succumbed. A similar experience in another family has convinced Rapin that very young kittens are susceptible to scarlet fever, while older animals probably escape. Behla doubts this transmission of scarlet fever, except for pigs, which are peculiarly predisposed to eruptive diseases. He mentions that a farmer used as bedding for his pigs the straw from mattresses on which four of his children had died from scarlet fever. Two of the pigs soon died from a disease accompanied by a scarlet eruption. Spinola admits that horses are liable to contract scarlet fever, and Schneidemuehl suggests that the disease described by Petrowski among sheep and goats may prove to be scarlet fever.

**Consanguinuity in the Etiology of the Chronic Nervous Diseases of Children.** Bourneville.—All the cases of consanguineous marriages in the parentage of 2784 epileptics, idiots, hysterics or imbeciles that have been treated at the Bicêtre hospital since 1879 have been carefully recorded. Bourneville found among them a total of 91 cases or 3.23 per cent., in which the parents were blood relations. In 49 they were cousins, in 24 second cousins, in 3, uncle and niece. In the others the relationship was still more distant. The 91 cases included 25 of idiopathic epilepsy, 21 of symptomatic epilepsy and 16 imbeciles. The proportion of 3.23 per cent. is so small thaat he considers consanguinity a very insignificant factor in the genesis of the chronic nervous diseases of childhood. He claims that marriage between cousins of vigorous constitution, free from hereditary taint, will result in healthy offspring. If one or both of the parents are hereditarily diseased, the children will suffer, not from the consanguinity, but from the inherited predisposition.

Semaine Medicale (Paris), May 8.

**The Heart in Chronic Articular Rheumatism.** E. Barié.—Twenty-five case-reports of a cardiac affection complicating chronic rheumatism, including several personal observations, are reviewed by Barié. Pericarditis and endocarditis occur most frequently, with or without hypertrophy of the heart, fatty degeneration of the myocardium or cardiosclerosis. All kinds of pericarditis have been noted, with or without effusion. In the former case it is usually hemorrhagic. The endocarditis involved the mitral valve in four cases and the aortic in seven, but usually it causes an aortic insufficiency. These complications have been observed at all ages; children are not exempt. Barié attributes chronic, deforming nodular rheumatism to two distinct factors. The articular and the muscular lesions of chronic rheumatism may be connected with alterations in the central and peripheral nervous system, similar to the trophic lesions noted in ataxia, general paralysis and certain affections of the spinal cord. This conception has not been sustained by pathological anatomy as yet, but there is no doubt that chronic nodular rheumatism belongs to the group of nutritional diseases, which includes gout and diabetes. This assumption is the more plausible as all three have a tendency to be complicated by cardiac affections. Gout is frequently accompanied by chronic degeneration of the myocardium or valvular endocarditis, while Saundby states that the heart is affected in 60 per cent. of all cases of diabetes. The cardiac affection is probably due to the extension of the dyscrasic process peculiar to each of these diseases, to the cardio-vascular apparatus. The dyscrasic process of gout and diabetes are known, but we are still in the dark as regards that of chronic rheumatism.

Beitraege z. Klinischen Chirurgie (Tubingen), April.

**Surgery of Tubercular Kidney.** O. Simon.—This article summarizes the results of Czerny's experiences with thirty-five cases of tuberculosis of the kidney during the last twenty-one years. If unilateral, it should be operated on at once, he states. The only exception is when the affection is merely one manifestation of miliary tuberculosis or when extreme cachexia or advanced general infection forbid intervention. Nephrotomy is a palliative operation, but may be useful as preliminary to secondary nephrectomy. Primary nephrectomy is the operation to be preferred, but a primary nephrotomy, with extirpation of the organ later, may be advisable in case the patient is very weak or the diagnosis or the condition of the other kidney is still dubious. Primary extirpation of the ureter is rarely necessary. Seventeen, or 48.5 per cent., of his 35 patients are still living, and 13, or 37.1 per cent., are in perfect health. Five have passed through one or several pregnancies since. There have been no disturbances in the urinary tract in 18, and 24 have been relieved for more than three years of all or most of their troubles. Internal treatment had been tried and failed in all before surgical intervention was resorted to. One patient died from hemorrhage and shock in a secondary nephrectomy, deferred too long, until extensive adhesions had formed. Two other deaths occurred after primary nephrectomy, both from sepsis.

**Injury of the Femoral Vein at Poupart's Ligament.** F. Fraenkel.—After a traumatism in the vicinity of Poupart's ligament that suggests a possible injury of a large vessel, the region should be carefully investigated, even in the absence of indications of much hemorrhage. In case of injury of the femoral vein the wound should be sutured, retaining the lumen intact. If the edges of the wound are crushed, forceps can be applied laterally. These procedures are applicable only in aseptic conditions. Otherwise, resection of the vein between two ligatures is the only resource. Quite a large portion of the vein can be resected; the openings of the afferent veins can be disregarded. The rapid establishment of collateral circulation after ligature or resection of the vein is best promoted by removing the extravasated blood around the vein.

stimulating the action of the heart and favoring the reflux of venous blood from the extremities by raising the foot of the bed. In the thirteen published cases of suture of the femoral vein, the injury occurred during an operation in all but one, and also in one of the two personal cases related by Fraenkel. The others were stab wounds.

**Ligature of the Carotid Artery in Resections of the Upper Jaw.** C. SCHLATTER.—The ligature of the external carotid artery should be permanent when done as a measure preliminary to resection of the upper jaw. Hemorrhage and the danger of aspiration of blood are thereby much reduced. In exceptional cases the common carotid may require ligation also, but temporary constriction is better under these circumstances than a permanent ligature. The details of three personal cases are given.

Centralblatt f. Bakteriologie (Jena), March 2.

**Capillary Double Lamp for Formaldehyd Disinfection.** PIORKOWSKI.—A long-necked jar is inverted on a porous plate over a spirit lamp, the whole closed, except the open top of the jar above. The jar is filled with a 40 per cent. solution of formaldehyd. The capillary attraction of the porous plate aspirates the fluid out of the jar as fast as the heat of the lamp evaporates it on the plate. The gas thus generated escapes through the jar into the room and sterilizes superficially even spore-material with 150 c.c. of the fluid to 10 cubic meters of space. Ordinary microbes are destroyed with 50 c.c.

Centralblatt f. Gynaekologie (Leipsic), April.

**Removal of Placenta by External Manipulations.** W. ZANGEMEISTER.—During the pauses between the labor pains, Zangemeister compresses the uterus with each finger in turn, applied from the sides, front or rear, kneading the organ as it were, and ceasing as the pains recur. This massage assists materially in detaching the placenta, and should always be tried before resorting to manual extraction.

Centralblatt f. Harn u. Sexualorgane (Berlin), April.

**Diagnosis of Prostatitis from the "Swimming Drops."** F. SCHLAGINTWEIT.—After massage of the prostate, the drops of secretion that are expelled float on the surface if caught in a glass of water, or hang suspended like long bags from the portion floating on the surface. Seminal secretion becomes opaque as soon as it touches the water. Pus sinks in yellowish flakes to the bottom. The "swimming drops" thus enable pus, prostatic secretion and healthy seminal secretion to be macroscopically differentiated.

Centralblatt f. Innere Medicin (Leipsic), April 6.

**Guaiacol Treatment of Acute Gonorrheal Epididymitis.** B. GOLDBERG.—Lenz has reported fifty cases and Goldberg has an experience of twenty-five cases of acute gonorrheal epididymitis during the last four years treated by rubbing into the parts a salve made of 5 gm. of guaiacol to 10 gm. each of lanolin and resorbin, every twelve hours, using up the entire amount in three or four days, covering air tight after each application. The patient takes 3 to 4 gm. of salol during the day at the same time. The general health and the local conditions remarkably improved and no inconveniences were noted in any case, even in patients with much prostration, cardiac insufficiency or polyarthritis. The results are more favorable the earlier the treatment is commenced.

April 13.

**Sensitive Test for Mercury in the Urine.** B. BARDACH.—About 8 gm. of finely pulverized commercial egg albumin are stirred into 250 to 1000 c.c. of urine and the urine is rendered acid with a small amount of 30 per cent. acetic acid. The fluid is then boiled fifteen minutes in a water-bath and filtered while hot. Hydrochloric acid—10 c.c.—is then mixed with the filtrate and a spiral of copper wire placed in the jar, which is then kept in boiling water for forty-five minutes. The wire is then rinsed and when dry is placed in a glass tube fused at one end, a few scraps of iodin are added and the tube is heated. A yellowish or reddish ring appears on the glass with 5 mg. of mercury to the 500 c.c. of urine, and even 2.5 mg. are perceptible

Jahrbuch f. Kinderheilkunde (Berlin), April 4.

**Angina Lacunaris.** B. WESTHEIMER.—Angina lacunaris must be considered an acute, infectious disease and treated and isolated accordingly. The incubation lasts four days. Weakly children display a tendency to frequent recurrences and complications. Even healthy children are exposed to danger of the latter. Ice pills and external applications of ice with insufflations of boric acid and saccharin, a fluid, cold diet and rest in bed, will usually prevent complications. Children exposed should not return to school for five days.

**Pathology of Infantile Myxidiocy, Sporadic Cretinism or Infantile Myxedema.** F. SIEGERT.—The thyroid gland is absent in case of congenital myxidiocy. The alterations in the skeleton are specific and the reverse of those observed in rhachitis, which are typical premature calcification, while in myxidiocy the ossification is defective. If the tendency is arrested by thyroid treatment, rapid growth and tardy ossification follow. Signs of myxidiocy are weakness of muscles, gaping fontanelles, absence of the thyroid gland, changes in the hair and an unusually small number of blood corpuscles, with a proportionate lack of hemoglobin. Acquired myxidiocy may develop after rhachitis. Thyroid treatment and a vegetable diet improve every case and cure recent ones. Great prudence is necessary in the administration of the thyroid extract. Becker has reported that a child 2½ years old took ninety tablets, of .3 each, at one time, with no disturbances. Others have reported deaths after ten days of moderate treatment. Siegert himself lost a patient 18 months old who had taken a tabloid of .324 after gradually increasing from quarter to half a tablet. The thymus was found very large and studded with innumerable small hemorrhages. He warns against thyroid treatment in rhachitis, as the status thymicus is frequent, and large doses may soften the bones.

Monatshefte f. Prakt. Dermatologie (Hamburg), March 15.

**Local Treatment of Carcinoma.** P. G. UNNA.—Certain cases of rodent ulcer, etc., can be arrested in the early stages by applying a resorcin plaster. If some of the nodules resist this treatment, Unna applied the thermocautery, followed by resorcin in bulk or in an alcoholic solution. If the neoplasm is already of deep growth, he cauterizes at once or induces ulceration with a plaster composed of 5 gm. each of arsenious acid and extract cannabis indica and 20 gm. salicylic acid to each meter of plaster. This combination has the same elective action on cutaneous carcinoma as his simple salicylic-cannabis plaster on lupus tissue. The neoplastic tissue rapidly ulcerates under it, while the sound skin remains intact much longer. He then heals the lesion under a resorcin plaster or a resorcin-benzoic acid evaporating bandage.

Muenchener Medicinische Wochenschrift, May 7.

**Diagnosis of Tumors of the Frontal Brain.** HOENIGER.—When a cerebral tumor begins with psychic disturbances, or when they appear in the course of its development, the assumption of a frontal tumor is justified. The psychic manifestations are frequently a loquacity and tendency to joke on all subjects—"Witzelsucht," the Germans call it. Hoeniger ascribes this symptom to an irritation of the motor speech center, which is located in the third left frontal convolution. Patients resemble maniacs in this respect, only that the effect of the tumor is felt in the deadening of the motor excitement. The corresponding region in the right hemisphere has also some action on the speech, but this "Witzelsucht" is much more frequent with tumors on the left side. It is occasionally accompanied by facial paresis. Another symptom is the stumbling gait, which he traces to a weakness of the muscles of the lower portion of the trunk, sometimes spasmodically contracted. He describes three cases in detail, showing the localization of the tumor in the center for the rump muscles, in the middle portion of the first frontal convolution. As the tumor grew and encroached on the tissues, the weakness of these muscles first observed developed into permanent paralysis. In proportion as the frontal tumor develops in these cases, frontal ataxia or contractions of the rump muscles or disturbances in speech become manifest as focal disturbances, and associated with these "neighborhood symptoms" appear,

proceeding from the motor region, or in case the tumor develops toward the base, the symptoms proceed from the basal nerves.

**Phototherapy with Ultra-Violet Rays.** Goerlt.—The benefits of Finsen's complicated apparatus are obtained with a simple electrode devised by Goerlt, which concentrates the ultra-violet rays for local application on lupus, and can be attached to any electric Roentgen apparatus by adding a 6 cm. Leyden jar. The electrode is a round metal box, in which five aluminum balls are mounted on stems in the outline of an S. The spark follows the balls and never passes to the patient. The box cover has a crystal top, and is fastened with elastic cords to the part in order to expel the blood, as the ultra-violet rays are much more effective in the absence of blood.

Therapie der Gegenwart (Berlin), April.

**Tuberculosis of the Larynx.** M. Schmidt.—Congestion of one vocal cord is very suspicious of tuberculosis. A week of potassium iodid will exclude syphilis. The prognosis is not so grave as was formerly supposed. The laryngeal process may heal even with progressing pulmonary tuberculosis. No sharp, irritating foods or drinks should be allowed, and the patient should be forbidden to use his voice, even in a whisper, but should communicate entirely in writing, until cicatrization has progressed for a few weeks or months. When it is found that the parts do not become congested or swollen from whispering, then the use of the voice can be gradually resumed, and will prove a good exercise for the parts. Schmidt uses a 50 per cent. solution of lactic acid, not oftener than every one or two weeks. If possible he removes all the diseased tissue by an endolaryngeal operation. In advanced cases with much stenosis, tracheotomy is preferable to laryngofissure.

**Eucain in Spinal Analgesia.**—An abstract of a communication by Jedlicka from Maydl's clinic states that eucain has been used in ninety-three laparotomies or other serious operations, with extremely favorable results. A corresponding amount of the cerebrospinal fluid is withdrawn, which prevents the subsequent headache sometimes noted. Nausea and vomiting may occur during the period of analgesia if the stomach is empty, with possible paresis of the anal sphincter and erections. This stage is followed by a normal period, but three to six hours after the injection, headache and elevation of temperature may be noticed. If the headache is very severe, relief can be obtained by lumbar puncture and withdrawal of a little cerebrospinal fluid.

Therapeutische Monatshefte (Berlin), April.

**New Operative Treatment of Flat Foot.** F. Franke.—A successful case of cure of flat foot is described, in which the operation consisted only of shortening the tendon of the tibialis posticus muscle, under spinal cocainization.

**Present Status of the Conception of Gout.** H. Rosin.—The theory that the essence of gout is a retention of uric acid in the organism is now generally discarded. It has been learned that the sources for the production of uric acid are not confined to the nuclein substances, but may be derived from other albuminous elements in the food. There is no proof as yet that the increased amount of uric acid in the blood-serum in gout is due to more extensive destruction of nuclei. It may possibly be due to an increase in the transformations of other albuminoids into uric acid instead of into urea. Researches have shown that in dogs uric acid is decomposed in the liver, kidneys and muscles. Wiener believes that the uric acid is transformed into glycocol to a greater or less amount. The uric acid in the organism is thus disposed of in the same manner as sugar. The latter process is called glycolysis, and Rosin suggests the term urolysis for the former. It is possible that disturbances in this urolysis may be the exclusive cause of the increase in uric acid in gout. Reviewing the progress in the treatment of gout, Rosin observes that the benefits derived from piperazin in the artificial gout of fowls, have not been confirmed in man. Sidonal and quinic acid, however, especially the latter, have been proved to have a powerful dissolving effect on the deposits of uric acid, even in the kidneys, the results in mammals surpassing those obtained in fowls. No more can be expected from them, however, than from antidiabetic diet in diabetes. The essence of the gouty process is not affected.

Wiener Klinische Wochenschrift, May 2.

**Iron in Human Milk.** J. K. Friedjung.—A number of tests on nineteen healthy women showed that their milk contained from 3.52 to 7.21 mg. iron to the liter, an average of 5.09 mg. This amount is small but constant, and is evidently important for the proper development of the infant. Unfavorable external conditions, the age of the woman and chronic affections diminish the amount of iron in the milk, and even apparently healthy women whose nurslings do not thrive, are probably deficient in iron. This lack of iron is possibly one of the factors in the less perfect development of bottle-fed babies.

Gazzetta Degli Ospedali (Milan), May 5.

**Etiology of Acute Articular Rheumatism.** N. Zender.—Two patients with an ordinary phlebitis were suddenly attacked by acute rheumatism, articular in one and restricted to the muscles in the other. In the latter case the rheumatism subsided and the patient recovered as several abscesses developed in the muscles involved. The first patient recovered after an extensive eruption of boils.

Anales del Circulo Med. Argentino (Buenos Ayres), xxiv. 1 and 2.

**Leprosy in South America.** E. R. Coni.—This article was read at the Pan-American Congress held at Santiago in January. It states that there are about 3000 lepers in Brazil, 800 in Argentina, 150 in Paraguay, and 43 in Uruguay, with scattered cases in the more southern countries. Colombia has from 20,000 to 30,000 in a population of 4,000,000. Venezuela has two asylums housing about 300. The congress adopted resolutions to the effect that a committee be appointed by each government to collect data and study the results of systematic and scientific prophylaxis according to the precedents established by Norway. An international committee was also appointed to collect statistics and report at the next congress.

Nordiskt Medicinskt Arkiv (Stockholm), xxxiv, 1.

**Conservative Operations on the Kidney in Acute Pyelonephritis.** K. G. Lennander.—Since 1892 Lennander has operated on five patients exhibiting symptoms of general depression, chills, fever, headache, etc., with no retention, but local pain and tenderness in the hypertrophied kidney with bacteria and pus in the fetid urine. He bisected the kidney in each case and resected the portion containing the miliary abscesses and infiltration. The bacterium coli was found in the resected tissues in every case. The adipose capsule was congested and edematous and the fibrous capsule was detached with remarkable facility. A thick layer of bloody serum was found between the kidney and the capsule in two cases. All the cases were unilateral and the lesions were localized to such an extent that a large portion of the kidney was saved, and resumed its natural functions. All the patients were restored to health except one, in whom the renal lesion was secondary to advanced pulmonary tuberculosis. An incipient tuberculosis of the kidney had probably prepared the soil for the coli infection to develop. Four or five days after the apparently successful resection, hemorrhage from the kidney was followed by general sepsis and death. The other kidney presented evidences of parenchymatous degeneration alone. In his first patient, operated on in 1893, the portion of the kidney involved was about the size of a cherry. The patient was pregnant at the time, has passed through three pregnancies since without disturbance, and is still healthy. The second patient developed symptoms of acute pyelonephritis and miliary abscess-formation as she began to sit up after an abdominal hysterectomy for suspected carcinoma. The kidney was very low and the ureter had become bent on itself. The streptococcus longus was found in the resected portion of the kidney and in the omentum at the laparotomy. The patient rapidly recovered. The third case was a woman of 46, with a history of cystitis fourteen years before. The cystitis re-

curred after a violent cold, and as it improved under treatment, symptoms of acute pyelonephritis with diarrhea appeared, but no retention. The patient recovered after the kidney had been split and a portion resected, but slight indications of nephritis persisted. Seven months later she passed through a severe attack of pneumonia with acute hemorrhagic nephritis, but rapidly gained her former comparative health. The fifth case was a woman of 40 with an uretero-utero-vaginal fistula from her ninth childbirth, from which the acute pyelonephritis and miliary abscesses developed. She was cured by nephrostomy and resection, supplemented later by an extraperitoneal uretero-cysto-neostomy. Lennander's experience shows that pyelonephritis and abscess-formation is frequently unilateral, that a large portion of the kidney can be saved by early diagnosis and operation, and that this portion will resume the natural functions of the organ.

**Resection of a Stricture in the Esophagus.** E. SANDELIN.—The esophagus was exposed through an incision along the inner margin of the sternomastoid muscle and the inferior thyroid vessels ligated in two places. The traumatic stricture was easily removed and the stumps sutured. The patient was fed at first with nutritive enemata twice a day for four days, then fluid food by the mouth. It oozed through the wound a little at first. In one month the patient was entirely cured, eating and appearing normal. A permanent sound through the mouth or nose for feeding is considered detrimental by Sandelin, as it is liable to induce vomiting and iritate the wound.

**Chronic Pneumococcus Phlegmon.** I. JUNDELL and F. SVENSSON.—A young woman became suddenly affected with a pseudomembranous, non-diphtheric, sore throat, with symptoms of severe infection. As this subsided it was followed by a lesion in the sternal region resembling Quincke's acute angioneurotic edema—a chronic, progressive edema or serous phlegmon, finally tending to suppuration in the course of three months. The pneumococcus was derived pure from the serum. The fever was very high at first and the patient continued to have some temperature until the phlegmon healed after evacuation, but the general health did not suffer except during the first two days of the onset.

**A Case of False Stenosis of the Pylorus.** ISRAEL-ROSENTHAL.—The puzzling symptoms in the case described were explained at the autopsy by the discovery that an ulcer in the upper portion of the lesser curvature had retracted the stomach wall in such a way that the lower portion of the pyloric orifice fitted against it like a valve, as soon as the stomach became distended, closing the lumen completely. When the stomach was not distended the valve opened, and the condition might have been easily overlooked during an operation, as the pylorus was permeable for two fingers as soon as the valve fell away from the upper portion of the orifice. The patient had several attacks of convulsions not long before death, probably an equivalent for the tetany sometimes observed in cases of ectasia of the stomach with hyperchlorhydria—evidently a toxic phenomenon.

**Epidemic Cerebrospinal Meningitis in Norway.** C. LOOFT.—All the cases of epidemic cerebrospinal meningitis that have come under the observation of the district physicians are reviewed and tabulated. The first cases were reported in 1815. In many instances it was impossible to discover the origin of the disease, which appeared at several points at once and spread without traceable transmission, sometimes in isolated farms. Exposure to cold or fatigue were sometimes the accidental cause.

**Sodium Cacodylate in Tuberculosis.** P. DE LANGENHAGEN.—Four of the eight patients were in early stages of tuberculosis and all regained complete health under treatment with sodium cacodylate. Three in advanced stages of tuberculosis were remarkably improved, gaining 12 kilos in five months on an average.

**Diffuse Nephritis.** J. W. RUNEBERG.—The clinical conception of diffuse nephritis or Bright's disease includes the degenerative as well as the inflammatory forms of acute and chronic generalized affections of the kidneys, but not senile atrophy nor albuminuria without permanent alteration of the organ, nor congested kidney. Diffuse nephritis in all its forms is due to the action of toxic substances, the result of bacterial infection or abnormal metabolism or encroaching from without. These toxic substances induce extensive morbid processes of a compound inflammatory and degenerative nature, principally in the kidneys, but also in the vascular system and heart. Runeberg distinguishes seven clinical varieties: Genuine contracted kidney or granular atrophy; amyloid fatty kidney or amyloid degeneration; simple fatty kidney; nephritis of pregnancy; nephritis induced by a preceding infectious disease; nephritis of the same type as that consecutive to an infectious disease but originating in a cold or trauma, and lastly, toxic nephritis, that is, due directly to toxic substances introduced into the organism. Transitional and combined forms are frequently observed. In differentiating nephritic from non-nephritic albuminuria the chief points are the symptoms in the vassels and heart, and the formed elements in the urine, in addition to the etiology and general course of the affection. Indications of arteriosclerosis and of an endocarditic or myocarditic affection, and the presence of cells and cylinders in the sediment of the urine, speak for an inflammatory process in the kidneys. But these symptoms are not observed in the entirely or predominantly degenerative forms, in which hyalin and finely granular cylinder casts are frequently found in the urine, with remains of degenerated epithelium cells. The cases of granular atrophy frequently simulate digestive disturbances or a nervous affection at first, or the heart symptoms or albuminuric retinitis may be the first to attract the patient's attention. In other cases a severe uremic attack may be the first manifestation of trouble. In all these cases the tense pulse, sclerosed arterial walls, accentuated second aortic sound, loud apex beat and dilatation of the heart and displacement of the apex outward and downward, but especially the increased amount of clear urine at night, and occasional slight albuminuria, suggest the diagnosis of granular atrophy. Sclerosis of the arterial walls and the age are also points in its favor as it usually affects young adults, and also the low specific gravity of the urine. The symptoms of uremic intoxication and of albuminurie retinitis are usually more pronounced than in arteriosclerosis without nephritis. The characteristic symptoms in the vascular apparatus are absent in cases of fatty or amyloid degeneration of the kidney, but this condition is sometimes complicated by granular atrophy, and the differentiation is difficult. The symptoms of hydremic anemia serve to differentiate contracted kidney. The diagnosis of amyloid, fatty kidney is founded on the absence of disturbances in the circulation or heart, the clear, albuminous urine, free from cylinders or formed elements of an inflammatory nature, on the etiology and also on symptoms of amyloid degeneration of other organs, of the spleen in particular. The albuminuria is more constant in case of amyloid degeneration than in the non-nephritic, so-called periodical albuminuria, which disappears at night, and is most pronounced in the morning. The nephritis of pregnancy may lead to a secondary contracted kidney. Indications of blood corpuscles, cylinder casts, and formed elements of an inflammatory nature in the urine in combination with the phenomena in the circulatory apparatus, simplify the diagnosis of nephritis consecutive to a cold or infectious disease.

# Queries and Minor Notes.

## RED CROSS MEDICAL ASSOCIATION.

GRAND RAPIDS, MICH., May 14, 1901.

*To the Editor:*—Can you give me any information on "The Red Cross Medical Association?" Is it ethical? Would a physician lower his professional standing by becoming an inspector for such an association? C. B. H.

ANS.—As we understand it the Red Cross Medical Association here referred to is a concern gotten up to exploit the medical profession to their disadvantage, a sort of bureau to furnish cheap medical advice, and therefore not ethical. "Societies for mutual benefit" are specifically not entitled to gratuitous service, nor are such associations entitled to receive medical services at rates that are below what ought to be allowed and are practically gratuitous.

### CLIMATES FOR PULMONARY TROUBLES.

NEW HAVEN, PA., May 20, 1901

*To the Editor:*—Will you give me a list of those states east of the Rocky Mountains where the climate is not especially conducive to pulmonary troubles. In other words, where persons whose lungs are sound, but who have a constitutional tendency to consumption, may live in comparative safety. E. P.

ANS.—The climates most often recommended are those of the Alleghany Mountain regions, the pine woods regions of the Southern States, the Adirondacks, Minnesota, etc. It is impossible to say, however, just how any given case will do in any climate. Probably, as Knopf says, the best climate for one who fears consumption is the one which permits him to be out doors more and longer at a time than anywhere else. A pure dry air, with some elevation can be found in the regions mentioned, and it is advisable to get these if possible. If a patient can recover or keep well at or near home the better and probably the cure will be more durable, not being dependent on special conditions.

### SECRETARIES OF STATE BOARDS.

In the "Queries and Minor Notes," on p. 1359, the question was asked concerning the names of the secretaries of the health boards of certain states. As the inquirer evidently intended to ask the names of the secretaries of the examining boards, these were given, and in some cases they are not the same, as for instance in Michigan, where Dr. B. D. Harison is secretary of a board entirely distinct from the board of health, of which Dr. H. B. Baker is secretary. The answer should have stated that the names given were those of the secretaries of the examining boards whether they were the same as the health boards or not.

## New Patents.

Patents of interest to Physicians, May 7 and 14:

673,592. Pharmaceutical instrument. George L. Allen, Bradford, Pa.

673,491. Apparatus for disinfecting, deodorizing, or fumigating. Jean Bardin, Brussels, Belgium.

673,675. Operating table. Wm. F. Bernstein, Philadelphia.

673,598. Vein opener and clamp. Carl B. Dolge, Westport, Conn.

673,769. Composition of matter for poultices, etc. Charles M. Ford, Denver, Colo.

673,827. Atomizer. Charles F. Strohm, Nevada, Mo.

673,630. Pad for medicinal use. Frederick W. Warner, Rochester, N. Y.

34,475. Design, water-bag. Christian W. Meinecke, Jersey City, N. J.

673,872. Support for neck and head. Charlotte von Hillern-Flinsch, Hamburg, Germany.

673,958. Medicine spoon. Charles Langguth, Chicago.

673,916. Splint clamp. Edward M. Lockwood, Phœnixville, Pa.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 9 to 15, 1901, inclusive:

William H. Block, captain and assst.-surgeon, Vols., leave of absence granted.

Charles B. Byrne, lieut.-col., deputy surgeon-general, U. S. A., from Fort Sam Houston, Tex., to St. Paul, Minn., as chief surgeon, Department of Dakota.

John Carling, captain and asst.-surgeon, Vols., leave of absence extended.

William O. Cutliffe, captain and asst.-surgeon, Vols., leave of absence granted.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., member of a board at San Juan, P. R., to examine certain persons as to their fitness for appointment as second lieutenants in the Army.

William R. S. George, contract surgeon, member of board at San Juan, P. R., to examine certain persons for appointment as second lieutenants in the Army.

Luther B. Grandy, major and surgeon, Vols., recently appointed and now at Atlanta, Ga., to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Harry M. Hallock, captain and asst.-surgeon, U. S. A., leave of absence granted.

Charles F. Mason, captain and asst.-surgeon, U. S. A., from Washington, D. C., to post duty at Fort Sam Houston, Tex.

Elmer A. Scherrer, contract surgeon, from Fort Grant, Ariz., to Denver, Colo., for annulment of contract.

H. Brookman Wilkinson, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted; from Bishopville, S. C., to San Francisco, Cal., en route to Manila, P. I., for duty in the Division of the Philippines.

## Navy Changes.

Changes in the Medical Corps of the Navy for the week ended May 18, 1901:

Medical Director J. C. Wise, appointed a member of a Board for the physical examination of candidates for appointment to the Naval Academy.

P. A. Surgeon W. B. Grove, orders appointing him member of examining board at Annapolis, revoked.

Surgeon O. Diehl, detached from the *Indiana*, and ordered to the Philadelphia Navy Yard.

Surgeon C. Riddle, detached from the Philadelphia Navy Yard, and ordered to the *Indiana*.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the fourteen days ended May 16, 1901:

Surgeon H. W. Austin, to proceed to Washington, D. C., for special temporary duty.

Surgeon R. M. Woodward, granted leave of absence for 10 days from May 7.

P. A. Surgeon W. G. Stimpson, to proceed to Coalgate, I. T., for special temporary duty.

Asst.-surgeon Taliaferro Clark, granted thirty days' extension of leave of absence, on account of sickness, from April 21.

Asst.-Surgeon D. E. Robinson, to proceed to Port Townsend (Washington) quarantine station, and report to the medical officer in command for special temporary duty.

Asst.-Surgeon Dunlop Moore, that portion of bureau order of April 18, 1901, directing him to proceed to San Francisco, Cal., revoked.

Hospital Steward L. W. Ryder, granted leave of absence for fifteen days from May 6.

Surgeon John Godfrey, upon being relieved by Surgeon J. J. Kinyoun, to proceed to Wilmington, N. C., and assume command of the service, relieving Surgeon T. B. Perry.

Surgeon Eugene Wasdin, to proceed to Gardner, Ill., for special temporary duty. Bureau order of May 14, directing Surgeon Wasdin to proceed to Gardner, Ill., revoked.

Surgeon T. B. Perry, upon being relieved from duty at Wilmington, N. C., to proceed to Baltimore, Md., and report to medical officer in command for duty and assignment to quarters.

Surgeon R. M. Woodward, granted 10 days' extension of leave of absence.

P. A. Surgeon G. B. Young, granted leave of absence for two months and twenty-two days from May 30.

P. A. Surgeon W. G. Stimpson, to proceed to Guthrie, Okla., for special temporary duty.

P. A. Surgeon J. A. Nydegger, granted leave of absence for one day.

P. A. Surgeon J. B. Greene, granted leave of absence for ten days from May 15.

Asst.-Surgeon Carroll Fox, to proceed to Sitka and Juneau, Alaska, for special temporary duty.

Asst.-Surgeon F. J. Thornbury, relieved from duty at Chicago, and directed to proceed to Dutch Harbor, Alaska, and assume command of the service.

A. A. Surgeon Francis Duffy, granted leave of absence for two days from May 21.

A. A. Surgeon C. F. Ulrich, granted leave of absence for twelve days, from May 14.

Hospital Steward M. R. Mason, relieved from duty at San Francisco, Cal., and directed to proceed to Dutch Harbor, Alaska, and report to medical officer in command for duty.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ending May 17, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Arkansas: Prescott, May 8, 5 cases.
California: San Francisco, May 4-11, 3 cases.
Cuba: Forty counties, April 30, 430 cases.
Illinois: Chicago, May 4-11, 9 cases; Freeport, May 4-11, 2 cases.
Iowa: Clinton, May 4-11, 1 case.
Kentucky: Lexington, May 4-11, 8 cases.
Louisiana: New Orleans, May 4-11, 10 cases.
Massachusetts: Boston, May 9, 1 case; New Bedford, May 14, 1 case.
Michigan: Detroit, May 4-11, 1 case; Grand Rapids, April 29-May 11, 6 cases.
Nebraska: Omaha, May 4-11, 18 cases.
New Hampshire: Manchester, May 4-11, 8 cases.
New Jersey: Camden, May 4-11, 1 case; Newark, May 4-11, 3 cases.
New York: New York, May 4-11, 107 cases, 19 deaths.
Ohio: Cincinnati, May 3-10, 8 cases; Cleveland, May 4-11, 32 cases; Dayton, May 4-11, 1 case.
Pennsylvania: Philadelphia, May 4-11, 3 cases; Pittsburg, May 4-11, 7 cases.
Tennessee: Memphis, May 4-11, 27 cases, 2 deaths; Nashville, May 4-11, 8 cases.
Washington: Tacoma, April 27-May 4, 2 cases.
West Virginia: Huntington, April 13-May 11, 27 cases.
Wisconsin: Milwaukee, May 4-11, 1 case.
Porto Rico: Ponce, April 22-29, 3 cases.

SMALLPOX—FOREIGN.

China: Hongkong, March 23-April 6, 22 cases, 17 deaths.
Colombia: Panama, April 29-May 6, 4 cases, 1 death.
France: Paris, April 22-27, 20 deaths.
Germany: Bremen, April 13-20, 1 case.
Great Britain: England—Sheffield, April 13-20, 1 case. Scotland—Glasgow, April 26-May 3, 3 deaths.
India: Bombay, April 8-16, 6 deaths: Calcutta, March 23-April 13, 339 deaths: Karachi, April 7-14, 3 cases, 3 deaths; Madras, March 30-April 5, 5 deaths.
Italy: Naples, April 22-29, 149 cases, 30 deaths.
Russia: St. Petersburg, April 13-20, 13 cases, 1 death.

YELLOW FEVER.

Cuba: Havana, April 28-May 4, 1 case.

CHOLERA.

India: Bombay, April 8-16, 3 deaths; Calcutta, March 23-April 13, 194 deaths.

PLAGUE.

China: Lam Ko district, Feb. 14-March 26, 10,000 deaths.
India: Bombay, April 8-16, 681 deaths; Calcutta, March 23-30, 2537 deaths; Karachi, April 7-14, 229 cases, 214 deaths.
Japan: Nagasaki, April 19, 1 case, 1 death, on Japanese steamship Taichu Maru.

# The Journal of the American Medical Association

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## Address.

### THE PRESIDENT'S ADDRESS.

DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

BY CHARLES A. L. REED, A.M., M.D.
CINCINNATI, OHIO.

In approaching the discharge of my duties as presiding officer of the fifty-second session of the AMERICAN MEDICAL ASSOCIATION, I beg to express my appreciation of the generous suffrages by which I have been called to a position of such conspicuous honor. This appreciation becomes all the more pronounced when I reflect upon the magnitude and achievements of this great national body and upon the luster of the distinguished men who have presided over its deliberations. This thought brings me to the first duty of the occasion, and that is, officially to bring to your attention the fact that since our last reunion three of my most illustrious predecessors have been called from their worldly activities to the realm of rewards. Alfred Stillé, Lewis A. Sayre and Hunter McGuire, each a former President of the Association, died within a single week. Their lives were known of men, their records are ornaments of our annals, and their achievements are their eulogies. They labored zealously and with beneficent results, not alone in the scientific field, but in behalf of an organized national profession; and to guard zealously the splendid legacy which they, among others, have left us, must be one object of our labors upon this auspicious occasion. The hope is indulged that steps may be taken to procure suitable portraits of these and of other deceased Presidents of the Association, to be placed in some safe gallery until such time as the Association may be able to transfer them to its own Temple of Fame. I recommend that suitable formal action be taken on this occasion relative to the life, distinguished services, and the death of these lamented *confrères*.

#### FOREIGN RELATIONS OF THE AMERICAN MEDICAL ASSOCIATION.

The AMERICAN MEDICAL ASSOCIATION accredited delegates during the last year to several foreign medical conventions, notably the International Medical Congress at Paris, the Dominion Medical Association of Canada, the Mexican National Association and the Pan-American Medical Congress at Havana. To each of these organizations the AMERICAN MEDICAL ASSOCIATION sustains relations of peculiar intimacy. As one of the great scientific nations of the earth, the United States is naturally an integral part of the International Medical Congress. This Association, by a resolution presented by your present executive officer, took the initiative in 1891, in organizing the Pan-American Medical Congress. The first reunion of that Congress was held in Washington in 1893, under the presidency of the late lamented Dr. William Pepper. The second was held in the City of Mexico in 1896 under the presidency of Dr. Carmona y Valle, while the third has been held during the last few months in the City of Havana under the distinguished presidency of Dr. Juan Santos Fernandez. This movement has for its object the establishment of closer relations between the medical profession of the different countries of the Western Hemisphere. It has already borne excellent fruit in the increased patronage of our medical schools from the far south, in the improved status of American medical practioners in Latin America, in a better understanding of quarantine questions in the different countries, and in the development of a concert in the investigation of the medicinal flora of the Western Hemisphere. Our relations with the medical profession of Canada must be of increasing intimacy, and I indulge the hope that while maintaining the national limitations of our Association for delegate and legislative purposes, its membership, with the privilege of participating in all scientific matters, may be freely opened to our brethren who live beyond our immediate borders.

#### FISCAL AFFAIRS AND THE JOURNAL.

It has passed into unwritten law, born of the gradually developing features of our organization, that your President shall restrict his annual address to a discussion of the affairs of the Association and to the great object to which, by the terms of its Constitution, it stands consecrated—"the common interests of the medical profession in every part of the United States." In compliance with this rule, and realizing that I am leaving scientific questions to be presented by orators appointed for the purpose, I have pleasure in calling your attention to the satisfactory condition of the affairs of the Association, as indicated by the consolidated report of the Treasurer and of the Board of Trustees. From it you will observe that under the judicious management of your Board of Trustees you had a cash balance at the end of the last fiscal year of $31,004.67, being an excess of $3,696.66 over the preceding year. Your plant has been increased in value to the amount of nearly $10,000.00, and the net profits of THE JOURNAL amounted to nearly $14,000.00. You will be gratified to realize that, in addition, you have safely invested as part of a fund with which to buy a home for THE JOURNAL and for the Association, the respectable sum of $25,000.00. If, however, you have occasion to feel satisfied with the normal condition of your finances, you must contemplate with pride the rapid increase of your Journal, in quality, size, circulation and influence. The average weekly circulation grew, during the last fiscal year, from 13,672 to 17,446, and I have added pleasure in informing you that, since the period covered by the

report, the weekly circulation has grown to 22,000 copies. For the accomplishment of these splendid results, I feel that you will join me in hearty acknowledgment, not only of the sagacious management by the Board of Trustees, but the tireless industry and the discreet direction of our accomplished editor, Dr. George H. Simmons.

I feel that it is important, however, to call your attention to the fact that it would have been impossible for your Board of Trustees to have accomplished these results if, through its action, the Association had not become incorporated. Leases were to be executed, purchases were to be made, contracts were to be entered into, money was to be loaned, and bonds were to be exacted, to do all of which it was necessary that the Association should become a legally organized corporation. This was effected, *ad interim*, by the action of your Board of Trustees, which procured articles of incorporation under the laws of Illinois, bearing date of April 14, 1897. I am not aware that this fact, attested by the document which I have laid before the Executive Committee, has ever been confirmed by the vote of the Association. I recommend, therefore, that such action be taken at the present session.

If, however, the condition of the Association, and particularly of THE JOURNAL, is, on the whole, occasion for much satisfaction, certain facts revealed by the report are food for thought. Thus, THE JOURNAL has an aggregate circulation two and one-half times greater than the aggregate membership of the Association. It would seem, therefore, that while the profession at large prizes THE JOURNAL, it places relatively less than half as much value upon membership in the Association. This fact becomes strikingly significant when it is remembered that membership can be acquired by those who are eligible at no additional expense and with but trifling inconvenience. Does THE JOURNAL fulfill all the wants of the profession arising in connection with the Association? Are there no additional advantages to be derived from membership? Is there a lack of *esprit du corps*—a lack of the sense of unity in the profession? Is the existing basis of our national organization distasteful to the majority of the practitioners? Do our subscribers embrace a considerable number of practitioners who, under existing rules, can not become members, and whose influence, therefore, cannot be secured in behalf of the Association? These are questions that I am at liberty to ask, and that you are at liberty to answer.

Another thought suggested by the report relates to the disposition of the accumulating surplus. Shall the present policy for creating a fund for the purchase of property be carried out? Shall a larger proportion of the money be expended in still further exploiting THE JOURNAL? Shall the members receive a direct advantage from the earnings of the property which they have created, by reducing the annual dues, or shall a certain proportion of our surplus be expended in conducting original scientific investigations on subjects of universal interest to the profession? I cannot resist the temptation in this connection to venture replies to these questions far enough to say that, in my opinion, a reserve should be held in hand large enough to meet any possible contingencies that might occur by fire or other disaster in connection with THE JOURNAL; that the present generous policy in promoting the welfare of THE JOURNAL should be continued; that the dues of the Association should not be decreased; and that the question of establishing and defraying the expenses of certain commissions for special scientific investigators should be taken under serious consideration. The question of tuberculosis is not yet a closed chapter. The causation of cancer is yet a sealed mystery. The problems of tenement-house reform are not yet solved. The prevention of various endemic diseases has not yet been made practicable. The systematic investigation of the American medicinal flora, begun under the auspices of this Association more than forty years ago, remains an uncompleted task. These are a few among the many objects of a specific character which demand and should receive the fostering care of the Association.

I feel, however, that at the present moment, and under the existing features of our organization, it would be almost impossible to determine, judiciously, either of these very important questions, and I now bring them before the Association only for the purpose of directing attention to them, with the hope that they may be taken up subsequently and under more auspicious circumstances.

### SCIENTIFIC WORK OF THE ASSOCIATION.

The Association began its career with general meetings devoted chiefly to questions of medical education and professional conduct, and to lengthy reports from various standing committees. In 1860 it divided itself into a few sections, each with a certain autonomy, and each devoted to a particular part of our great scientific work. This change was followed by the establishment of the Judicial Council, by which means controversial questions, many of them of a personal character, were eliminated from the general meetings. The subsequent creation of the Executive Committee still further relieved the general meetings of annoying details. Thus relieved, both the general meetings and the sections have grown in scientific importance, emphasizing the persistence of our devotion to what must ever be recognized as the essential, fundamental object of our organization—the cultivation of the medical sciences. It must be acknowledged, however, that great as has been the progress in this particular, too much of the time of our general sessions is yet devoted to the consideration of matters which might, with propriety, be relegated for final action to a smaller body. It would redound largely to the interest of our annual session if the general membership could be entertained and instructed at our general meetings by exercises of a more purely scientific character, of such broad nature that they should not be restricted to any of the sections. A reform in this particular will be a long step in the direction of progress. The sections, in consequence of the faithful labors of their officers, offer strikingly attractive programs for the present session. In several of the lists will be found the names of invited guests who, through fortuitous circumstances, are not members of the Association, but who are, nevertheless, active workers in the scientific field, and whose participation in our labors will enrich the value of our proceedings and enhance the felicities of the occasion. I bespeak for them your cordial welcome. While the officers of sections and your President have exercised the prerogative of inviting guests, who come as guests, and not as members of any class as specified by the Constitution, such invitations have been extended solely with the object of advancing the interests of the Association. I look upon this privilege, which has been exercised by all of my predecessors and by previous officers of sections, as one of extreme importance, and one which should be continued under any plan of reorganization which may be adopted. It is my conviction, however, that the privilege should be hedged about by certain

limitations, one of the most important of which should be that an invitation should not be extended a second time to any person residing within the United States whose professional qualifications may entitle him to membership. With reference to the invitation of persons identified with the allied sciences, the matter should be left absolutely to the discretion of the President of the Association and with the officers of sections.

CONGRESSIONAL AND STATE LEGISLATIVE AFFAIRS.

The AMERICAN MEDICAL ASSOCIATION, during the first fifty years of its existence, exerted relatively little influence upon legislation, either state or national. Since the Standing Committee on National Legislation and the National Legislative Council of delegates from the state societies have been established, and have become coöperative, there is some evidence that the voice of the profession is heeded at Washington. The experience of the splendid committee of the Association, acting in concert with the National Legislative Council during the last year, has, however, shown the serious necessity for more thorough organization in protecting the interests of the profession, and the interests of society as represented through the profession. The inefficiency of our present organization for influence upon Congress was shown in the inability of your committee, notwithstanding its strong *personnel* and the influences at its command, to prevent the degradation of the army medical service. This was accomplished by the passage of a bill under the championship of Senator Hawley, by the terms of which the medical corps of the army is subjected to unfair and humiliating discrimination. This law grades the medical department for rank, promotion, and, in consequence, for pay, below every other department and special corps of the army, and, with the exception of second lieutenants, it is graded below the line. In accordance with its provisions, a medical officer, to obtain a colonelcy, must pass through three times as many files as an officer of either the Quartermaster's, the Subsistence or the Pay departments; more than twice as many as an officer of Engineers or of Ordnance, and nearly twice as many as an officer of the Signal Corps. The effect of this discrimination is not only to lower the rank and pay of medical officers, but must result in lessening the efficiency of the corps by repelling men of spirit and worth.

In every war known to history the deaths from preventable diseases have exceeded those due to battle. At no time has hygienic science been so resourceful as at present in preventing disease. A law which fails to give to armies, either in peace or in war, the fullest protection by the application of the latest scientific developments at the hands of specially trained medical men is unjust to the soldier, to society, and to the medical profession. In view of these facts, the army reorganization law of the last Congress was inexplicable and inexcusable. It, however, forces itself upon your consideration from another standpoint. Physicians are citizens of the Republic. As such they are intellectually, socially, politically and officially the equals of any other element of the body politic. There is no station to which they may not attain; there is no distinction of which they may not be the recipients. Their rights are of manhood origin and their perogatives are inherent. They are, in every fact, peers of the realm, and the peers of any peers of any realm. When the status of any number of physicians in their representative relationship to society is lowered, the status of the medical profession in general is menaced in corresponding degree. When the Congress, by the enactment of a law, degrades, relatively, the status of an important body of medical men, engaged in the public service, it strikes at the status of every physician in the country. It becomes, therefore, the duty of every member of the medical profession, jealous of his rights, his prerogatives, and the fair name he may leave his children, to resent as personal between himself and every member of the Congress who voted for this law, the action which cast a stigma upon our profession.

It has been the conviction of many enlightened members of the medical profession that the means employed by the general government for the protection and promotion of the public health are capable of improvement. These duties have devolved upon the Marine-Hospital Service, which was originally designed to give succor to unfortunate people, without other domicile, who were employed upon our rivers, lakes, and the high seas. With the growth of sanitary science this service, being the only established agency available by the government for this purpose, has been largely diverted from its original object. As a result, under the present wise administration of its Surgeon-General, its representatives are abroad investigating the sanitary condition of foreign cities, its agents are at our ports beating back threatened epidemics, while valuable investigations are being conducted in its laboratories. In the exercise of its quarantine functions, however, it comes in conflict with the police power that is guaranteed by the Constitution to the different states. The friction thus engendered has been especially marked in the seaboard states. While this is true, the Marine-Hospital Service, in scope and design, does not fulfill in highest degree the objects of a central coördinating agency for the protection of the public health. It was thought to create a Department of Public Health, with its executive officer in the cabinet, but this idea yielded to that of a bureau in charge of a large Advisory Council, composed of representatives from the various states. Resolutions have been adopted and memorials have been sent to the Congress, committees have been appointed, money has been appropriated by this Association; bills have been introduced, and hearings have been had in committee, with the result that the conditions to-day are precisely the same that they were ten years ago, when the agitation was inaugurated in the session of this Association held at Washington.

Secretary Wilson, of the Department of Agriculture, in his report for 1899, recommended that the Congress appropriate money to defray the expense of a systematic investigation of the medicinal flora of the United States, and of experiments upon the naturalization of medicinal plants indigenous to other countries. This recommendation was based upon the fact that the United States is the only great country which either has not conducted or is not conducting such experiments, and upon the fact that the proposed measure, touching the avenues of industry, manufacture, commerce and the public health, was one of national concern. This measure, however, with its manifest importance, was denied even courteous consideration, while its friends were denied a hearing by the committees of the Congress.

The cause of failure on the part of this Association to procure legislation by the Congress—and with the exception of preventing the passage of the Antivivisection bill last year and securing the enactment of the Quarantine bill this year, our recent efforts must be recognized as failures—I say the causes of our failure

are properly subjects for careful consideration. I have examined the records of the Association from the date of its organization, and have been profoundly impressed with the fact that memorials, resolutions, or even more definite propositions addressed to the Congress have, for the most part, represented the views, or rather the impressions, of the individual members proposing them. They have generally been presented in the general meeting, and have been endorsed without the deliberation essential for wise action; but a deliberation which is simply impossible in the limited time available in our general meetings. In certain instances memorials to the Congress have been presented at one session of the Association, have been reported to committees and reported back for action, either at a later meeting of the same session or at the succeeding annual session of the Association. But it becomes evident that this course lessens the evil but a trifle, for the reason that the committees to which such matters were referred have been constituted either under the leadership of the member proposing the measure or of members of a standing committee who had no interest in or understanding of the proposed measure. Such memorials, resolutions or propositions, when acted upon affirmatively by the general meeting of the Association, have, possibly, been mailed to some member of Congress or of a Legislature, but were not followed by effective work in the rank and file of the profession or among their patrons. When such bills have been presented to the Congress, and have received a certain amount of support from representatives of this Association, they have, as a rule, attained only that degree of importance that have made them valuable to their ostensible champions, as something to trade in the game and barter of legislation for something which would please a larger number of constituents and command a larger number of votes. In view of the fact that, after all, the argument of votes is the only one which appeals effectively to the average Congressman, it behooves this Association, in its efforts to conserve the interests of the profession and of society, to put itself in position to influence the largest number of votes. Every physician, therefore, should, in a perfectly respectable sense, become an active working politician. This subject, however, is of such breadth and of such depth that it may be well for us to pause at this juncture long enough to consider, from the standpoint of fundamental facts, the relationship of physicians to each other, and of the medical profession in the aggregate as an integral factor in society.

### THE PROFESSION, THE ASSOCIATION AND THE COMMONWEALTH.

In approaching a study, however brief, of the relation of the medical profession to the state, or, as I prefer to call it, the commonwealth, I feel that I am inviting your attention to an eminently practical theme; one which may enable us to understand the influences by which we have arrived at our present estate, and the means by which we may advance to even greater achievements. As we approach this theme—this eminently practical theme—we discover that the status of the medical profession, like that of every other element of that complex whole which we call society, is a perfectly natural one. Whatever it may be, it has been attained in the process of evolution, and has been, and is determined, by laws as immutable as those which govern the commingling of atoms or the sidereal strides of the planets. It is not the result of conventions or of resolutions or of statutory enactments; but these are to be interpreted rather as *indicia*, for the time being, of the position of the profession in the body politic. They are, indeed, consequences rather than causes, and as such they are subjects for careful inquiry. It is by a study of them that we are enabled in part to determine those laws, those natural laws, our harmony with which is essential, not alone for the present usefulness and continued progress of the profession but for the ability of the medical profession to conserve the welfare and promote the happiness of society at large.

But I have said that the position of the medical profession is a natural one. The truth of this declaration is apparent when we go back to the beginnings of society—when we examine the evidences presented by primitive peoples. We are familiar with the classic example so frequently utilized as a starting point in the discussion of sociologic phenomena—the example of the two aborigines, one of whom makes better arrows, and the other better mats than his companion, when, presently, one confines himself to arrows, the other to mats, each trading his own for the other's product. Here is an example of the beginning of what the scientists call "specialization of function in the social organism." It is an interesting process, which, based upon varying necessities and diverse aptitudes, results in multiplication of handicraft until somebody is hurt. This is a new necessity, and it is met by a new aptitude, and the possessor of that aptitude—the medicine man, our honored progenitor—steps upon the scene. His companions, appreciating his services, reward him with their arrows and mats; and he, finding the life to his liking, restricts himself to his new-found vocation—and the medical profession is established! As the necessity for his services, whether of charm or incantation, becomes more apparent, the esteem of his fellows becomes more pronounced. As events progress he is accorded certain rights, given certain prerogatives and hedged about by certain limitations, all calculated to increase his efficiency in promoting the common welfare—and thus is the practice of medicine regulated. He is spared from the battle that he may serve his companions, and he stays away from the chase that he may delve into the great mysteries—and thus is medical education inaugurated. He is the exponent, not only of his professional knowledge, but of at least the average intelligence of his people. He is, in short, an integral part of the primitive social fabric. As such, he shares the manners, the customs, the aims, the ambitions of his companions; and he, with them, is controlled by the forces which determine the common state and the common destiny. His status is, therefore, determined by the very laws which control the growth and development of society itself. So true is this that, from the dawn of history until the present day, and in every stage of sociologic development, the civilization of a people may be infallibly determined by the intelligence, the efficiency and the influence of its medical profession.

### THE MEDICAL PROFESSION AND SOCIETY FIFTY YEARS AGO.

It would not be to our present purpose to follow the evolution of society as exemplified in any of the civilized people, or, as the scientists say, "distinct ethnic entities of the world," in which the present complexity has been attained by an orderly succession of events. And it would be equally unnecessary to show, what everybody knows, that the medical profession, the heritor, in common with others, of antecedent influences, has been propelled by the same forces and by equally orderly events to precisely the same standard of civilization. The les-

son before us is that of the relation of the medical profession to a society, which, but a few decades ago, was the most diverse in origin and the most heterogeneous in constitution known to modern history; but a society which at the dawn of the twentieth century is one of the largest, richest and most intelligent of the world, a society well amalgamated, and which by common consent of even adverse critics is moving in harmony with the most advanced influences of civilization. I fancy I should suddenly find myself unpopular with the audience if I were to intimate that you, who comprise it—that you, the representatives of the medical profession—have failed to contribute your full quota to the great progress which that society in general has achieved, or that you do not reflect in intelligence and morality the highest type of civilized man. I hasten to allay your apprehension, for I have no such intention. On the contrary I ask you to indulge with me in a retrospect of American society during the last half dozen decades that we may the better understand the important part that you, and the profession that you represent, have played in the attainment of present results.

As I have already stated, the middle of the nineteenth century found diverse conditions of society in the United States. The older cities of the seaboard were the centers of an advanced civilization. The remoter counties of the same state, however, were then, in the absence of railroads, the telegraph and modern mail facilities, more remote from the centers of American influence than is St. Paul to-day from St. Petersburg. The great tide of emigration that had already poured and was yet pouring over the mountains and spreading in lonely habitations or widely separated communities over the vast valley of the Mississippi from the lakes to the gulf was busily engaged with the serious problem of existence. The forest was to be felled and the prairie was to be subjugated, habitations were to be built and crops were to be raised. In the midst of these exactions, institutions of higher learning were established, and to an extent patronized, and some strong men were produced. But it must be recognized as true that society in general had but little time and less money to devote either to schooling or to the amenities of life. The medical profession, under these circumstances, was precisely like the community of which it was a part. There were but few medical colleges, and they, for the most part, were but meagerly equipped. Many doctors became such while going from one town to another. Ignorant inventors of alleged systems of cure hawked their wares in the highways and the byways. Dogmatism that was destructive to intelligence was rampant, while schism was fostered by the baneful commercialism that too generally pervaded the heterogenous mass of forty thousand people that comprised the medical profession. In eight of the twenty-six then existing states no laws affecting medical practice had ever been enacted; in eleven, laws previously enacted had been repealed; in three only were there any restrictive laws, and these proved inefficient; while the facts could not be ascertained relative to the remaining four states.

### THE ERA OF ATTEMPTED VOLUNTARY REGULATION OF MEDICAL PRACTICE.

To remedy these evils, and actuated by the love of science, the promptings of self-interest, and by devotion to the interests of humanity, representatives of the various state medical societies met in convention over half a century ago and organized the AMERICAN MEDICAL ASSOCIATION, with the avowed object of having its members represent and take cognizance of "the common interest of the medical profession in every part of the United States." It sought to cultivate medical knowledge among its members, to elevate the standard of medical education, to promote the honor and influence and interests of the medical profession, and to enlighten the public concerning the relation between the medical profession and society. Emulation and concert of action in the profession and friendly intercourse among those engaged in it were additional aims of the founders of this great body of representative American medical practitioners. A constitution, by-laws and certain rules of conduct were adopted. The Constitution provided for a delegate body, delegates being accredited from recognized medical societies, medical schools and eleemosynary institutions. The rules of conduct prescribed in detail the deportment of a physician, the deportment of the patient, interdicted the licensure of sectarian physicians, and proscribed from consultation those whose practice was based upon an exclusive dogma. The influence of the new Association was extended chiefly through the avenues of the various state societies, many of which adopted the rules of conduct that had been prescribed by the newly formed national body as the basis of affiliation. Several of the state societies, notably those of Massachusetts, Rhode Island and Mississippi, finding either that the prescribed rules of conduct were not suitable to their respective local conditions, or feeling that they were sufficiently in touch with the ordinary forces of civilization to require no such formulæ, never adopted the rules of conduct prescribed by the national body. The medical association of Alabama adopted the rules with rather a *naive* proviso that somebody be appointed to call attention to such of the special teachings of these rules "as may seem to require elucidation in view of special circumstances and conditions." Other state societies adopted more or less modifying resolutions, but the general spirit of ostracism and aloofness was maintained during the succeeding three decades. The result of this movement was immediately salutary; it developed an *esprit du corps* in the great body of the profession; it gave an authoritative definition to medical education, and it created a strong and influential national body within the profession. At the same time, however, it became apparent that the organization did not possess the necessary inherent strength to accomplish its avowed object to regulate the practice of medicine. As time passed schismatic medicine grew apace, its colleges multiplied, its practitioners appeared all over the country, exemplifying that law that always makes the blood of the martyrs the seed of the church. Quackery of the most flagrant character was found everywhere, and society was unprotected from its ravages, while the inability of a voluntary unchartered organization to enact and to execute plenary laws was reduced to a demonstration. The medical profession, as an organized body, discovered that its relation to the commonwealth was, as the result of its own proscriptive policy, scarcely more intimate or more influential than at the beginning of the thirty years' hopeless experiment.

### THE ERA OF EFFECTIVE LEGISLATIVE CONTROL OF MEDICAL PRACTICE.

The era of effective legislative control of medical practice came as the natural reaction from the demonstrated failure to accomplish the same result through voluntary organization; but it came as the result of the sentiment which had been propagated largely through the influence

of this Association. The representatives of progressive medicine, turning from the National Association invoked the aid of their respective state societies in taking up the question with their respective legislatures. The profession in each state, however, recognizing its own local conditions, proceeded in its own way to attend to its own business. The very earliest attempts to secure state legislation revealed the fact that the so-called irregular practitioners, under the stimulus of ostracism and the fostering care of public sympathy thereby induced, had become so numerous and so influential that in the majority of states nothing could be done without their coöperation. It was no longer a theory, but a condition with which the real reformers were confronted—and they met it. California, in 1876, through its regular medical society, took the initiative. After conferences with the representatives of the sectarian societies, and after securing their coöperation, a law was procured creating a licensing board composed of representatives of both the regular and sectarian schools of practice. Illinois, confronted by precisely the same condition, took precisely the same course. Alabama, always progressive, but the happy possessor of other conditions, was able to place the regulation of medical practice for the time being under the control of its incomparable state medical association. Colorado created a mixed board. New York, confronted by conditions even more complicated than those in other states, took up the same task. The profession of that state, acting through its organized body, containing among its members many of the most honored and illustrious names in American medicine, found it doubly necessary to enter into treaty with the denominational physicians. It realized, however, that the rules of conduct to which it had always conformed contained, among other provisions, one which made it unlawful to "* * * examine or sign diplomas or certificates of proficiency for, or otherwise be especially concerned with the graduation of, persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine."

As the thing expressly interdicted by this rule was the very thing which it was proposed to do, and which had been done in other states, and which it was very necessary to do in New York, the medical society of that state amended the rules of conduct so that it or its members might, at discretion, enter into professional relations with any or all persons whom the law of the state at that time recognized to be practitioners of medicine. When this action was brought to the attention of this national body it resulted, not as might have been expected, in the amendment or the abrogation of the rule which had grown obsolete in the march of events, but in its tacit reaffirmation and in the opprobrious excommunication, for the time being, of the entire profession of the great Empire State. This action, viewed impartially after the lapse of nearly twenty years, becomes the more extraordinary when it is observed that similar action was never taken with regard to Massachusetts or Rhode Island or Mississippi, the societies of neither of which had ever adopted the prescribed rules of conduct; nor with regard to California or Illinois or Colorado, each of which had, by overt act, if not by open declaration, so far as this rule is concerned, taken an equally non-conformist position. It is not surprising that, with such an example before the state societies, the experiment in consistency has not been repeated. But the movement of effective regulative legislation, once inaugurated, happily spread with great rapidity. Mixed boards of licensure are now to be found in the majority of the states of the Union, and in the majority of such boards are to be found members of the American Medical Association engaged in issuing licenses to practitioners of exclusive dogmas, and sitting in consultation with sectarian physicians, not over a dose of medicine, but over the vastly more vital question of the qualifications of those who are to care for the sick of our Republic.

### THE MEDICAL PROFESSION AND SOCIETY AT THE BEGINNING OF THE TWENTIETH CENTURY.

The results of the twenty-five years of statutory regulation of medical practice are in striking contrast with the results of the quarter of a century of attempted regulations by methods of proscription. At the conclusion of that humiliating experiment, as at the beginning of it, there was not a single effective medical practice law on the statute books of a single state of the Union. To-day there are forty-eight state or territorial licensing boards, the most of them being composed of representatives of both the regular and the sectarian schools of practice. The laws of the different states are of varying efficiency, the one procured by the Medical Society of the State of New York, at the price of yet-maintained excommunication from this body, standing to-day as the model of excellence for the entire country. Under the influence of these laws, instigated by members of the American Medical Association, and which, after all, are but expressions of the sentiments of the medical profession confirmed by society at large, many substantial reforms have been accomplished. The medical schools which, in this country, have labored bravely and efficiently under adverse conditions, have been stimulated to increased efficiency. One of the first changes accomplished was the practical standardization of requirements to enter practice; and one of the first features of this standardization was to secure for the student "the aids actually furnished by anatomy, physiology, pathology and organic chemistry"—the four cardinal studies which, strange-sounding as it seems, it was necessary solemnly and specifically to insist upon a half century ago. It follows, therefore, that with broadened and increasingly uniform curricula, it can not be said that schools even of sectarian antecedents entirely "reject the accumulated experience of the profession," nor can it be said that, in a sectarian sense, they any longer possess an excuse for existence. Their graduates, or such of them as do not base practice on an exclusive dogma, are, in many instances, met in formal consultation by even conservative regular physicians, and, in more than one instance, are made members of medical societies that are in affiliation with the American Medical Association.

The Illinois State Medical Society, which has always been among the foremost in reform movements within the profession, at its recent annual session, unanimously

"*Resolved*, That the school of graduation shall be no bar to membership in the Illinois State Medical Society, providing such physician is recognized by the local societies as qualified and not claiming to practice any exclusive system of medicine."

The Ohio State Medical Society, by precedent, if not by formal action, established the same rule.

We thus see that the proscriptive rule which, during the more than twenty-five years of its dominance, propagated the very evils it was intended to correct, it rapidly expiring by limitation in the face of new conditions that have been induced, in spite of it, by beneficent and cath-

olic legislation. In the State of New York alone the annual registration of sectarian physicians has diminished nearly 90 per cent. under the operation of its present laws. In the State of Ohio many physicians who are graduates of sectarian schools are making application to have their classification on the register changed to "regular," while equal reactionary movements are observable in other states. Thus we observe the passing of Homeopathy and Electicism just as did the calm scientists of Rome witness the passing of the "Humoralism," the "Methodism," the "Electicism," and the "Pneumatic School" of that period; and just as passed the "Chemicalism," the "Iatro-Physical School," the "Iatro-Chemical School," and the "Brunonianism" and the dozen other "isms" of later epochs, each leaving its little modicum of truth as the memento of its existence. And let us felicitate ourselves that, with the passing of the particular sectarianism of the last century, there is also the passing of its concomitant evils, such as existed in even greater degree in the time of Galen, who "found the medical profession of his time split up into a number of sects, medical science confounded under a multitude of dogmatic systems," and, as if relating the effect of the cause, the historian continues, "the social status and the moral integrity of the physician degraded." The further results of this new order of things, however, are observable, not alone in the modified curricula of the medical schools, but in the changed organic relations of the institutions themselves. Under the pressure of legal requirements the weight falls with almost fatal force upon the small, private and poorly equipped institutions. These institutions, in the interest of self-preservation, and to protect a respectable alumni, are forced either to expand their enterprises or to seek relations with universities which are deeply founded in the community; or else actually to go out of existence. The majority of the schools seek connection with the universities, by which step alone they become logical objects for endowment, and it is to be hoped that this movement will continue until in this great country medical education shall be as firmly established as it is to-day in any of the transatlantic nations.

Another of the new conditions which has developed within the last quarter of a century, as the result of an increasing professional unity, is the efficient sanitary regulations, national, state and municipal, that now afford protection to the people from diseases that were formerly devastating in their effects. It is not necessary in this audience to mention smallpox, cholera, typhoid fever, diphtheria, anthrax, leprosy and the bubonic plague, each of which has been brought under relatively effective control, but I do feel that it is necessary to emphasize the fact that there are many unsolved problems relating to the prevention of disease that stand as a challenge to the industry, the ingenuity and the courage of the profession. While these various changes have taken place, others of almost equal importance are observable in the relations of physicians to society. While the community, instigated by the medical profession, has given to that profession a legal status, definite and increasingly influential, and has given it certain prerogatives and certain exemptions, it has, likewise, hedged it about with certain limitations and imposed upon it certain liabilities. There are numerous laws, both common and statutory—*lex non scripta* and *lex scripta*—that admonish the physician that his conduct carries with it a liability not defined by self-imposed rules, and the numerous courts of our land proclaim that there are tribunals "other than his own conscience to adjudge penalties for carelessness or neglect" on the part of the physician. So numerous, so unjust, and so disastrous are actions before such tribunals that they have caused the development of a new, legitimate and beneficent enterprise, in the development of a company to insure physicians against malpractice. It may be true that in certain states and localities these laws are unjust, and that there is a grave error in their administration by judges created under our wretched elective system; but if so, the facts only emphasize anew the necessity for more complete organization of the profession and for the more active exertion of its influence upon elections.

### THE REORGANIZATION OF THE ASSOCIATION.

This brings us again to a realization of the fact that the results that can be achieved only by the unification of our national profession can not be attained under the present organization of our Association. The disproportionately rapid growth of THE JOURNAL as compared with that of the Association can have no other significance. The weakness of the Committee on Legislation at Washington was a question neither of personnel or of industry, but arose purely from the fact that there was no efficient organization in the rank and file of the profession by which speedy and effective influence could be brought to bear upon members and senators. Equal difficulty has been encountered in several states where organization has been similarly defective. The demand for more effective organization of the Association has come from all over the country and resulted in the adoption of a motion at Atlantic City authorizing the appointment of a committee of three to report a plan of reorganization at this session. Another motion was adopted authorizing the creation of a supplementary committee of one from each state and territory, entitled a Committee on Organization, which has been filled by appointing for the most part the retiring presidents of state societies for the current year. The Committee on Reorganization, consisting of Dr. J. N. McCormack, of Kentucky; Dr. George H. Simmons, of Illinois, and Dr. P. Maxwell Foshay, of Ohio, has given to the important question entrusted to it a most careful and painstaking consideration. It has laid before you the results of its deliberation. In doing so it has emphasized the principle that this Association has its origin in the organized profession of the respective states. It emphasizes the fact that the delegate body should be so small that it can remain in prolonged session and give to various subjects under consideration that deliberate attention which has not been possible under the existing scheme of organization during the last forty years. It recognizes the paramount importance of the scientific feature of our work by relieving the general meetings and the sections alike of the troublesome details that now consume the limited and valuable time of the Sessions. It remedies the glaring and serious defects in the present constitution. It prepares the Association, by perfecting the organization, to meet important and pressing questions. These considerations, together with the fact that the existing constitutional provision relative to delay of action on pending amendments has been met by the appointment, a year ago, of a committee for the avowed and published purpose of reorganization, and by the action of the committee in laying the results of its work before every member of the Association—I say these considerations, and these facts, prompt me to advise the adoption of the proposed Constitution and By-Laws in their entirety at the present annual session of the Association.

The Committee on Reorganization, under the restrictions of the resolution creating it, has, very properly, left undisturbed the existing rules of conduct. These, if construed to have a fundamental importance, and if rigorously enforced as they now stand, would disintegrate the Association in a single day. This reason, and others already given, confirm me in the conviction that such rules should be either amended or abrogated, or, if reaffirmed, it should be by general resolution endorsing their underlying principles but disclaiming the present applicability of their details. There are, however, various views entertained upon this subject, and that the matter may be approached in a spirit of tolerance, that it may be discussed coolly and impartially, that a consensus may be reached, and that harmony may be attained, I recommend that the general questions of the revision of the rules of conduct be referred to a special committee on ethics, consisting of three members, with instructions to report to the legislative body at the next annual session of the Association.

### THE NEW SCHOOL OF MEDICINE.

The changes which I have advocated are essential for the attainment of the purposes of the Association and for the fulfillment of the high destiny of our National profession. They are demanded by the changes that have taken place during the last fifty years. The legislative functions have passed from voluntary organizations to the Congress and the legislatures, where they belong; but it still devolves upon the profession in the organized capacity, to stimulate, to restrain, or otherwise to control the law-making power. The responsibility of the profession is increased, rather than diminished. Science has come to have a clearer meaning. He who now proclaims a dogma cries alone in the night, while the world sleeps. They who demand a creed may read its varying terms only in the progressive revelation of natural laws. Practice has changed. The depletions, the gross medications, the absurd attenuations, the ridiculous antimineralism have given way to a refined pharmacy and to a more rational therapy. Sacrificial surgery has yielded to the spirit of conservatism. Prevention is given precedence over cure. Education implies research and discovery, and all may delve. I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its Pagan antecedents. It is the product of convergent influences, of diverse antecedent origin. It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception, and abandons the accepted truth of yesterday, if it only be the demonstrated error of to-day. It places no premium upon personal prerogative, and extends no recognition to individual authority. It makes no proclamation of completeness, no pretention to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending to-day, but continuing through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he think error, for, thinking, he may think truth and thereby add to the common fund. It heeds all things, examines all things, judges all things.

To you, the exponents of this new school, of this new generation, of this new century; to you, representatives of the Democracy of Science; to you citizens of the Republic of Letters, I extend greetings; and here, in our parliament assembled, here, where our will is supreme, I this day invoke upon our deliberations the spirit of liberty, the spirit of courage, the spirit of progress, the spirit of truth.

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# Orations.

## INTERNAL MEDICINE IN THE NINETEENTH CENTURY.

ANNUAL ORATION IN MEDICINE, DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

N. S. DAVIS, JR., M.D.
CHICAGO.

It is one of the duties of those who address you, as I do to-day, to review what has been newly discovered in the field of medicine or in some limited department of it. At this first meeting of the AMERICAN MEDICAL ASSOCIATION in the twentieth century, it seems most natural to review what has been accomplished in the last one hundred years. The time at my disposal is too brief to read to you a complete history of the achievements of this wonderful epoch, for more of genuine advancement has been made in medicine during it than during all the preceding centuries together. It is only possible for me to point out some of the reasons for the rapid development of medicine, to recall to your minds some of the most important discoveries and applications of them.

A century is not so long a time as we are apt to think. Our grandfathers were vigorous men, in the prime of life, when the nineteenth century was born. Yet changes so great that they seem miraculous have occurred since then. In 1800 this great country was a wilderness, unknown even to the inhabitants of the few straggling settlements upon the Atlantic coast. Our land contained no great cities. There was little travel from place to place. There were no steamboats nor railways; no telegraphs nor telephones. Information traveled slowly by packet ship, canal boat, and stage coach. The discovery of the wonderful properties of the *x*-ray could not then have been flashed over the world in a day and its genuiness and utility confirmed within a few weeks by experiments made simultaneously in all parts of the world, as did happen at the close of the century. To-day all civilized peoples are so united that knowledge has become the common property of them all. In former epochs geniuses delved alone, inspired only by their own enthusiasm. Often, it was many years before their discoveries became widely known or appreciated; and many more before another genius standing upon land already found ventured upon its exploration.

All this has been changed. Learning is not possessed by a few but by many. In earlier epochs men of genius towered above their contemporaries in learning. To-day thousands crowd about their shoulders, so much higher is the average of learning. All scientific workers are now linked together by the rapid dissemination of news, so that no matter in what part of the world they may be, they are kept conversant with what is being thought and done in every other part and they are thereby inspired to greater mental efforts.

Knowledge is no longer isolated. It is cultivated in centers too numerous to count. Even in this new land

universities with great libraries, finely-equipped laboratories, and corps of brilliant teachers and seekers after new knowledge, are found in every part of it. Medical societies have been organized in every state and city, and in many counties and towns. But at the beginning of the century there were only four medical schools in this country, and four state societies, organized for the advancement of medical knowledge.[1]

These changes have been effected chiefly by the rapidity of communication which has been established in all civilized lands and by the greater concentration of the people in large cities.

But it is not in the United States only that the population has increased and concentrated. In 1801 the total population of England and Wales was less than 9,000,000. Of this number more than half lived in the country. At the end of the nineteenth century the population of the same countries was more than 29,000,000, and only one-fifth of this number lived in rural districts. These figures attract our attention to the social changes which have occurred in all civilized lands—changes which have effected not only a greater diffusion of knowledge but have also modified the conditions which produce and limit disease.

### DIAGNOSIS.

At the opening of the nineteenth century, "Cullen's Practice of Physic," written late in the preceding century, was the standard text-book. A glance at its contents will give us the clearest conception of the state of medical knowledge at that time. In an edition of this work printed in New York City in 1806 I find no description of structural diseases of the heart; even as a complication of rheumatism heart disease is not mentioned. A single page is devoted to nephritis, but in its description there is no mention of the chemic and microscopic changes in the urine upon which we depend to recognize it and to distinguish its forms. The affections of the respiratory organs were described with similar crudeness, under such chapter headings as "Of Catarrh," "Asthma," "Pneumonic Inflammation," "Peripneumonia Notha," and "Phthisis Pulmonalis," but the catarrhal inflammations of the nose, pharynx, trachea and bronchi were not differentiated from one another, nor were catarrhal and croupous pneumonia, brown induration, hypostatic congestion and edema of the lungs described.

The speculative explanation of diseases and their causes which prevailed at that time is well illustrated by the conclusion reached by Noah Webster, who in his "History of Epidemics and Pestilential Diseases," writes that typhus and nervous fever are due to "conversion of the perspirable fluids of the body into septic matter."

Nothing will help so much to make clear the progress made in medicine in the last century as to compare the resources at the disposal of physicians of our day with those commanded by our grandparents. At the opening of the nineteenth century medical men knew nothing of the clinical thermometer, of percussion, auscultation, uranalysis, clinical microscopy, laryngoscopy ophthalmoscopy, of the sphygmograph, or Roentgen rays.

It was not until the year 1808 that Corvisart spread widely a knowledge of percussion as a means of discovering the physical status of the viscera, although the work of Avenbrugger which he translated and which was the original description of percussion, had been published nearly fifty years before. The work of Avenbrugger and Corvisart was supplemented in 1819, when Laennec published the result of his labor with the stethoscope which he invented four years earlier. From this time dates our clinical knowledge of diseases of the lungs and heart.

In 1827 Bright pointed out the relationship of albuminuria, dropsy and diseases of the kidneys. At this point clinical chemistry may be said to begin.

At the beginning of the nineteenth century, compound microscopes were almost useless, for the images which their lenses made were so distorted and colored that they could not be properly interpreted. In 1812 Dr. William Hyde Wolleston combined two plano-convex lenses so as to correct the spherical aberration which a single double-convex lens produces; and nearly twenty years later Joseph Jackson Lister discovered the utility of combining lenses of crown and flint glass in order to produce an image in the microscope relatively free from distortions and fringes of color. The more recent invention of the oil immersion lens has made bacteriology possible and has solved many of the problems of infectious diseases which puzzled even our fathers in the fifties and sixties.

The dependence of medicine upon ancillary sciences is well illustrated by the sudden birth and rapid development of new branches of medical knowledge which are dependent on the perfection of the microscope.

This instrument has made histology, embryology, modern pathology and bacteriology a possibility. These departments of science are altogether products of the last century.

It was at the beginning of the century that Bichot divided the structures of the body into what he called "tissues" and showed that there were only a few of them. It is surprising that the great anatomists before him did not make the same discovery.

### PHYSIOLOGY.

As modern anatomy has been dependent upon the microscope in order to explain structure, so physiology has been dependent upon experiments on living animals to explain function. It is true that in earlier epochs at considerable intervals of time experiments upon living animals were made, notably by Harvey, when he studied the circulation of the blood, but they were never made systematically until the discovery of anesthesia in the nineteenth century made them painless. No wonder, therefore, that the explanations made by physiologists in 1800 seem to us extremely crude. Haller, for instance, whose printed lectures formed the text-book of most students at that time thus describes the nature of blood: "Hydrostatical experiments demonstrate in the blood first a kind of volatile vapor or exhalation which immediately and continually flies off from the warm juice with a sort of fetid odor coming betwixt that of sweat and urin. This vapor, being catched and condensed in proper vessels appears of a watery nature joined with a small tincture of an alcaline disposition."

A few pages further on what he says of the blood gives us an idea both of the state of physiologic and pathologic knowledge at that time: "For the blood in a sound healthy state, not injured by putrefaction or too violent a degree of heat, is neither alcaline nor acid, but mild and gelatinous and a little saltish to the taste; yet in some diseases it is sharp enough and comes near to a state of putrefaction, as for instance in the scurvy, when it corrodes through its containing vessels and in

1. The colleges were medical departments of Pennsylvania, Columbia, Harvard and Dartmouth (founded 1797). The societies were New Jersey (1766), Massachusetts (1781), Connecticut and New Hampshire (1791).

those who have ascites or dropsy whose waters are often much of an alcaline and corroding nature."

At the close of the eighteenth century the part which gland cells play in forming secretions was not comprehended. It was believed that "the albuminous or hardening juices are separated almost everywhere from the arteries themselves, into continuous excretory canals, without any intermediate organ or machine betwixt them." It was believed that all excretions existed primarily in the blood.

The physiologists of this period appreciated the importance of the lungs and the act of respiration, but their exact use they did not comprehend. Haller enumerates several possible functions which they might perform, yet he did not feel sure that any one of them was the real one. For instance, he says: "Our blood acquires its heat principally in the lungs, for that all animals which have lungs and two ventricles in the heart have the heat of their blood commonly twice that of the atmosphere. But does not this arise from the alternate extension and contraction, relaxation and compression of the pulmonary vessels by which the solid parts of the blood are perpetually rubbed together and closely compressed in the attrition that is made during expiration, as it is more rapidly moved and ground together during inspiration."

Our forefathers one hundred years ago often endeavored to hide their ignorance in long names and resounding phrases, a common practice, indeed, in all times and not wanting to-day, for how much ignorance will our successors find hidden in words now so commonly used as are metabolism and autointoxication.

### PATHOLOGY.

Pathology as a distinct department of scientific medicine originated in the nineteenth century. It was not until 1860 that Rudolf Virchow demonstrated conclusively his famous dictum: *"Omnis cellula e cellula."* His studies of cells in disease laid the foundation and did much to rear the superstructure of cellular pathology. So rapidly has a knowledge of this subject grown that we can unhesitatingly say that we now possess very accurate and detailed information as to the anatomical changes which disease effects. The insight of physicians was so greatly extended into the nature of morbid processes by these pathologic studies that enthusiastic devotees of them felt that the application of the microscope to the study of disease would dispel its mysteries. Increasing information, however, soon demonstrated the limitations which exist as to knowledge derivable from a study of morbid anatomy. Most of us remember how, soon after the birth of bacteriology, it was also hoped that from it at last we would learn the true essence of disease. But we know now that in most ailments after the bacteriologist has discovered the offending micro-organism the chemist must help us, for it is usually a product of the growth of the organism, not its physical presence in the tissues that causes disease.

The production of disease by parasites imbedded in the tissues of the human body was suspected from early times, but was not demonstrated until the end of the first third of the nineteenth century, when James Paget, then a medical student, found unusual nodules in the muscles of a man whom he was dissecting. These Richard Owen demonstrated to be the cocoon of a minute animal which he called trichina spiralis. In 1847 Dr. Joseph Leidy of Philadelphia found them also in pork, and soon thereafter it was shown in Germany that men could become infected by eating pork containing trichina, and that in consequence there developed in them a definite train of symptoms.

In 1837 Latour in France and Schwann in Germany, almost simultaneously propounded the view that fermentation and putrefaction are due to the growth of micro-organisms. Liebig, with all the weight of his authority, antagonized this belief in a "vitalistic" explanation of these phenomena. Pasteur undertook to settle the dispute by methods of research, which proved to be the foundation of a new department of science—bacteriology. The results of his experiments were published between 1857 and 1869. He proved that without micro-organisms there could be no fermentation, no putrefaction or decay. These studies prompted many investigators to attempt to demonstrate the suspected relationship of micro-organisms to disease. In 1863 Devaine succeeded in showing that the organisms, seen by him in 1850 in the blood of animals which had died of anthrax, were its cause. This, as some of those before me will remember, aroused a storm of controversy which was not settled finally until after my own student days.

Formerly, such vague terms as "miasm," "humor" and "virus" were used to explain the communicability of contagious diseases, but they have had to be discarded or to be newly defined by the bacteriologist.

It was in the sixties that Lister made his studies upon the relationship of micro-organisms to wound infection. The brilliant, revolutionary results of those studies are too well known to you to require elaboration, besides they belong to the history of nineteenth century surgery rather than to the history of internal medicine. They were, however, so important in settling the relationship of invisible parasites and diseases that they must be mentioned.

It was at this time, too, that Pasteur and Tyndall finally settled the controversy over spontaneous generation which had raged from time immemorial. The world at last felt convinced that even micro-organisms could not exist where an antecedent organism had not been.

It is needless to recapitulate the long list of discoveries rapidly made from this time onward of the causes of infectious diseases, by such men as Koch, Klebs, Loeffler, Fraenkel, Laveran, and many others.

### HYGIENE.

Although medical men have been incited to search for the causes of disease in order that they might understand their nature better and therefore be able to treat them better, such studies naturally led more directly to the prevention than to the cure of disease. That is why the recent epoch-making bacteriological discoveries have greatly stimulated the study of preventive medicine. It is true that the prevention of disease has engaged the attention of medical men and statesmen since the earliest times, but the subject was not studied systematically before the last century.

Hygiene as a separate department of medicine, with a literature of its own was created only in the nineteenth century.

While, in the eighteenth century, much was done to improve the hygienic state of individuals, and as a result there began before its close to be a reduction in the mortality rate, which has continued up to the present time, public hygiene or organized efforts to prevent the spread of disease by state and civic interference, was not fairly established until very recently. Even to-day small

communities have no health officers or sanitary inspectors, and few regulations which are intended either to inform the people as to the relative healthfulness of towns and hamlets or by which the spread of disease is to be lessened. These facts show how new and undeveloped as yet the field of public hygiene is. The mortality statistics which have been gathered in cities since the middle of the last century make it possible to point out which cities are the healthiest, and which diseases are the most destructive. It is to be hoped that these statistics in the future will be supplemented by reports of the kinds and amount of illness, whether fatal or not, that may exist in a given place.

The knowledge recently acquired of infections and their spread has already been applied to their prevention. Such diseases as erysipelas, septicemia and tetanus no longer torment surgeons when they can make clean wounds. But as late as 1870 the first of these ailments was common in the hospitals of France. Puerperal fever is to-day as rare as it was common formerly. Typhus fever no longer exists in America, although not uncommon at the beginning of the last century.[2] Indeed, it is rarely seen in any civilized country to-day.

At the beginning of the nineteenth century smallpox was so prevalent that few persons reached adult life without having had the disease, and the mortality from it in childhood was great. What is the status of this disease to-day? I venture to say there are many physicians in this audience who have never seen a case, and that a majority of them have not treated more than four or five cases during their whole professional experience.

In the early days of this nation's history yellow fever spread to Philadelphia and New York, and provoked much discussion, for it was feared that it would prove as great a pest as cholera. A careful study of the disease and a consideration of the possibility of preventing it was referred to a committee of the New York Medical Society, which reported that yellow fever may be produced in any country by pestilential effluvia. How different is this conclusion from that of recent students of the subject, who assign to it a specific cause, which is transmitted from man to man by its host, mosquitoes.

Cholera has been brought to our shores several times in the last few years, but its spread has been prevented in each case. In Europe it has also been limited to compartively small areas. Within a year the plague has been found in this country, in Great Britain, and France, but has caused little alarm, so great is the confidence that it will be successfully suppressed. (Let us hope that this confidence is not misplaced.)

### PROGRESS IN PREVENTIVE MEDICINE.

What has been accomplished during the last one hundred years by internal medicine the following statistics will show in part, although it must be remembered that mortality statistics gathered before the middle of the century are not reliable. It is estimated that in 1805 in New York City from 35 to 40 deaths occurred in every 1000 inhabitants. During the last decade it has averaged 20 in 1000, and has been as low as 19 in 1000. In 1847 the mortality in London from zymotic diseases was 23.26 per cent.; during the last two decades 19 to 20 per cent. In 1846 the deaths from consumption were 12.67 per cent.; now approximately 9 per cent. The mortality from diseases of the respiratory organs has been reduced in the same time from more than 12 per cent. to about 7, and the mortality from diseases of the digestive organs has diminished from about 6 per cent. to less than 5. In Chicago the mortality rate has fallen, with small fluctuations, from 46 and 64 deaths per 1000 inhabitants in the cholera years of 1852 and 1854 to 14 in 1898. The following diseases are among those in which the death-rate has fallen progressively: Cholera infantum, croup, diarrhea, diphtheria, dysentery, malaria, measles, scarlet fever and whooping cough. These are ailments the spread of which has been controlled either by isolation or by insuring the people purer food and water. Although the general mortality of Chicago, which is typical of the great cities of civilized countries, has improved, there are some diseases which are increasing in prevalence, notably nervous diseases, heart diseases, cancer, Bright's disease, bronchitis and pneumonia. To the discredit of my native city must it be said that the mortality from typhoid fever reached its highest point at the close of the century, during 1890, '91 and '92, although its cause and its mode of dissemination, as well as its prevention, were well known.[3]

The general lowering of the death rate is due to the improved hygiene of communities. In what the improvement has consisted is best shown by recalling some of the conditions under which people lived in 1800. At that time few cities had an adequate public water supply. In London water could be delivered at any house three times a week by one of the water companies: but most households depended upon wells. The sewerage system was quite as imperfect. Outhouses and cesspools were attached to each dwelling. The conveyance of sewage from houses by water did not become general until well into the last century. Ventilation of buildings, and especially of public halls, had attracted attention before the nineteenth century; but the real causes of danger from bad ventilation were not appreciated until bacteriology disclosed them.

In 1800 streets were not paved, and rarely cleaned. The habits of the people as regards eating and drinking were bestial. Excessively large quantities of food were consumed by all who could provide it. Alcoholic beverages were universally drunk, and generally in immoderate quantities. No disgrace attached to drunkenness; and it was customary for a man to drink several bottles of wine at a sitting.

Those who compose this audience appreciate how much illness must have been caused by these habits, and how much the relative abstemiousness or temperance of to-day has lessened the percentage of disease.

Prevention of diseases is only possible when a knowledge of their causes, their mode of dissemination, and methods for their suppression is possessed by all the people. Medical men alone can not stop their spread, nor will the making of laws do it. Only the intelligent coöperation of those who are ill and those who are well can accomplish it. It must not be expected, therefore, that as soon as the cause of a disease is discovered, that ailment can be suppressed. Time is required in which to educate all classes of people on that particular subject. Unfortunately, many persons are so obtuse that they will not believe in methods of prevention even when the fullest demonstration of their success has been made. A notable instance of this is seen in the recent repeal

2. Typhus forms an item in the mortality reports of Chicago (and other American cities) as late as 1886. This is probably because it was confused with typhoid. Not during the first quarter and rarely afterwards genuine typhus occurred in this country.

3. The more recent diversion of sewage from the water supply of that city has diminished the mortality from typhoid. Unfortunately, to-day very many communities are not awake to their own danger from this disease or to the possibility of its control.

of laws in England which made vaccination compulsory. The ease with which drinking water may be become contaminated and the danger to health from its contamination is not even now appreciated by the public. It is partly because such thorough knowledge is needed by the laymen that tuberculosis, diphtheria, pneumonia, typhoid fever and similar troubles have not been better controlled in the past. In order that in the twentieth century the fruits of the great discoveries of the last may be gathered, all members of the medical profession must fit themselves to teach their patients what is known of disease and its prevention. Those who are especially adapted to do so must disseminate their knowledge by popular discourses and essays. When hygiene shall be regarded by all classes as necessary and as much a matter of course as the use of the railroad, steamboat, telegraph, telephone, and labor-saving machines, then, but not until then, may striking results be expected.

### THERAPEUTICS.

The wonderful, the revolutionary discoveries made by students of internal medicine during the nineteenth century are not always appreciated as they should be, for their results are often demonstrable only by statistics; and the dramatic rescue of individuals from certain death which the surgeon at times accomplishes, unfortunately can not be effected by the therapeutist. It is not in the nature of his art. Great progress, however, has been made in the use of medicines and remedial procedures. Good reasons can be given for their employment, and their mode of action can be explained. Empiricism no longer governs their use as it formerly did. The placing of therapeutics upon a scientific basis began in the last century when the physiological effect of drugs was first demonstrated by experiments upon animals.

No field of medical research needs cultivation so much or is more certain to yield a rich harvest than therapeutics. It is surprising that we have not a larger volume of accurate knowledge of the effect of drugs than we do possess. Of late pharmacology has been neglected for studies which have temporarily been more enticing to experimenters, such as bacteriology and experimental pathology. Moreover, a knowledge of these subjects is essential to enable a clinician to apply his therapeutic resources to the mitigation of suffering, the support of strength, and the elimination or destruction of noxious substances. One can safely prophesy that the exact utility and the limitations of drugs and medical procedures will be defined in the present century.

To accomplish this, not only is more knowledge required of the physiologic action of drugs, but also better means of accurately measuring their effects when they are given to patients. We know when pain is relieved we can sometimes measure effects produced upon the heart and blood vessels and temperature, but beyond this we depend for knowledge upon the impressions of physicians, impressions which must be corrected and often reversed by a wide experience. Clinicians possess only a few appliances or methods for the exact study of the sick. It is to be hoped that more will be discovered, and that they will also make it possible to register with accuracy the effect of drugs. When this is accomplished, undoubtedly a smaller number of useful drugs will be employed, but these with greater exactness.

It is true that drugs are often used to-day when they are not needed, because patients demand them; but this will be changed when laymen learn that it is the function of a physician to teach them what to do to give nature the best chance to effect repair, what to do to make themselves comfortable and to preserve life. When they learn that it is a physician's function to teach them how to protect others from the same ailment, to foretell the possibility of recovery or death, and to avert or forestall complications. Medical men should include time and faith in their materia medica as important means of effecting a restoration of health. I do not mean faith in a fetish procured in an apothecary's shop, but faith in the wisdom, honesty and disinterested devotion of physicians which will enable them to accomplish all that can be done for the suffering.

Although the greatest discoveries in the field of internal medicine have been applicable to the prevention of illness in the masses, much has also been done to increase the chances of recovery of individuals who are sick. I need call attention only to a few of the improvements in treatment which have been effected to remind you of more. Typhoid fever, which has been a scourge in all civilized countries, and constantly present in all larger centers of population, has not only been greatly lessened, sometimes even suppressed by improved hygiene, but the chances of recovery of the one who is sick with it have been increased several fold by improved methods of treatment. Twenty-five years ago the mortality from typhoid fever in the hospitals of the world was from 20 to 35 per cent.; to-day it is from 5 to 15. The better results are due to the cold baths which are used, to a more generous supply of fresh air, to proper feeding, and to protection against, or the prompt treatment of, complications.

One great therapeutic discovery has been made at the end of the nineteenth century—the discovery of antitoxins, the natural antidotes to the poisons of infectious agents. For a very long time it had been known that something developed in the human system during the course of many ailments which gave to the sufferer from them for a variable time immunity from a recurrence of the same disease. Until the existence of parasites and of poisons generated by them was proven, an antitoxin was of course unrecognizable. Moreover, the possibility of such a thing in diseases, one attack of which did not cause immunity to others, was not even suspected. But diphtheria antitoxin, the most efficient of those of which we know anything, is one belonging to this last group of ailments. The chemical composition of antitoxins is yet to be discovered. Since antitoxin has been used the mortality from diphtheria has been reduced about one-half. The most extensive collection[4] of statistics gathered from all civilized countries shows that when antitoxin is used on the first day of the disease, the mortality is 5 per cent, increasing rapidly to 30 per cent when used on the fourth day or later. Before its employment, the average mortality of the disease was from 25 to 35 per cent. To effect a still greater reduction in the death-rate from this ailment, it is necessary that it be recognized early, and that antitoxin be employed more generally as a preventive for those who have been exposed.

That tetanus antitoxin and plague antitoxin are valuable is admitted. Many others, such as pneumonia, typhoid, tubercle, scarlet fever, erysipelas and streptococcus antitoxins are still in the experimental stage. But even though it should be found that few natural antitoxins can be isolated for use as remedies, those already discovered confirm physicians in the hope that specifics will be found some day.

4. Das Oesterischen Sanitätswesen, No. 52, 1900.

Another therapeutic discovery made at the close of the century which has thrown a flood of light upon some obscure points in physiology and pathology, and has restored to usefulness many who were formerly incapacitated and incurable, is that of internal secretions, and especially the role of the secretion of the thyroid gland. Ingredients in the thyroid, suprarenal bodies, and ovaries, produce as definite effects upon the living body as many extracts from plants or synthetic chemicals. The pituitary body, the thymus, and bone marrow may also have a value as yet undetermined. The rescue of those suffering from myxedema and cretinism by the administration of thyroid is one of the few happy dramatic incidents which fall to the lot of the practitioner of medicine.

That a much larger proportion of recoveries from tuberculosis occur to-day than formerly is evident from the statistics of this disease, but this lessened mortality is not due to prevention only. Trudeau has estimated that 18 per cent of all persons have tuberculous lesions, because a reaction to tuberculin can be demonstrated in that proportion. This statement is confirmed by Councilman, who states that his autopsy statistics show that at least 17 per cent. of all who die have had this disease. But in spite of this prevalence the mortality from the ailment is lessening.

Rabies and tetanus are two diseases which until recently were thought to be incurable. Rabies can be suppressed by killing unowned dogs and by muzzling the rest. Upon this point the following statistics from England are very instructive. In 1887, 217 deaths occurred in Great Britain from rabies; in 1888, 160; in 1889, 312. A muzzling law was then enforced. In 1891 the death-rate from the disease fell to 129; in 1892, to 38. The muzzling ordinance was repealed, with the result that in 1894, 248 deaths occurred from mad dog bites, and 672 in 1895. Again muzzling was made compulsory. The death-rate once more diminished; in 1897 it was 151; in 1898, 17; in 1899, 9, and in 1900, none!

Pasteur's great discovery of a method of attenuating the virus of rabies and rendering those who have been bitten by mad dogs immune by rapidly accustoming them to stronger and stronger viruses has reduced the mortality from 16 to 0.33 per cent.

Tetanus, quite common in hospitals formerly, is now prevented by properly cleansing and protecting wounds. It has become so rare a disease that to-day most students do not see a case of it during their college course.

The nineteenth century will be known in the history of medicine as the century of experimental medicine, for it is in that field that the greatest discoveries of the age have been made. The names of Pasteur, Koch and Lister will forever be linked with it as representing its greatest achievements. But these achievements would not have been possible had not the physicist perfected the microscope, and had not Virchow and his pupils explored the field of cellular pathology to its farthest limits. Around Virchow's name as a banner will historians gather the achievements in medicine during the early and middle portions of the century, and around Pasteur's those of its close.

If our greatest needs conditioned the growth of knowledge, we could prophecy what will be the great field of research of the twentieth century, but history teaches us that our needs can often not be met until some sister science has grown, or new methods of experimenting have been devised. Therefore, the future must remain a blank to us. However, we are more apt to accomplish what is needed if the problems are kept clearly in mind. We greatly need more exact methods of clinical study, more accurate knowledge of the effect of remedial agents and procedures, but more than all else we need a knowledge of the changes which take place in the living tissues in health as well as in disease.

The anatomist has resolved the cellular structure of the body; the physiologist, the laws which govern the action of its organs and the chemic changes which are wrought upon its surfaces; the bacteriologist has discovered the parasites that infest, and often destroy it; the pathologist has described the anatomical changes which disease produces; the clinician has linked all these facts together and has discovered ways of seeing with the intellectual eye disturbances of physiologic function, of determining their cause, and of anticipating the anatomic changes which they will produce. But this does not satisfy us, we want a knowledge of the atomic and molecular structure of cells, of the changes which take place in the atoms and molecules in health and in disease, and of the effect of medicines and remedial procedures upon them. This knowledge chemistry must give us. I feel sure that, standing as we do at the beginning of a new century, expecting greater developments in it than in the last one, we are halting before new discoveries in chemistry, waiting for new methods of studying metabolism in microscopic portions of tissue. When this knowledge is vouchsafed, medicine will make another stride as great as was made when, by the perfected microscope, cellular pathology and bacteriology became possible.

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## THE VALUE OF CLINICAL MICROSCOPY, BACTERIOLOGY AND CHEMISTRY IN SURGICAL PRACTICE.

ORATION ON SURGERY BEFORE THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT ST. PAUL, MINN., JUNE 4-7, 1901.

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For many years, almost without exception, my predecessors in the address on surgery have devoted their labors to the exposition of some general or special subject in the domain of operative surgery, and while I would in no measure detract from the value of a thorough technical knowledge, we should not in our attention to the *art,* fall short of a proper appreciation of the *science* of surgery.

The experienced surgeon soon learns that it requires more than asepsis and the rapid and skilful performance of an operation to achieve the fullest measure of success; that although a thorough practical knowledge of regional anatomy is essential in the highest degree to the conscientious fulfilment of the professional obligation, it is equally important that there be called into requisition the invaluable aid which laboratory research alone can give in determining an accurate diagnosis; in indicating the most rational measures of treatment not only in the preparation of a patient for an operation, and in the selection of the safest anesthetic, but for the postoperative management of the case, and in removing as far as possible all doubts as to the prognosis.

*Chemical analysis* of the normal and abnormal secretions and excretions of the body, *clinical microscopy* and *bacteriology* should form a part of the educational requirement of every surgeon. I do not insist that the busy practitioner should attempt to master all the intricate processes of the laboratory, for this is only possible

to one who devotes years of patient labor in the fascinating department of science, but he should possess that practical knowledge of the chemistry of the body in health and disease, and of clinical microscopy and bacteriology which any diligent student, under a competent teacher, and in a properly equipped laboratory, should be able to acquire in a three months' course of study.

The instances are exceptional in practice where this knowledge can not be applied with great benefit to the patient, and with satisfaction to the surgeon. It is naturally of greatest value in the cases where no emergency for immediate operation exists, but its advantages are not wanting in these rarer cases, since it comes to his aid in the post-operative period.

Laboratory research, especially in the department of bacteriology, has placed not only the medical profession, but the entire human family under lasting obligations for the great benefits which have already been derived from its discoveries, and it may be safely said that it has done more than all else in accomplishing the revolution in surgical thought and practice which has taken place within the last two decades. One of the most notable illustrations of this great advance is the triumph which has been achieved over that once fatal disease, diphtheria.

The discovery by Klebs in 1883, and the isolation and cultivation in 1884 by Loeffler of the bacillus of diphtheria had its logical sequence in Behring's invaluable discovery (subsequently elaborated by Roux) that the blood of animals, especially that of the horse, rendered immune to diphtheria by inoculation, first with attenuated, and then with more virulent organisms, contained a substance capable of neutralizing the effects of the bacilli or their *toxin* when simultaneously or subsequently inoculated in non-protected animals.

This antitoxin serum in its dose of 10 c.c. of either the 600, 1000 or 1500 *immunizing units* is potent not only to arrest the destructive processes which formerly characterized this disease, but to prevent the infection of those who have been exposed to the contagion. How great is the importance of the knowledge that these bacilli are not only always present in the throat of a patient suffering from diphtheria, but that they are frequently found on the nasopharyngeal surfaces and tonsils of persons free from systemic infection, and as shown by Biggs, Parke and Beebe of New York, they may remain as long as five weeks after the membrane has been discharged from infected subjects, all of which points to the necessity for the isolation of the infected individual, and the careful disinfection of the throats of those who have been about diphtheria cases. (McFarland.)

The statistics of Professor Welch of Johns Hopkins University show that the ratio of mortality as a result of these discoveries has been reduced more than 55 per cent., and that in 115 cases, in which by reason of an early diagnosis, the treatment of serum antitoxin was begun within the first three days of the disease, the mortality was only 8.5 per cent. In 546 cases in which the remedy was begun after the third day of the disease, the mortality was 27.8 per cent., the ratio of mortality increasing with fatal precision as treatment was delayed.

To the surgeon, one of the most gratifying results of this great triumph of the laboratory is the fact that he is now rarely called upon to perform the operation of tracheotomy which was formerly distressingly frequent; nor to witness the sufferings associated with intubation of the larynx. A professional friend in the department of diseases of children informed me recently that whereas a few years ago he had from 10 to 20 intubations of the larynx on account of diphtheria in every month, he now, since the serum therapy was practiced, averaged only one or two.

I believe that what is true of this disease is true of all infectious processes, and that as our knowledge expands, a safe immunizing serum will be discovered for each special toxemia. Even now it would seem that this proposition is proved in other infections in which like diphtheria the pathogenic organisms are localized at the seat of infection, their toxic products alone entering the tissues through the circulation.

Of this type is the spirillum or "comma" bacillus discovered by Koch in 1884 in the intestinal contents of patients suffering from Asiatic cholera. These germs are not found in the deeper organs, the morbid changes in the tissues being due to their toxin. Immunizing injections of cholera cultures have already been experimentally and successfully employed, and promise rich results.

In this same group, bacteriologists claim a place for the diplococcus micrococcus lanceolatus of Fraenkel, the *pneumococcus*. Sternberg and Pasteur isolated this germ in 1880, and in 1884 Fraenkel demonstrated it as the prevailing organism found in the sputum of croupous pneumonia. Very late investigations give encouragement to the hope that serum therapy will soon be applied in the early arrest of the invasion of this most painful and fatal malady. Though pneumonia is strictly a medical disease, its early recognition as a surgical complication, or in view of an anticipated operation, is of very great importance. In a recent case which came under my observation at our laboratory, a specimen of sputum was sent in for bacteriological study. It was not blood-stained or "brick-dust," but yellowish-white in color like the ordinary sputum of bronchitis, and was supposed to be "grippe," or tuberculosis. The bacillus of tuberculosis was not present, but numerous micrococci lanceolati were discovered, and the laboratory diagnosis was made and confirmed within twenty-four hours by the well-recognized symptoms of consolidation with the "brick-dust" expectoration of this disease which supervened.

Tetanus toxemia, or "lock-jaw," the organism producing which was discovered by Nicolaier in 1894, and which for years has baffled the most strenuous efforts of the bacteriologist and clinician seems at last to be classified with the controlable infections. Professor Osler, in the last edition of his "Practice of Medicine," says the immunizing serum of Tizzoni has been successfully and encouragingly employed in doses of 2.25 grams for the first dose, and 0.6 grams for subsequent doses. Of 113 cases treated by this method 63 per cent. recovered.

It was not until the discovery of the bacillus of typhoid by Eberth in 1880 and the pure cultures of this germ secured by Gaffky in 1884, that there was made possible in the vast majority of cases of typhoid fever a positive diagnosis.

The demonstration of Widal that when 10 drops of a twenty-four hour bouillon culture of the bacilli typhi were added and thoroughly mixed with one or two drops of serum from the blood of a typhoid patient, the bacilli lose their motility and become agglutinated in masses, was one of the most brilliant advances in clinical bacteriology, and of great value in surgical diagnosis.

In many of the lesions of the abdominal viscera, and especially in those located in that battle-ground of surgery, the right iliac fossa, where the physical signs and the febrile movement may suggest either beginning typhoid, intestinal toxemia or a pyogenic sepsis, an early diagnosis may be determined in no other way than by the aid of the laboratory.

The practitioner who has not called into requisition the invaluable aid which bacteriology affords in the differentiation of those too often obscure intraperitoneal lesions, can not appreciate the satisfaction which this practical application affords. How often the safety of a patient hangs upon even a few hours time, and alas, how often this precious time is wasted in the uncertainties of diagnosis, when a resort to the demonstration of science, available to all, would have plainly indicated the proper method of procedure. We know too well the fallacy of relying upon the ordinary subjective symptoms, and even some of the objective symptoms afford us no accurate clue to the pathological process which may exist. The pulse and the temperature of commencing typhoid may well be mistaken for the pulse and temperature of an appendicitis. The pain and muscular resistance over the right iliac and the right abdominal region are in many instances practically alike. The nausea, the vomiting, and the general sense of uneasiness point neither directly to the one or to the other disease, but in a crucial test by Widal's reaction, with the blood count pointing to the presence or absence of a leucocytosis, the question is quickly settled. I have seen all the symptoms of appendicitis present in cases in which the blood count contradicted a pyogenic sepsis, and in which Widal's reaction told the story of typhoid. On the contrary, I have dealt with cases which ordinarily would have been most perplexing, in which all the symptoms of typhoid prevailed at a period when it was too early to recognize this disease by Widal's test, and a leucocytosis of from 15,000 to 21,000 proved at the earliest possible moment that the case was one for immediate operation.[1]

The discovery by Bollinger in 1877 made the diagnosis of that comparatively rare affection, actinomycosis, clear. In examining the yellow granules and accompanying pus discharged from an infected area he recognized the ray fungus or actinomyces. More recent researches have shown this fungus to be composed of bacilli in various stages of development, some being spores and some more perfectly developed organisms.

In another fortunately rare disease, malignant pustule, caused by the lodgment in an abrasion of the bacillus anthracis, we are indebted to the laboratory for our knowledge of its etiology. The anthrax bacillus discovered by Devaine in 1863 is not usually found in the blood except in the most malignant cases and in the last stages of fatal infection, but they can be demonstrated in the pustule of inoculation with the microscope or by cultures.

Roux and Chamberland, according to McFarland, have found that filtered cultures will produce immunity when properly introduced into animals, and we reasonably hope from these experiments that the serum treatment will before long be made applicable to infected human beings.

Another rare organism is the bacillus of malignant edema, which was discovered by Pasteur in 1875 and called by him *vibrion septique*. There are only two cases of this disease so far reported in man, and they were subjects of abnormally low resistance infected by the hypodermatic administration of a product of musk.

The bacillus pestis or bubonic plague organism was discovered in 1894 simultaneously by Yersin and Kitasato, in blood drawn from the finger tips of infected individuals, and in the broken-down lymph glands, and is described by Kitasato as greatly resembling the micro-organism of chicken cholera.

Bacteriological research has robbed the puerperal state of much of the anxiety and dread which formerly attended this ordeal, not only in preventing sepsis, but in recognizing the infections already established in time to prevent a general peritonitis or septicemia. The puerperal uterus or this organ when the seat of non-puerperal endometritis offers an ideal field for bacterial proliferation and invasion, since septic organisms entering the cavity may rapidly penetrate the endometrium and enter the lymph channels whence they pass into the venous sinuses and lymphatics of the pelvis.

Prof. W. R. Pryor, in a paper read before the New York State Medical Association in 1900, says, "puerperal sepsis if not rapidly fatal almost always produces lesions which seriously damage the pelvic organs or the viscera," and that "time is in this serious condition an important element." He recommends the early employment of the Döderlein tube, which, after sterilization, is passed into the uterus, being protected from contact until the fundus is reached. From the serum and débris thus obtained cultures are made, and the character of the operation—either curettage or hysterectomy—determined by the result of bacteriological investigation.

Not only does the laboratory come to our assistance in the diagnosis of certain obscure surgical lesions of the stomach, but it is still more valuable as an aid in arriving at the exact condition of the digestive functions of this organ, any derangement of which it is at times exceedingly important to correct in order to bring a patient into suitable condition to stand an operation. Thus it is important to determine in certain instances whether or not free hydrochloric acid exists in this organ, and while the total quantity poured into the stomach in the digestive process can not be accurately measured, clinical chemistry can closely estimate the total quantity found at a given moment during digestion. The acid-combining power of the proteids is known, and by certain tests it is feasible to estimate

1. Two of the cases occurring in my own work within the last few months may emphasize the great value of this technique.

A man of 30 was seized with quite severe pains which were confined to the region of the caecum and appendix. Upon palpation there was well marked resistance in the muscles immediately over these organs which was not observed in any other part of the abdominal wall. He had vomited on one or two occasions and the temperature ranged from 101 to 103 F. on the second day of this attack. The questions which were presented to the consultants were whether this temperature could be accounted for by intestinal toxemia, by appendicitis, or incipient typhoid. Although it was too early in the history of a typhoid case to encourage the belief that Widal's reaction would be present, this was made, and with negative results. On the following day, the symptoms still pointing toward typoid fever, a careful blood count was made and the leucocytes did not count over 7000. Assured from this that no dangerous pyogenic process was present, the idea of operation, even exploratory, was abandoned until the examination might be repeated on the succeeding day. A second careful blood count showed no leucocytosis, and on the fourth day, although Widal's reaction was still absent, the case was declared to be typhoid, and the subsequent history proved the diagnosis to be correct, since a few days later the reaction of typhoid was present, and the patient went through the regular stages of this fever.

In a second case, a male patient, 45 years of age, there was a typical typhoid tongue, temperature ranged from 100 to 103.5 F., tenderness and muscular resistance in the right iliac fossa and loose discharges from the bowels not unlike those frequently met with in typhoid. Widal's reaction was tried with negative results on three successive days. The blood count on the fifth day showed the leucocytes numbering 21,000, justifying a diagnosis which excluded typhoid, and confirmed the suspicion of pyogenic sepsis.

sufficiently close for a satisfactory diagnosis, the quantity of hydrochloric acid secreted. The small quantity of hydrochloric acid which combines with ingested inorganic elements is lost to gastric digestion, serving as it does its function in this process in the intestines. The far greater proportion combines with the proteids in satisfactory quantity, while any excess remains free in the stomach.

It is clear, as stated by Van Valzah and Nisbit, that the hydrochloric acid which combines with the proteids, and that which remains free, together roughly represent the activity of acid secretion. It is logical then to conclude that the quantity of hydrochloric acid loosely combined with albumin, together with the quantity remaining free in the contents withdrawn at the end of a particular time after eating a particular meal is a practical and clinical measure of the secretive activity of the peptic glands, and of the digestive work of the stomach. All of this is made sufficiently exact for practical purposes by the laboratory method of analysis after the simple test-breakfast of Ewald and Boas, or the more elaborate test-meal as recommended by Germain-Sée.[2]

The presence of lactic acid in the stomach contents as shown by Kelling's test[3] has a distinct diagnostic value, since it takes place in comparatively rare conditions, and since these conditions are seldom fulfilled except when carcinoma is present.

Lactic acid is dependent upon the presence of a special bacillus which thrives in the stomach under abnormal conditions, and is capable of converting glucose and lactose into lactic and carbonic acid. Boas goes so far as to insist that the persistent presence of lactic acid in noteworthy quantity during the digestion of a saucer of oatmeal, chemically free from lactic acid, is a specific sign of carcinoma of the stomach.

While the stomach may under varying conditions contain hosts of various bacteria in addition to the one just considered, there are only three others that are of importance as pathogenic organisms. First, the *sarcinæ ventriculi* (in their usual cube arrangement) which when found indicate insufficiency of the stomach muscle due to non-malignant obstruction. They are not found in carcinoma, since they perish in the presence of lactic acid, which, as we have just shown, is so common in malignant diseases of this organ.

Another micro-organism is the *yeast plant* also found when motor insufficiency exists. It may be present when the stomach contents are alkaline, neutral or acid.

The *bacillus geniculatus* is present under the same conditions which produce the lactic acid organism and is considered also to be suggestive of carcinoma.

When the presence of blood is suspected in the stomach and is not clearly defined by the microscope, chemistry comes to our aid in its recognition by the glacial acetic acid and ether test.[4]

A study of the discharges from the rectum is as yet of little value to the surgeon. Beyond the recognition of blood or pus, or cast-off cell elements in certain malignant neoplasms, there is but a single organism which is of real diagnostic value, namely, the ameba of dysentery, described by Lamb in 1859, which is a motile mass of protoplasm about 20 micromillimeters in diameter containing a single nucleus, and one or several vacuoles.

In the differentiation between the pathogenic organisms of specific and non-specific urethritis, microscopy and bacteriology are our only infallible guides. They teach us to eliminate the various bacteria found in the external genital and urinary passages, not bearing directly upon the etiology of urethritis, and to recognize distinctly the two forms of diplococcus, the gonococcus of Neisser, and the pseudo-diplococcus, which, while not morphologically different from the specific disease-producing organism, can be readily distinguished by special modes of staining as well as by cultures. In the daily routine of practice the exact nature of every suspicious urethral discharge should be subjected to careful scrutiny. The patient is entitled to the satisfaction of a negative result, which is easily demonstrated by staining the smear with methylene blue which clearly defines both organisms. If no cocci are revealed all anxiety is put at rest, but if there are present both varieties of these organisms, occupying as they do, the protoplasm of the pus corpuscles, a further research and the differentiation of the true form from the false diplococcus is imperative. The pseudo-coccus retains the violet color of the aniline-gentian water violet stain, while with careful laboratory technique the addition of the Bismarck brown brings out the gonococcus, the protoplasm of a single pus corpuscle showing at times both the blue stain of the pseudo-coccus and the diplococcus of Neisser which retains the brown color.[5]

2. The simplest method is that known as the test breakfast of Ewald and Boas in which on an empty stomach, usually in the early morning, a breakfast roll which contains about 5 gm. of proteids, 39 gm. of carbohydrates, 1/3 gm. of fat, 3/4 of a gm. of ash, and weighs 70 gm., and 350 c.c. of water (about a glass and a half) are taken. The bread should be thoroughly chewed and insalivated before being swallowed with the water. Usually in one hour's time a tube is introduced and the contents of the stomach withdrawn, usually by expression, or by siphonage and then filtered. An estimate of the acidity of the filtered contents is made by using a deci normal solution of potash or soda. The number of c.c. of this solution which will neutralize 100 c.c. of the filtered contents of the stomach expresses in figures the acidity of the fluid withdrawn. At the end of an hour, under approximately normal conditions of digestion, the total acidity should be 50 to 60, the hydrochloric acid albumin 30 to 40, the free hydrochloric acid 10 to 20. Any departure from this rule shows the abnormal absence or excess of this important agent.

The test meal of Germain-See is at times preferable, since it contains a larger quantity of proteids than the test breakfast of Ewald and Boas just given, but the method of procedure is practically the same. The presence of hydrochloric acid can be recognized by Gunzborg's reagent which is composed of:

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|---|---|
| Phloroglucin | 2 gr. |
| Vanillin | 1 gr. |
| Alcohol (absolute) | 30 gr. |

By spreading three or four drops of this reagent in a porcelain crucible, adding upon this the same quantity of the filtered contents, and slowly warming the crucible, after several seconds, a red color appears, and at times the red crystals of free hydrochloric acid are seen. Or the simpler method of employing a filtered paper which has been soaked in a 0.5 per cent alcoholic solution of dimethylamidazo-benzol and dried. This, in the presence of a trace of free hydrochloric acid turns distinctly red.

3. Kelling's test consists of 5 c.c. of the filtrate diluted to 50 c.c. with distilled water, to which one or two drops of official 5 per cent. solution of the perchlorid of iron are added. The yellowish-green tinge indicates the presence of lactic acid.

4. To 10 c.c. of the filtered contents add 3 c.c. of glacial acetic acid, and extract the coloring matter of the blood by shaking with 5 c.c. of ether. This turns the ether extract brown. When this discoloration does not take place there is no blood. To carry the demonstration further, to the brownish decanted ether extract, 10 drops of fresh tincture of guiac with a few drops of peroxid of hydrogen are added. After vigorously shaking, the mixture becomes clear blue if blood is present.

5. Dr. Jeffreys, the director of the laboratory in the New York Polyclinic employs the following differential stain:

Use Gram's stain followed by a contrast stain, such as Bismarck Brown. To prepare this stain proceed as follows:

Prepare aniline water by emulsifying 8 drops of aniline oil in about 10 cubic centimeters of water. Filter through a wet filter. To this aniline water, add about one-tenth its bulk of a saturated alcoholic solution of gentian violet. Stain smear with this "aniline water gentian violet" one or two minutes. Wash in warm water and then immerse in Gram's solution for one minute. The formula for this solution is as follows:

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|---|---|
| Iodin | 1 gram. |
| Iodid of potash | 2 grams. |
| Water | 300 c.c. |

Thoroughly wash in 95 per cent. alcohol until no more blue appears to wash out; then wash in water. Counterstain for one minute with a saturated solution of Bismarck brown in 3 per cent. aqueous solution of carbolic acid. Wash, dry, and mount in balsam. After this treatment, pseudo-gonococci should be stained violet, and gonococci should be brown.

Bearing in mind the fact that the gonococcus of Neisser may remain dormant in these passages for months, and, as maintained by some observers, for years, incapable of a further inoculation of the seemingly immunized patient, but capable of exciting the most acute and injurious inflammation in an innocent victim, it becomes a matter of the greatest importance to subject to most careful study the external genito-urinary passages where an infection has once existed. It has been demonstrated that an artificial urethritis as that which nitrate of silver produces will develop the dormant gonococci and cause their presence in the discharge.

Keys and Chetwood, in their excellent volume on venereal diseases, place well-deserved emphasis upon the value of the Gram test for recognizing these organisms. They properly insist that the diplococci should be of the recognized size and have within the protoplasm of the pus corpuscle their proper shape and arrangement and remain negative to Gram's staining. Even when cultures are made to demonstrate the specific organisms beyond all doubt, resort should still be had to the Gram staining as a final means of identification.

In cases of pyelitis, many of the difficulties which formerly stood in the way of differential diagnosis between renal calculi, simple pyogenic pyelitis or the presence of tubercular disease in this organ, are now overcome by the careful methods of the laboratory.

The presence of the bacilli of tuberculosis in one or both kidneys, even when they are exceedingly infrequent in the discharge, can be demonstrated in urine drawn by urethral catheterization, or by the more simple process of bladder segregation, when the suspected organisms are with other detritus thrown down by the centrifuge. The carbol-fuchsin stain decolorized with 5 per cent. sulphuric acid, brings out in brilliant red the outlines of the bacilli of tuberculosis, while the addition of 95 per cent. alcohol decolorizes the smegma bacillus, and thus eliminates this possible source of error to any but the more expert laboratory workers.[6]

In the effort to arrive at the general condition of a patient, the chemical, microscopical and bacteriological study of the urine is only second in importance to that of the blood, and when we consider the additional and exact information which can thus be obtained concerning any pathological process at any point in the urinary tract, the value of this analysis is very materially increased. A careful study of the urine is always indicated before determining what anesthetic it is safest to employ in the operation to be undertaken. When there is no important lesion of the heart, either in its valvular mechanism or in the blood supply and nutrition of its muscular walls, few surgeons, I hold, would employ ether in a protracted operation in which there was any suggestion of an acute nephritis, or in certain chronic forms of Bright's disease.

It is commendable practice to study through several days the quantity of urine passed, keeping accurate measurement, as well as making a qualitative analysis of that which is passed under conditions as near as possible similar to those to which the patient had been subjected before coming under observation, and then under conditions of rest, with proper alimentation and the free opening of the alimentary canal with calomel and Carlsbad salts (which agents in my experience most readily do away with fermentation and the production of gases in the bowels) to note the changes which occur in excretion.

The presence of oxyluria is in my opinion a contra-indication to a serious surgical operation, for the reason that it is pathognomonic of a disturbed nutrition due to insufficiency of the digestive fluids, and to fermentative processes in the intestinal tract.

An excess of *uric acid*, evident in the rosettes or rhombic or quadrate crystals (one-sixth objective), found in the urine *which has not been passed* more than three or four hours, has also a pathological significance scarcely less than that of oxyluria. It indicates a condition of defective nutrition which is part of the gouty or rheumatic diathesis, predisposes to chronic nephritis and is one of the symptoms of various acute inflammatory processes, of leukemia, cirrhosis of the liver, gastro-intestinal catarrh, and is often present in diabetes mellitus.

The chemistry and microscopy of the urine further informs us when ammoniacal decomposition of the urine is taking place within the bladder, suggesting insufficiency of this organ due to obstruction of the urethra or to atony of the bladder muscle. The large rhombic masses or stellate and cross-shaped rosettes of the triple phosphates only exist in these abnormal conditions of the bladder, and with the brownish colored thorn-like crystals or urate of ammonia are important aids to diagnosis.

The presence of epithelia from the various portions of the urinary or genito-urinary tract, of spermatozoa and various bacteria chiefly pyogenic in character, are further and well-recognized evidence of the value of the microscope in surgical diagnosis. In rarer instances, the hooklets of echinococcus, the embryos of filaria and the ova of hematobium Bilharzii are thus discovered in the urine. The writer has been able once to demonstrate the presence of the eggs of the last-named parasite in the bloody urine of a missionary in Africa where he had by long residence acquired the disease.

From the laboratory we are taught the well-known tests for albumin and sugar by which all sources of error may be eliminated in determining not only their presence but the quantitative analyses as well. The pathological conditions in which these substances are excreted are at times exceedingly grave, and it is of vital importance that their presence be discovered so that timely and judicious treatment may be instituted, or operation avoided which under such unfortunate conditions would be invariably fatal.[7]

In glycosuria the surgeon must know whether he is dealing with what Pavey designates as alimentary diabetes, in which the sugar eliminated by the urine is derived solely from the food as result of defective carbo-

6. The following process is used at the Polyclinic Laboratory in determining the presence of the tubercular bacillus in the urine and feces. The sediment is thrown down in the centrifuge, the smear dried slowly over the Bunsen burner and stained with carbol-fuchsin, which is then warmed over the Bunsen burner for three or four minutes without being dried. Then wash with water and decolorize with 5 per cent sulphuric acid, and again wash with water. After this add 95 per cent alcohol, which decolorizes the smegma bacillus and again wash in water, counterstain with Methylene blue, and dry. With the 1/12 oil immersion, the clusters of tubercular bacilli are readily seen.

7. To determine the presence of albumin, the nitric acid and heat test is classical and reliable. The simplest quantitative analysis as recommended by Hare is to fill the tube for the centrifuge to the 10 c.c. mark with urine, to which is added 2½ c.c. of potassium ferrocyanide solution (one part to ten) 1½ c.c. of acetic acid is also added. After mixing the fluids well the centrifuge is rotated until the albumin is precipitated. Every 1/10 c.c. mark on the tube represents 1 per cent. by bulk of albumin; that is, if the albumin extends up to the 3½ c.c. mark, the albumin amounts to 35 per cent.

Fehling's test in the demonstration of sugar and the quantitative analysis by means of yeast fermentation is another important laboratory process, without recourse to which the surgeon in a certain group of cases can not satisfactorily work.

hydrate assimilation; or whether that almost hopeless condition of composite diabetes in which abnormal disintegration is taking place, is present.

No less important is the estimate of the amount of urea which is being eliminated in a given quantity of urine. Employing the simple apparatus of Doremus with the sodium hypobromite solution[8] within a few minutes time, by the evolution of nitrogen gas in the presence of this, the amount of urea which is being carried off by the kidneys is readily demonstrable.

Non-parasitic chyluria (that form not due to the presence of filaria) is a rare affection, but it does exist, the fluid coagulating almost like jelly. In these conditions the microscope shows little that is pathological excepting some minute granules and oil droplets similar to those in milk. (Osler.)

The presence of blood in the urine, even in the most minute quantities, can in almost all cases be recognized by the microscope, and in those exceptional instances of hemoglobinuria in which the corpuscles have disappeared, the blood crystals of Teischmann may be recognized by the addition of a drop of strong acetic acid to a few drops of urine placed upon a watch glass. For this condition of blood pigment in the urine in which the blood-cells are absent, Osler suggests the name methemoglobin. He further states that when granular pigment or darkly-pigmented urates or fragments of blood-disks do not point clearly to the presence of blood, the two absorption bands of oxyhemoglobin, and more commonly, the three absorption bands of methemoglobin, of which the one in the red near G is characteristic, may be determined by the spectroscope. In general, however, the red and white blood corpuscles and filaments of clot are clearly recognizable with the one-sixth objective. Even without the microscope the presence of a very minute quantity of blood distributed through the urine can be recognized by Heller's test of adding a few c.c. of urine to a drop or two of strong solution of caustic soda, and boiling the mixture. If blood is present a bottle-green color is produced and the phosphates fall to the bottom of the test-tube in fine flakes, tinged brownish-red by the coloring matter of the blood. (Hare.)

When blood is found in the urine as a complication of papilloma of the bladder, particles of the broken-down tumor are very frequently found in the urine, and under the microscope the epithelial elements of this neoplasm are easily recognized and point clearly to the source of the hemorrhage. In hemorrhage from the kidney substance blood casts tell unmistakably of its source.

Chemistry demonstrates in the urine the presence of indican or indoxyl sulphate of potassium, a product resulting from the decomposition of albuminous products in the intestinal tract under the influence of bacteria. It is always suggestive of persistent constipation, is found in obstruction of the intestinal canal, carcinoma of the liver or stomach, in peritonitis, and is one of the symptoms of pernicious anemia. Urine containing this substance if treated with two or three times its volume of hydrochloric acid turns a violet color.

A careful analysis of the various casts found in the urine under different conditions is of inestimable value. Blood casts indicating not only hemorrhage from the kidney, but acute inflammatory conditions, and casts composed of pus corpuscles and studded with micrococci suggesting pyelonephritis, are most valuable results in laboratory research. It also tells us of the existence of granular casts which indicate a chronic or subacute inflammatory process in the substance of the kidney, which is accentuated when fatty casts are found, and that hyaline casts have a grave significance, as they are most frequently associated with chronic interstitial nephritis, and that the waxy variety is very common in chronic suppurative processes, usually in the bones and joints.

To-day, one of the most attractive subjects of laboratory research is the blood, and although hematology is practically in its infancy, many valuable discoveries have already been made, and in the proper study of a patient, a knowledge of the blood is as essential as that of the urine. It may throw no light upon many cases, but the reward will be tenfold in that particular instance where the diagnosis is made definite and clear. It is necessary to know the normal blood thoroughly by constant practice in order to recognize the abnormal changes which may be present in a given case, and I can think of no more useful way of spending the time not taken up by practice than by going over these important features of laboratory technique.

A knowledge of hematology enables the surgeon to detect any form of anemia and to determine whether it is a type of blood impoverishment which can be corrected, or whether it is of the graver or more pernicious forms which would either preclude an operation, or if this were absolutely necessary, would enable him to anounce to those entitled to information, the gravity of the outlook. In ordinary practice it is not always essential to differentiate between a pernicious anemia or a leukemia, or whether this latter condition is present in the lymphatic or splenic-myelogenous form, for the reason that all of these graver varieties call a halt to operative measures when these can be avoided. But the anemia which comes from malnutrition or malaria, or chlorosis, can be positively diagnosticated by a study of the blood.

The richness of the hemoglobin may in a fair measure be determined by the comparative color test of the blood in proper solution, as observed through von Fleischl's hemometer. When a low percentage of hemoglobin is present, it is an indication to avoid any operative shock until the impoverished condition of the blood can be corrected by proper nourishment, by rest, or by medication, when this is positively indicated. This also suggests the aid of the microscope in a further investigation as to the condition of the corpuscular elements of the blood. It is advised by Mikulicz never to operate when the register of the hemometer shows less than 35, and it would probably be safer to place the standard ten or fifteen points higher. Even in the simple forms of anemia, the degenerative changes in the blood elements, especially in the red cells, are easily recognized, and are full of valuable suggestions.

When the red cells are near the normal count (about 6,000,000 to the c.c.) they may still show certain characteristic deformities of individual cells (poikilocytosis) as well as variations in size in the presence of microcytes and macrocytes which appear in the field, and which are not seen in the normal blood. If the red cells are paler in color than normal, if they undergo crena-

8. Solution A, bromin and sodium bromite each 125 grams, water 1000 c.c. Solution B, sodium hydrate 400 grams, water 1000 c.c. Take of A and B each one part, water three parts. They are only to be mixed when needed for use. After the tube has been filled with the solution the pipette is filled with urine to the one c.c. and the point carefully introduced beyond the bend. The urine in the pipette is then expelled by compression of the bulb, care being taken not to force any air into the tube.

tion or breaking at the edges, and do not form rouleaux. it is evident that anemia is present.[9] The danger signals are still further in evidence when nucleated red cells (normoblasts) appear, and when there is added to these either the giant red cells (megaloblasts) or abnormally small microblasts, the condition is still more serious, since these corpuscles never exist in the normal blood.[10]

Hematology further enables us to differentiate with reasonable precision between chlorosis and pernicious anemia. In the former, though pale in color, the blood coagulates rapidly, while in the latter coagulation takes place slowly and the red corpuscles do not tend to the formation of rouleaux. The red cells in chlorosis (which are smaller and paler than normal and are frequently deformed) vary from 4,000,000 to 2,000,000, rarely falling as low as 1,000,000, while in pernicious anemia in which the average diameter of the red cells is increased, the count rarely rises above 1,000,000, and often below this. Cabot gives 1,000,000 as the average number per cubic millimeter. The white cells are also diminished, varying from 4200 to as low as 500, with lymphocytosis as a prominent feature. Megaloblasts are found in both conditions, but while plentiful in pernicious anemia are rarely noticed in the milder disease, chlorosis. The more megaloblasts in pernicious anemia, the more hopeless the case.

The surgeon would be extremely unfortunate to fail in the recognition of these often obscure lesions, and if possible to correct them before subjecting his patient to the severe ordeal of an operation. In the early recognition of septic processes—chiefly pyogenic—surgery can no longer disregard the value of the blood count, especially the estimation of the leucocytes.

The relative number of leucocytes in a given quantity of blood, or their proportion to the red corpuscles can be readily determined by the use of the Thoma-Zeiss apparatus which, is as well known, consists of two pipettes, one for the red and one for the white, with a well-outlined and peculiarly constructed slide or counting apparatus, and employed with the ordinary one-sixth laboratory objective. The differentiation by the use of the Daland hematocrit is not considered sufficiently exact to be satisfactory in the hands of the majority of hematologists. It is essential in making these differentiations to bear in mind the normal conditions that at the sea level the average number of red cells per cubic millimeter is 5,000,000 in men, and 4,500,000 in women, and 6,000,000 in the young and more vigorous adults, while the white cells average about 7500 per cubic millimeter for each sex.

Certain conditions not considered normal, influence the number of leucocytes since in the latter months of pregnancy they are moderately increased, and after parturition, and during the early weeks of lactation, a leucocytosis may be present, without pathological significance. After hemorrhage the leucocyte count is increased, and in diphtheria, erysipelas, trichiniasis, all extensive forms of endometritis and all acute pyogenic processes, leucocytosis exists except in those cases where the vitality of the individual has been overwhelmed by the severity of the septic process, under which condition the leucocytes no longer respond to the demand for the protection of the tissues, and are not present in the superficial blood in even normal proportions. It is probable that the application of this knowledge is more profitable at present in a study of the various lesions of the abdominal and thoracic organs. We know that in a certain proportion of cases of infection, temperature does not always indicate the increasing gravity of the lesion, while the degree of sepsis can be in great measure determined by the leucocyte count. In impaction of feces, extrauterine pregnancy, floating kidney, gall-stone colic, renal colic, ovarian neuralgia, intussusception, volvulus, internal hernia, twisted pedicle, etc., there is no leucocytosis unless complicated with an acute septic process. In abscess of the liver the leucocyte count ranges from 12,000 to 48,000, while there is a well-marked increase in all the septic pyogenic processes of the lungs and the pleura.

In osteomyelitis the leucocyte count ranges as a rule from 15,000 to 25,000, and at times higher. Since in the early stages of this disease it is at times difficult by subjective symptoms to differentiate between rheumatism or gout, the leucocyte count is invaluable in demonstrating at once the pyogenic process.

In that very rare disease, trichiniasis, the leucocytes register sometimes as high as 30,000, but the special feature is the presence of a large number of eosinophile cells, sometimes as high as 50 per cent., and in rare cases 67 per cent. of the total number of leucocytes being this form of corpuscle. A very considerable number of cases have been reported within the last year in which the diagnosis had been determined by the presence of eosinophiles.

Not only can the presence of the plasmodium malariæ be recognized in the red blood cells, but hematology is already able to determine between the different varieties of the malarial parasite. It has been shown that the tertian organism takes forty-eight hours to develop and undergo sporulation; the quartan seventy-two, while the estivo-autumnal passes through irregular phases, varying from forty-eight hours to several days.

We are enabled to demonstrate also the presence of the spirochete of relapsing fever discovered by Obermeier in 1873. Although the cork-screw or spiral threads are rarely seen unless the blood is examined in the height of the fever paroxysm, diplococcus-shaped bodies believed to be the spores of this organism are found in the periods of remission.

The time allotted has permitted hardly more than a suggestion of the methods of laboratory research, applicable in the daily routine of surgical practice. To me the moral of the lesson is that the *science* and *art* of surgery are inseparable.

9. The average red corpuscle (normal) is seven micro-millimeters in diameter.

10. A normoblast is a nucleated red cell not over 10 mm. in diameter, with a nucleus not more than one-half the diameter of the same.

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## THE PROGRESS AND TENDENCY OF HYGIENE AND SANITARY SCIENCE IN THE NINETEENTH CENTURY.

ORATION ON STATE MEDICINE BEFORE THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT ST. PAUL, MINN., JUNE 4-7, 1901.

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Hygiene is a department of medicine whose object is the preservation and promotion of health and deals, therefore, with all the factors likely to influence our physical welfare. It is not an independent science, but rather the application of the teachings of physiology,

chemistry, physics, meteorology, pathology, sociology, epidemiology and bacteriology to the maintenance of the health and life of individuals and communities. The subject is very properly divided into personal and public hygiene. In the former the doctrines are applied to individuals, in the latter to communities and states.

This branch of medicine has received such an impetus within the last few decades that many persons regard it of modern origin; such, however, is not the case, for on turning to early history we almost invariably find that the health of the population has been made a subject of legislation. Hygiene was practiced by the Egyptians, the old Indians and Hebrews, and a study of the habits of the primitive peoples shows that a desire to prevent disease is innate to all men.

The Greeks and Romans paid special attention to the physical culture of their youth; they also paid much attention to the water-supply, and Athens was provided with sewers at an early period of her history.

The teachings of Hippocrates, 400 B. C., doubtless bore many fruits, and whether it is true or not, as stated by Galen, that he ordered, during a pestilence at Athens, aromatic fumigation and large fires in the streets, we have at least his writings on air, water, soil, habitations and occupations and his views of local and seasonal influences on sporadic and epidemic diseases. In Homer's "Odyssey" reference is made to Ulysses purifying his house with burning sulphur, and Aristotle, in his "Politica," shows his sanitary acumen when he says: "The greatest influence upon health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."

The Romans, amidst their military operations, found time to construct the "Cloaca maxima" about 2400 years ago, which not only served for the removal of refuse, but also helped to drain many of the marshes, and constitutes the principal sewer of modern Rome. Aqueducts were made to cover miles upon miles of the surrounding plains, and their splendid ruins, many of which have been restored and are now used for their original purpose, attest the munificence and abundance with which the first of sanitary requisites was supplied to the Eternal City. It is stated that between 400 B. C. and 180 A. D. about 800 public baths were established, among them the "Thermæ Caracallæ," which alone would accommodate 3000 bathers at one time.

During the reign of the Cæsars attempts were made to drain the Pontine Marshes; sanitary officials and physicians to the poor were appointed and homes for poor girls and orphans were established. In the meantime the true spirit of Christianity asserted itself, and we read of the establishment of hospitals as early as the fourth century; these were speedily followed by infant and orphan asylums and homes for the poor and incurables. During the Middle Ages sanitation received a decided check, ignorant and brutal prejudices appear to have been the ruling spirits and for many reasons it was the most insanitary era in history.

### PESTS AND INSANITARY CONDITIONS OF THE MIDDLE AGES.

About this time most of the towns in Europe were built in a compact form, surrounded with walls; the streets were narrow and often winding for defensive purposes, shutting out light and air from the houses. The accumulation of filth was simply frightful. Stables and houses were close neighbors, human filth was thrown on the streets or manure heap. The dead were buried within the churchyards. Sewers and aqueducts having been permitted to fall into disuse, the inhabitants were compelled to resort to wells with polluted subsoil water. All the conditions were favorable for the spread of infectious diseases and in the Fourteenth Century alone the Oriental or bubonic plague, according to Hecker, carried off one-quarter of the population of Europe, or over twenty-five million victims.

Although this disease had been described as early as the third century, B. C., a lamentable state of ignorance is shown, when we remember that the majority of people regarded the plague as the dispensation of God's providence, an evidence of divine wrath, which they hoped to allay by all sorts of self-inflicted punishments, and the passion plays of Oberammergau and elsewhere originated about this time. Others accused the Jews of being the cause, and hundreds were burned at the stake until Pope Urban IV. placed them under his special protection. The Faculty of Paris attributed the epidemic to the conjunction of planets on a certain day in 1345, and the Faculty of Leipzig, with equal gravity, asserted that it was connected with earthquakes, unseen waves of air, inundations, etc. Venice, alone of all Europe took a sensible view of the matter, and for the first time in history, in 1348, appointed three guardians of public health, and the rules adopted later to isolate infected houses and districts for forty days has given rise to the term quarantine—from *quaranta giorni*.

The repeated invasion of the Oriental pest appears to have everywhere compelled some sanitary efforts and an imperial decree in 1426 required the appointment of city physicians throughout Germany, whose duty it was to adopt preventive measures. A city ordinance of Nürnberg in 1562 gives detailed directions as to the quality of bread, beer and wine offered for sale, the cleaning of streets and houses, the disposition of infected clothing and bedding, the fumigation with sulphur and straw of pest-houses, etc.

In 1685 Prussia established a central medical bureau, and appointments of health officers and privy medical counsellors were made, whose duties consisted in advising the men entrusted with the care of the government on matters relating to public health, and some of these titles are still in vogue in Europe. At the beginning of the eighteenth century, Prussia, upon being threatened with an invasion of the bubonic plague from Austria, created the "Collegium Sanitatis," popularly called the "Pest College," which was really the beginning of the present state board of health. In 1762 a sanitary council was established in every Prussian province, for the prevention of disease among man and animals. About the same time sanitary improvements in the way of widening streets for the purpose of supplying more air and light to the habitations, and better methods for the collection and removal of the wastes of human life were introduced, but, broadly speaking, at the close of the seventeenth century the habits of the people in Europe were generally filthy and in striking contrast to those observed among the most untutored savages of the present day.

In Madrid, we are told by Barcome, in his history of epidemics, "that not even a privy existed in 1760. It was customary to throw the ordure out of the windows at night, and it was removed by scavengers the next day. An ordinance having been issued by the king that every householder should build a privy, the people violently opposed it as an arbitrary proceeding, and the physicians remonstrated against it, alleging that the filth

absorbed the unwholesome particles of the air which otherwise would be taken into the human body. His majesty, however, with commendable zeal, persisted. but many of his citizens, in order to keep their food wholesome, erected privies close to their kitchen fireplaces."

With such unsanitary conditions we need scarcely be surprised that the mortality in towns was greater than their birth-rate and that the city population had to be recruited continually from the country. Toward the close of the eighteenth century many sanitary reforms were effected, however, especially in connection with infant and orphan asylums, and the management of schools and prisons. Of special importance is the brilliant discovery, or re-discovery, of vaccination by Jenner in 1796.

PROGRESS OF SANITATION IN THE NINETEENTH CENTURY.

The nineteenth century can boast of many advances in hygiene, particularly since the European invasion of cholera in 1830. The English towns which had been visited by this disease and those fearing similar scourges were willing to profit by their sad experience, and freely instituted sanitary reforms in the establishment of sewers, public water supplies, sanitary homes, etc.

The example of England was followed by all civilized nations, with similar results. The efforts of sanitation, as taught by Dr. Parkes, were demonstrated during the Crimean War and, as beautifuly expressed by Virchow during our Civil War, reached "the highest point in humane efforts ever attained in a great war," and we may proudly add have even been excelled during our late Spanish-American War.

PROGRESS OF SANITATION IN THE UNITED STATES.

While the people of the United States were not slow in adopting and originating sanitary measures of great value, our ideas of personal liberty, guaranteed to us by the Constitution, evidently prevented early legislation in matters of public health, for fear that such legislation might affect the personal habits of the citizen and lessen his freedom of action. Dr. Samuel W. Abbott, in his masterly exposition of "The Past and Present Condition of Public Hygiene and State Medicine in the United States," records, however, the gratifying fact that the early colonists recognized the need of preserving their records, which constitute the foundation stone of public hygiene, by enacting a law in 1639 "that there be records kept of the days of every marriage, birth and death of every person in this jurisdiction."

The importance of vital statistics is not fully appreciated at the present day, and yet, as remarked by Dr. Billings, "when we wish to study the healthfulness of a city, whether it is getting better or worse, or judge correctly the effect of certain sanitary laws, we should not only know the number of deaths, but also the amount and character of the prevalent disease, together with accurate information as to the number of population at different ages." It is a matter of regret, therefore, that even now only ten states, Connecticut, Delaware, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island and Vermont, have anything like a satisfactory system of vital statistics.

According to Abbott: "Up to the close of the eighteenth century and for several decades of the nineteenth, almost the only health legislation which was enacted in the different states in the Union consisted in a few laws relating to smallpox, since this pestilence was scarcely ever absent for many years at a time from any city or village, 'till after the general introduction of vaccination."

Dr. Waterhouse, of Cambridge, having secured a supply of vaccin lymph from Dr. Jenner, introduced vaccination in Boston in 1800, and Dr. Seaman in New York in 1801. In the same year President Jefferson received some virus from Dr. Waterhouse and was vaccinated by Dr. Grant, of Georgetown.

The invasion of cholera from Canada in 1832, and the epidemic of 1848-1849 here, as in Europe, aroused public interest in sanitary reforms, and the legislature of Massachusetts in 1849 appointed a commission to make a sanitary survey of the state, and we are told by Dr. Abbott "that this was done none too soon, for in that year the general sanitary condition of the state, as shown by the report of the commission, was deplorable and the death-rate unusually high. Only a few towns had then introduced public water-supplies. Cholera was beginning to appear again and dysentery and other infectious diseases were more destructive than they had been for many years."

HEALTH BOARDS.

New Orleans having lost 8000 victims of cholera in 1832, out of a population of about 55,000, and anxious to maintain a quarantine, secured the enactment of a law in 1855 for the establishment of a state board of health; in 1869 a more comprehensive board was established in Massachusetts, followed in 1870 by California, since which time nearly all of the states and territories—forty-two in number—have followed the example. *Pari passu* and in many instances preceding the establishment of state boards of health, sprung into existence our local boards of health, who adopted measures for the control and restriction of infectious diseases, for the abatement of local nuisances, for the sanitary inspection of the food-supply, schools, public buildings and institutions and tenements; street cleaning and removal of refuse, registration of vital statistics, supervision of burials and of municipal water-supply, sewerage, and sewage disposal, care of bathing establishments, regulation of offensive trades, etc.

EFFECTS OF VOLUNTARY ORGANIZATION ON SANITATION.

In September, 1872, the American Public Health Association was organized; in 1873, the Section on State Medicine of the AMERICAN MEDICAL ASSOCIATION was created; since then the American Climatological Association, the Sanitary Council of the Mississippi Valley, the American Sanitary Association, and the American Health Resort Association have been organized, and numbering, as they do, among their members some of the best minds in the profession, much good has been accomplished by these bodies, and the so-called "sanitary conventions" in molding public opinion and in framing and recommending health laws. There is no doubt, however, that all these organizations were stimulated into existence by the lofty tenets of our Code of Ethics,[1] in which the duties of the profession to the public were prescribed as early as 1847.

1. Article 1, paragraph 1, reads: As good Citizens, it is the duty of physicians to be ever vigilant for the welfare of the community and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene and legal medicine. It is their province to enlighten the public in regard to quarantine regulations, the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc., and in regard to measures for the prevention of epidemic and contagious diseases, and when pestilence prevails it is their duty to face the danger and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

Indeed, the American Medical Association, according to Dr. N. S. Davis, Sr., gave prominent attention to State Medicine and sanitation from its first meetings. At the second annual meeting, in 1849, standing committees were appointed on forensic medicine and on hygiene and reported annually on these topics and on meteorology, medical topography and epidemic diseases until 1860, when work in Sections was commenced. Dr. A. N. Bell, of New York, delivered the first address on State Medicine in general session of the Association in 1874, followed in 1875 by Dr. N. I. Bowditch, of Boston.[2] In this connection, I may say that there is need of reliable information on the geographical distribution of diseases like goiter, cretinism, etc., and county medical societies would contribute much to the common fund of knowledge by placing on record information of this character.

### NATIONAL BOARD OF HEALTH.

The cholera epidemic of 1872 and 1873 resulted in the appointment of a commission by Congress. This, together with the yellow fever epidemic of 1878 in the Southern States, affecting, according to Sternberg, over 74,000 persons, with 16,000 deaths, called attention to the necessity of some central sanitary organization. In March, 1878, Congress created a national board of health, whose duty it was to make investigations into the causes and means of prevention of contagious and infectious diseases, to indicate measures of national importance and to be a center of information for all matters relating to public health. For want of appropriation this important body has ceased to exist, and since 1883 the duties relating to international and interstate quarantine have been discharged by the Surgeon-General of the U. S. Marine-Hospital Service; his bureau, apart from the management of hospitals and stations for the care of sick and disabled seamen of the merchant marine, has also undertaken the collection and dissemination of mortality statistics and sanitary information, scientific investigation into the causes of disease, the physical examination of immigrants under the law, excluding those affected with contagious disease—service in the office of consuls at foreign ports to assure the accuracy of bills of health—and other miscellaneous duties. Since Congress has failed to act upon the President's repeated recommendation and the petition of numerous medical societies for the creation of a national health establishment, there is no good reason why the scope of duties and powers exercised by the Marine-Hospital Service should not be enlarged. Indeed, the last Congress appropriated sufficient money for the erection for a laboratory "for the investigation of infectious and contagious diseases and matters pertaining to the public health," which marks the beginning of a new era in national sanitary legislation.

### NATIONAL AND INTERNATIONAL QUARANTINE.

The question of an efficient system of national and international quarantine against Asiatic cholera, yellow fever, smallpox, typhoid fever, bubonic plague, leprosy has engaged the attention of sanitarians for years, especially since it become known that these diseases, particularly cholera, are generally carried along the highways of travel and commerce. Special efforts were made after the completion of the Suez canal and other rapid transit facilities, to guard Europe from the invasion of cholera from India, and since 1892 these efforts have been quite fruitful. At all events with efficient quarantine regulations involving inspection of vessels, passengers and crew, the detention of the sick and disinfection of all others, including personal effects, cargo and vessels, and proper notification, we have been enabled to keep these diseases from our shores, and if other nations do the same, they should be restricted to their original home. General Wyman's plan, as outlined in his address before the Pan-American Medical Congress, contemplates an international system of sanitation; while his proposition refers especially to yellow fever in the Western Hemisphere, it is equally applicable to the home of cholera and the oriental plague.

In the light of the recent researches by Reed and Carroll as to the transmission of yellow fever by means of mosquitoes, our views concerning quarantine and disinfection in this disease may have to be modified, but in the meantime the fight against the mosquitoes will go on; whether this will be effectually accomplished by insecticides and screens, or the more rational method of drainage of the soil, remains to be seen; in either event malarial countries will likewise be benefited.

### HAS HUMAN SUFFERING BEEN MITIGATED AND HUMAN LIFE GREATLY PROLONGED BY EFFORTS IN SANITATION?

Our answer is an emphatic "Yes." Professor Finkelnburg, of Bonn, estimates that the average length of human life in the sixteenth century was only between 18 and 20 years; at the close of the eighteenth, it was a little over 30 years, while to-day it is over 40 years; indeed, the span of life since 1880 has been lengthened about six years, as shown by statistics, in Mulhall's "Dictionary of Statistics" (4th edition, London, 1899).

The mortality of London between 1660 and 1678 was 80 per 1000 of inhabitants; from 1728 to 1780, 51 per 1000; from 1801 to 1835 it was still 29, while at the present time it averages betwen 17 and 19 per 1000.

### INFLUENCE OF SEWERS AND PUBLIC WATER-SUPPLIES.

Without underestimating the brilliant achievements of Jenner's discovery of vaccination in 1796, which as a preventive measure has saved millions of lives, no two factors have contributed so much to the general result as the improvement of the air we breathe and the water we drink. Indeed, we have ample evidence that, with the introduction of sewers and public water-supplies, the general mortality in numerous cities, during the past forty years, has been reduced fully one-half, the good effects being especially shown by a marked decrease in the number of cases of typhoid fever, diarrheal diseases and consumption. The vital statistics of Great Britain furnish the proof. The mortality of Salisbury within the last thirty years has been reduced from 40 to 16 per 1000; at Dover, from 28 to 14 per 1000; at Rugby, from 24 to 10 per 1000; at Croydon, from 28 to 15 per 1000, and at Matlock, from 18 to 9 per 1000.

The history of every sewered city shows a lessening of the typhoid death-rate subsequent to the construction of the sewers and that the typhoid rate is always higher in sections supplied with privy pits and box privies, than in the houses connected with sewers. In 1895 the speaker pointed out that typhoid prevailed in the city of Washington and suburbs in 1 of 81 houses with privies, and in only 1 in 149 of those connected with sewers, and the health officer of Nottingham has since then presented similar evidence. The only reasonable explanation for this is that sewers carry away the filth that otherwise would contaminate the soil and ground water, but even if there were no wells, these makeshifts are still a source of danger in so far as they favor the

2. Information kindly furnished by Drs. N. S. Davis, Sr., and Geo. H. Simmons, letter of April 18, 1901.

transmission of the infection by means of flies, nor can the possibility be ignored that the germs in leaky or overflowing boxes may reach the upper layer of the soil, and, with pulverized dust, gain access to the system. This conclusion, and the agency of flies in carrying the germs from box privies and other receptacles from typhoid stools to the food-supply, was enunciated in my report in 1895 and appears to have found ample support in the experience of the late Spanish-American War.

INFLUENCE OF IMPROVED WATER-SUPPLIES.

According to Dr. Abbott, the number of towns in the United States before 1800 having a public water-supply was only 16, supplying about 2.8 per cent. of the existing population; in 1850 there were only 83 public water-works, supplying about 10.6 per cent. of the census population; in 1897 the total number was 3196, supplying about 41.6 per cent. of the population.

A summary of the evidence on this subject reveals the significant fact that cities, both at home and abroad, in which there has been the most marked decrease in typhoid fever death-rate, are those in which a pure supply has been substituted for a pre-existing contaminated one. Thus, for example, the typhoid fever death-rate in Boston in 1846-1849 was still 17.4 per 10,000; in 1890-1892 it had fallen to 3.2 per 10,000, the city having in the meantime expended $25,000,000 on its water-supply. The typhoid fever death-rate in Chicago from 1890 to 1892 averaged 12.5 per 10,000. After improving the water-supply it fell with every step in improvement until last year it was only 1.9 per 10,000, a total reduction of 84.8 during the decade. The rate from this disease in Lawrence, Mass., for five years prior to 1893, was 12.7 per 10,000. After the establishment of sand filters, in September, 1893, the rate fell during the first twelve months to 5.2 per 10,000.

Munich was notorious for its excessive typhoid fever death-rate, it being 29 per 10,000 in 1856. With the introduction of a pure water-supply and improved sewer system it has fallen to less than 2 per 10,000. The experience of London, Berlin, Vienna, Albany and a host of other cities has been precisely the same.[3]

SEWAGE DISPOSAL AND RIVER POLLUTION.

When we remember that in 1896, 41 per cent. of our population lived in towns having public water-supplies, and only 28.7 per cent. in sewered towns, we fear that the municipal authorities have failed to recognize the necessity that a system of public sewerage must go hand in hand with the public water-supply, the neglect of which simply compels recourse to the various makeshifts for the collection and removal of excreta, and leads to soil pollution and all the other evils already referred to.

In view of the fact that self-purification of rivers is a slow and uncertain process, and that streams once polluted with excrementitious matter can not be considered a safe water-supply, it is high time for civilized communities to take steps toward removing the danger to be found in rivers, which are the sewers and at the same time the sources of public water-supplies.

We know, from statistics collected by the Marine-Hospital Service, that the towns and cities located on the banks of the Ohio, Potomac, Mississippi, Merrimac, Connecticut, Missouri, the Red, the Columbia and Wabash rivers show a marked prevalence of typhoid fever, confirming what has elsewhere been proved, that this disease, as also cholera, dysentery and diarrheal diseases can be carried from one town or city to another by means of water-courses. There were probably no fewer than 35,000 deaths caused by typhoid fever alone throughout the United States last year and, based upon an estimated mortality of 10 per cent., it is within reason to assume a yearly prevalence of 350,000 cases of this disease. The average duration of a case of typhoid fever is not less than thirty days. If we calculate that an average of $1 a day is expended for care, treatment and loss of work, and that the value of a human life is $5000, we have a total loss in the United States of $185,500,000 per annum, from one of the so-called preventable diseases. Reduce the prevalence of this single disease one-half, which has been accomplished in England, and the oft-recurring question: "How is it our fathers got along without these so-called modern improvements?" will be satisfactorily answered from an economic point of view.

One of the most pressing needs is an investigation into the pollution of water-supplies when such pollution affects or threatens to affect the sanitary condition of the people of more than one state, because the individual states are powerless to protect themselves against the misdeeds of their neighbors. Mr. Barthold's bill for the appointment of a river pollution commission was defeated; yet that same Congress appropriated $40,000 for the extermination of the gipsy moth. England enjoyed the benefit of such a commission as early as 1855, and, in order to prevent, remedy and remove the danger of polluted water-supplies, adopted a comprehensive system for the disposal of sewage and water filtration, the fruits of which have already been referred to.

No community or individual has a right to pollute streams used for public water-supplies any more than a man has to contaminate his neighbor's well. This principle is very well appreciated by some of the nations in Europe. Thus the inhabitants of a town in Belgium suffered from the effects of a river polluted by the French and the French Government not only compelled the offending town to dispose of its sewage by irrigation, but also granted a subsidy for this purpose.

In the interest of public health it is to be hoped that every state in the Union will take steps toward the prevention of river pollution, except when towns are located close to the sea, and no lower towns are obliged to use the water for drinking purposes.

In 1878 the British Government appointed a committee to inquire into the several methods of sewage disposal and concluded that it can be best and most cheaply disposed of by the process of land irrigation for agricultural purposes, but as this is not always practicable other modes of dealing with sewage have been proposed.

It is a gratifying fact that within the past ten or twelve years over 100 communities in the United States have established plants for the disposal of sewage. The first attempt was made in 1872 at the state insane asylum, Augusta, Me., since which time seventy-eight plants for the disposal by irrigation, and fifteen by chemical treatment have been established and over forty more projected.

PURE FOOD AND DRUG LEGISLATION.

The first movement toward securing comprehensive legislation against the adulteration of foods and drugs

3. In 25 cities using unfiltered water the average typhoid death-rate is still 7.7 per 10,000; in 5 American cities supplied with water filtered by the American process, the rate is 5.5, against a rate of 1.1 per 10,000 in cities supplied with water filtered by the natural or English method. The average rate of 5 cities in Europe supplied with mountain springs or deep wells from unpolluted sources is only 0.7 per 10,000.

in this country was made in 1879. This is all the more surprising because Dr. Mann, in his "Medical Sketches of 1812," remarks that "the bread on the Niagara was made of damaged flour, such as was either not nutritious or absolutely deleterious." It was believed also that the flour contained in some instances an earthy substance, and that this adulterating substance was plaster-of-paris. Again, during the Civil War, as early as the winter of 1861-62, an extract of coffee furnished the troops in the vicinity of Alexandria produced nausea and vomiting, and subsequently a government contractor, for having practiced food adulteration, was sentenced to a protracted imprisonment.

Instances, therefore, were not wanting pointing to the necessity of such laws; nevertheless, it was not until 1881 that three states, New Jersey, New York and Michigan passed laws to prevent the adulteration of food and drugs. The law in New York commenced in the summer of 1882. At the close of the year 286 samples of food and drugs had been submitted to the public analyst for examination, of which 194 had been reported on. Of 119 samples of food, 50 were found adulterated; while of 75 samples of drugs, 32 were adulterated.

Since 1883 quite a number of states have enacted similar laws, but I regret to say that in spite of the absolute necessity for national legislation, which has been agitated ever since 1892, so far every bill presented to Congress has failed to become a law, and food adulterated in one state can be taken to another and sold. It would lead me entirely too far even to touch upon all the frauds which are daily perpetrated. Some adulterations are harmful, others are not. I will simply refer to a very universal article of food, viz., milk. New York City obtains its milk-supply from five states, and amounted in 1896 to nearly 729,000 quarts a day. Analysis of the milk sold some years ago showed an average dilution with 33 per cent. of water. The state inspector found 12 per cent. water added and 20 per cent. of cream removed, the fraud amounting to over $10,000 a day. The results in St. Louis, Chicago, and elsewhere were similar, and indicated the desirability of stringent laws to protect the pocket of the consumer, but when we remember the frightful infantile mortality, and the fact that the speaker has recently presented his conclusions, based upon 195 epidemics of typhoid fever, 99 of scarlet fever and 36 of diphtheria and that 52 of these outbreaks occurred in this country since 1882, we see at once that the milk traffic should be under strict sanitary control.[4]

### LAWS REGULATING THE SALE OF DRUGS AND POISONS.

Forty-two states and territories have enacted laws to regulate the sale of poisons, but a careful study shows that they should be amended, and greater restriction placed on the sale of poisons generally. A recent investigation by a committee of the Medical and Surgical Society into the extent of the opium and drug habit in the District of Columbia developed some interesting facts, and led to the conclusion that one class of subjects have developed the opium habit by the use of the milder preparation of opium and some of the various proprietary or secret remedies commonly employed as domestic remedies, such as paregoric, McMunn's elixir, chlorodyne, blackdrop, soothing syrup, diarrhea mixtures, pain-killers, etc. Those of another class have evidently acquired the habit by the constant use of prescriptions containing opium, or its preparations, for the relief of pain, the individuals being at first quite unconscious of the enslaving nature of the drug. Still another class of persons belong to the moral degenerates of fast men and women who have acquired the habit by contact with opium habitues, including opium smokers, and through solicitation, invitation and persuasion have fallen victims to the vice. Since the opium habit is often established by the unauthorized and indiscriminate renewal of prescriptions containing opiates, the New York legislature very wisely enacted, in 1886, a law that no pharmacist shall refill more than once prescriptions containing opium or morphine, or preparations of either, in which the dose of opium shall exceed ¼ grain, or morphine 1/20 grain, except with the verbal or written order of a physician.

It is clearly the duty of the state to close opium dens and restrict the sale of poisons, and in regard to the sale of patent and proprietary medicines containing poisonous drugs, the contents should be expressed on the label and the word poison added.

### PATENT AND PROPRIETARY MEDICINES.

By the term patent medicine, as properly employed in this country, England and Europe generally, it must be understood that the composition is known and can be seen at the patent office. The proprietary medicine is a secret preparation protected by a trade mark in this country, and hence preferred by the owner, but both are vaguely termed by the public patent medicines. Up to Dec. 10, 1900, the United States patent office had issued patents on the following:[5] disinfectants, 321; extracts, 250; hair dyes and tonics, 48; insecticides, 180; internal remedies, 376; plasters, 56; topical remedies, 371; veterinary, 78. Trade marks:[6] drugs and chemicals, 319; medical compounds, 5974, and increasing at the rate of about 250 a year.

The proprietary medicines are subject to the control of the state authorities, and if containing alcohol in sufficient quantity to be intoxicants are subject to internal revenue laws; but so far as my knowledge extends, little or nothing has been done in this country and in England to control the sale of secret remedies. Dr. G. Danford Thomas, Coroner of London and Middlesex, before the International Congress of Hygiene, in 1891, very justly urged that all proprietary medicines should be under the patent laws, because the composition is at least disclosed; he would abolish licenses to sell them and confine the sale to chemists and druggists only. In these matters we could certainly profit by the example of the Japanese, Italian, French and German laws. In the interest of public health the profession should demand adequate legislation; as it is now, hundreds of these proprietary preparations, the composition of which need not even be disclosed to the patent office, are advertised in medical journals.

### INDUSTRIAL HYGIENE.

The relations of occupation to health and life were studied as early as 1700 by Ramazzini, an Italian physician, and since then numerous monographs have appeared. We know to-day that persons habitually engaged in hard work, especially in factories and indoors, present a higher mortality than persons more favorably situated, and that the character of occupations influ-

4. The results achieved by the health officers of every large city, notably by Reynolds, of Chicago, Wende, of Buffalo, and Woodward, of Washington, in the reduction of infantile mortality, amounting in some instances to over 50 per cent., show the advantages of pure food legislation.

5. Information kindly furnished by Dr. J. B. Littlewood, of the Patent Office.

6. Information collected from files of the U. S. Patent Office, by the author.

ences, to a great extent, not only the average expectation of life, but also the prevalence of certain diseases. We know, for example, that tuberculosis is much more frequent among persons engaged in dust-inhaling occupations, and that the sharp angular particles of iron and stone dust are more liable to produce lesions of the respiratory mucosa than coal, flour, grain and tobacco dust. We know, too, that certain establishments, like slaughter-houses, glue, soap and candle factories, chemical factories, etc., are more or less productive of noxious and offensive gases, and that workers in lead, mercury, arsenic, phosphorus, poisonous dyes, etc., suffer especially from the injurious effects, and that other occupations, such as mining, railroading and contact with moving machinery, involve special danger to life and limb.

For all these reasons the laboring classes need special protection, and in order to render this efficient, it must be provided for by the enactment and enforcement of suitable laws. In 1864, 1867 and 1870 England enacted the so-called factory laws. According to Miss S. S. Whittlelsey's "Essay on Massachusetts Labor Legislation," child labor, here as in England, was the first aspect to receive attention in legislation as early as 1836. The first law as regards safety and sanitation was enacted in that state in 1877, since which time, from information kindly furnished by the Hon. Carroll D. Wright, of the U. S. Department of Labor, thirty-two states have enacted similar laws, including legislation requiring seats to be furnished saleswomen in stores and shops. Indeed, in some of the states the latter requirement is the only sanitary regulation. As a result of these laws, the majority of which were enacted during the last decade, commendable progress has been made in the way of ventilation, heating, lighting, removal of dust and injurious gases, means of escape in case of fire and prevention of injuries by moving machinery.

It is quite true there are other factors which affect the health and longevity of wage-earners adversely. So, for instance, unsanitary dwellings, faulty nutrition—the results of badly prepared food and cold lunches—can not fail to lower the power of resistance to disease, especially when the individual, in consequence of these very causes, has also become a victim of the alcohol habit.

### SANITARY DWELLINGS FOR WAGE-EARNERS.

No field affords better opportunity for philanthropic work than the erection of sanitary homes for wage-earners at reasonable rentals, the encouragement of cookery schools, the establishment of sanitary lodgings, model eating-houses and other betterments of industrial conditions.

The vital statistics of London show that the mortality in the improved dwellings for wage-earners is far below the general mortality of the city, the difference being specially marked in the infantile mortality; the general average during the five years ending December, 1890, was 153 per 1000, while in the "George Peabody" and the "Metropolitan dwellings" it was only 136 and 121 respectively.[7]

7. At a recent meeting of the American Social Science Association, held in Washington, April 18, 1901, Mr. J. H. Patterson, Dayton, Ohio, read a paper on factory sanitation and described a large manufacturing plant of which he is the head, and their close adherence to the principles of hygiene and the uplifting of mankind. The interior of the factory is painted in cheerful colors, extra windows were made to give light, forced ventilation to afford plenty of fresh air, and all dust and acid fumes are carried away by exhaust fans. Bath-rooms and well-furnished toilet-rooms are on all the floors. All seats have backs. Clean aprons are furnished by the company, and a dining-room where hot meals are served and a course in domestic economy is conducted. The grounds around the factory, and the houses of the employees, are healthful and attractive. "We have demonstrated," said Mr. Patterson, "that this system pays the employee, the manufacturer and the buyer: in the health of one, profit of the second, and the improved quality of the product purchased by the third." Bulletin No. 31, Department of Labor, November, 1900, contains an article on betterment of industrial conditions, showing what has elsewhere been accomplished, every effort being in the right direction, except that free medical attendance is being furnished by certain companies, involving a contract system with physicians, which ought never to gain a foothold on American soil, because it has proved a bane to the profession elsewhere.

### RURAL HYGIENE.

When we consider the fact that over 70 per cent. of our population reside in rural districts, that the "bone and sinew" of these are engaged in agricultural pursuits, and that they do not enjoy the benefits of enforced sanitation by local health boards, we see at once the desirability of the family physician extending useful suggestions on healthful building sites and homes, disposal of house wastes, the importance of a pure water-supply, wholesome and properly cooked food, etc. As it is now, the diet is faulty, especially the hot biscuits, greasy fried dishes, while wells and privies are often dangerous neighbors. The undue prevalence of typhoid fever in rural districts could be materially checked by disinfecting the stools with three times the volume of boiling water and the adoption of the earth closet system. This is all the more important since infection is often spread through the milk-supply, and many of our urban population contract disease in the country during the summer months. While prompt disinfection of the excreta is the only rational method, we should also make an effort to get rid of the flies by prompt disposal of the horse manure in which they breed, the abandonment of open privies and surface pollution, removal of garbage and other fly-breeding matter.

### SANITATION OF PRISONS.

Most commendable progress has been made in the construction and management of modern prisons. The mortality at the close of the last century, among prisoners in some of the French prisons, was 250 per 1000; between 1840 and 1849 it was still 80.2 per 1000, at St. Gallen, while to-day it is less than 30 per 1000. Tuberculosis, typhoid fever, diarrhea, croupous pneumonia and mental disorders are the most prevalent diseases, but much will be done in future to reduce the excessive mortality by improved lighting, heating, ventilation, good food, bathing facilities, etc.

In some of the damp, dark and gloomy prisons of Germany over 50 per cent. of all the deaths are from consumption. In the Mill-Bank prison of London, from 1825 to 1842, were 175 deaths, of which no less than 75 were due to tuberculosis. Besides, 90 prisoners were set free on account of being hopelessly afflicted with pulmonary tuberculosis. In the Illinois State Prison, at Joliet, during the year 1895, 39 deaths were reported from consumption; in 1900 only 8 occurred. This decrease appears to be due directly to segregation of tuberculous subjects.

### HOSPITALS, SANITARIA AND DISPENSARIES.

Perhaps no country in the world can boast of better hospital facilities than our own. Indeed, many of our institutions are perfect in sanitary architecture and equipment. There are in the United States no less than 1776 hospitals, including 35 special hospitals for consumptives; 308 sanitaria; 213 dispensaries, and over 8000 mineral springs, of which 727 are health resorts. Un-

fortunately the liberality with which medical charities have been supplied has given rise to shameful abuses, and persons who would shrink from seeking charity in any other form have abused the privileges offered by hospitals and dispensaries.

*Correction of Abuses.*—In 1896, speaking of the city of Washington, no fewer than 21 per cent. of the population received free medical treatment; the medical association in 1897 adopted certain rules compelling the attending staff of hospitals and dispensaries to require evidence of dependency; as a result of this system there has been a gradual but positive decrease in the number of charity patients, amounting to over 9000 last year. It is the simplest, most just and effective remedy for the correction of this evil.

### SCHOOL HYGIENE.

During the year ending June 30, 1900, there were 15,341,220 children enrolled in the common schools of our country. When we consider that the mental and physical vigor of a nation depends largely on the environments of childhood and youth, it seems strange that up to within forty years little or no attention should have been paid to the hygiene of schools. The occurrence of so-called school diseases is not surprising when we reflect that children, on beginning school, enter upon a new life and environment. Up to this time they have been allowed to run and play in the open air, exercise the body and senses, without restraint, but now without a period of transition they are obliged to remain for several hours a day in close and sometimes unsanitary school rooms, taxing their minds and straining their eyes for near objects. Experience teaches and statistics confirm the conclusion, that quite a number of children suffer from certain physical defects and diseases, which because rarely observed before the school period, may be justly attributed to school environments. Among the most common of these affections are myopia, lateral curvature of the spine, dyspepsia, anemia, muscular debility, headache and nose-bleed, nervous affections and tuberculosis. Ware, of our own country, as early as 1812 called attention to the fact that myopia was most frequently developed in the school room, and during the past forty years we have been enlightened as to the cause of this and other defects, and many excellent monographs have been written on the construction of school buildings, arrangement of recitation-rooms, as regards light, ventilation, adjustable seats and desks, proper type for text-books and more rational methods of mental and physical training. This, together with a commendable zeal on the part of the authorities to correct existing evils, has resulted in many reforms, the fruits of which are already apparent in a decrease of the diseases referred to.

*Medical Inspection.*—I can not enter into details concerning the prevention of the spread of infectious diseases among school children, but desire to emphasize the necessity of medical inspectors, whose duty it should be to visit the schools, examine pupils, and give such directions as will reduce the dangers of spreading contagious diseases to a minimum; they should also make sanitary inspection of the buildings and present such recommendations as are necessary in the interest of the health of both the pupils and teachers, and as the physicians were perhaps the first to recognize the fact that "the system of education should be made to fit the child, not the child the system," the teachers may derive much aid from such consultations; among the cities that have inaugurated such inspections since 1894 are Boston, New York, Brooklyn, Chicago, Milwaukee, Louisville, St. Louis, Philadelphia, Jersey City, Brookline, Mass,, Buffalo, Minneapolis and Salt Lake City, and they have proved of inestimable value.

### SMALLPOX AND COMPULSORY VACCINATION.

In this connection, attention is invited to the undue prevalence of smallpox in the United States; the total number of cases reported to the U. S. Marine-Hospital Service during the past fall and winter, up to March 29, was 11,964, as compared with 7279 cases for the corresponding period of the preceding year, and it is doubtless due to neglect in vaccination. Dr. Abbott estimates the vaccinated portion of the inhabitants of the United States at not far from 90 per cent., and the revaccinated portion at probably 50 per cent. With the introduction of glycerinated animal lymph every vestige of prejudice against vaccination should cease, and compulsory laws should be enacted in every state, so that smallpox here, as in the German army, may become practically unknown. While quite a number of states have enacted laws requiring that unvaccinated children shall not be admitted to the public schools, it is believed that these laws are not rigidly enforced.

### VENEREAL DISEASES.

A careful perusal of Dr. Prince A. Morrow's article on the "Prophylaxis of Venereal Diseases" (*Phila. Med. Jour.*, April 6, 1901) should stimulate our efforts in the prevention of diseases, which affect not only the offender, but innocent wives, the offspring and not infrequently even the medical attendant. According to Fournier, one-seventh of the population of Paris is syphilitic, and Morrow, from statistics gathered in New York, believes it is quite possible that Fournier's figures, with some modification, may apply to New York. Neisser holds that gonorrhea is, with the exception of perhaps measles, the most widespread of all diseases. Other German authorities have computed that fully three-quarters of the adult male population and one-sixth or more of the adult females have contracted gonorrhea; that 80 per cent. of all deaths from disease of the uterus and its adnexes are of gonorrheal origin, while blenorrhea neonatorum contributes a contingent to our asylums for the blind estimated at from 10 to 20 per cent.—from 40 to 60 per cent. before the Credé method was instituted—not to mention the destructive effects on the procreative functions. Dr. S. M. Burnett, of Georgetown University, believes that 15,000 of the 50,000 blind persons in the United States lost their sight from this cause, which according to his calculation involves a financial loss to the commonwealth of seven and one-half millions annually.

The measures which have been proposed for the control of the social evil and the prevention of its consequences are numerous enough, but not so easy of practical application. On the whole I believe the remedy lies in public education, and the task as usual falls on the medical profession, especially the trusted family physician. Public lecturers on the purity of man commit a serious mistake, however, when they picture the consequences of the social evil, without offering a suitable remedy. We should make a strong plea in favor of continence, and tell our young men that while the sexual passion is very strong it can be accelerated or delayed, excited or lowered by the influence of the will. We should assure them that by the cultivation of pure thought, removal of temptation, normal, mental and vigorous physical exercise, continence may not only

become possible, but easy. And we can hardly go astray if we follow Dr. Parkes in advising a pure young man to make his home, after the age of 21, and thus secure himself both from the temptations and expenses of bachelorhood.

### THE MANAGEMENT AND CONTROL OF INFECTIOUS DISEASES.

It is the field of infectious diseases where preventive medicine has and doubtless will continue to achieve its greatest triumphs, and there is ample room, when we consider that during the census year of 1890 there were not less than 102,199 deaths from consumption, 74,496 from pneumonia, 74,711 from diarrheal diseases, 41,677 from diphtheria, and 25,058 from typhoid fever. In spite of centuries of groping after facts, we knew nothing of the real nature of infectious diseases until the middle of the present century, and even twenty-five years ago the text-books still discussed the subject of miasma and contagia, whose nature had never been demonstrated to our senses. With improved microscopic lenses and the development of bacteriology, more especially the discovery of the anthrax bacillus by Davaine, Pollender and Brauell (1849-1855), scientific medicine had its birth, and to-day we know that such diseases as tuberculosis, glanders, leprosy, cholera, erysipelas, wound and puerperal infections, gonorrhea, pneumonia, cerebrospinal meningitis, typhoid fever, diphtheria, malaria, influenza, dysentery, bubonic plague, and possibly carcinoma are caused by living organisms, capable of reproduction within and without the body, and this is a strong argument in favor of the microbic nature of other infectious diseases, in which the specific organism has not yet been isolated.

The eradication of preventable diseases is the highest aim of scientific medicine to-day. The public should be made familiar with the nature and causes of infectious diseases, and be taught that many are a source of danger, against which it is entitled to be warned by proper notification through the health officer. This notification should be made compulsory in cholera, yellow fever, smallpox, chicken-pox, typhus and typhoid fever, diphtheria and membranous croup, scarlet fever, tuberculosis, cerebrospinal meningitis, leprosy, glanders, bubonic plague, whooping-cough and measles. And let me say that a prompt and correct diagnosis is the first and most important step in preventive measures. The health department should have competent medical inspectors and a clinical laboratory for the verification of the diagnosis, and have the power in certain of these diseases to display warning signs, enforce isolation and disinfection, and to take such other steps in the way of immunizing agents as may be deemed necessary to limit their spread.

Isolation, to be effective, should extend to all persons who have come in intimate contact with the patient, but this is rarely enforced except in smallpox, in the case of the attending physician, and the wage-earners of the family, but it is clearly their duty to take special precautions in the way of clothing and personal disinfection. Matters of this kind ought never to be left to the discretion of the family, nor the attending physicians, for even members of the profession often entertain widely opposing opinions on the subject of quarantine and disinfection, but the principles which ought to be carried out, apart from being a matter of conscience, should be accepted in a practical sense and embodied in effective laws.

*Disinfection.*—Scientific disinfection had its inception with the labors of Koch and Sternberg some twenty years ago. Although, as we have seen, certain physical and chemical agents were used empirically for ages, now we know from laboratory experiments that they are effective, because they destroy the vitality of the germs. We also know that, in most of the contagious diseases, the infective matter is given off by the patient chiefly through the secretions and excretions, and it is evident that disinfection to be of value must be directed to these and all the media with which the patient has come in contact.

### "IF CERTAIN DISEASES ARE PREVENTABLE, WHY ARE THEY NOT PREVENTED?"

My answer is, that while every scientific physician familiar with biologic research knows full well that if the methods of prevention recommended by sanitarians, including the prompt disinfection of the dejecta of every typhoid fever patient, the expectoration and excretions of diphtheria and tuberculosis patients, for example, were adopted, these diseases would be reduced to a minimum and probably eradicated in the course of a few years. The facts are, these recommendations have not been generally adopted, because the knowledge gained by experimental medicine is not sufficiently diffused. Nor are we responsible for the fact that so many of our states still permit every charlatan to practice one of the most difficult and responsible of all professions without a uniform and rigid system of examination. However, we owe it to ourselves and to humanity to take positive steps in behalf of higher medical education and laws regulating the practice of medicine. So long as we permit the existence of irregular and incompetent practitioners, so long will the public be deceived, and so long as we tolerate the exponents of so-called "Christian Science," osteopathy, and other quacks, infectious diseases will be spread as the result of ignorance and neglect. A strong organization, such as is proposed for the AMERICAN MEDICAL ASSOCIATION and the various state medical societies will speedily accomplish this and other reforms.

[During the year 1900 there were 119 regular medical schools in this country, with 1079 female and 21,673 male students; of these 22,752 students, 2327, or about 10 per cent., had degrees of A.B. or B.L. Number of graduates last year, 4720. The homeopathic schools had 1584 male and 325 female students, and the eclectics 500 male and 52 female students. The number of registered physicians in the United States in 1900 shows an average for the whole of about 1 to 636 inhabitants. In 31 states and territories, according to D. McIntyre, an examination is required, in 9 certain diplomas are accepted, all others must be examined; in 5 only a diploma is required, and in 5 the laws practically impose no restriction. In 1900 there were 150 national and state medical societies, 1097 county and local medical societies, and 282 medical journals, of which 28 were exclusively devoted to hygiene and public health.]

### FORECAST OF THE RESULT OF THE CENSUS WORK UPON THE MORTALITY STATISTICS.

Notwithstanding these and other disadvantages in the way of defective sanitary legislation, the American medical profession has reason to be proud of its work in the century's progress of hygiene and preventive medicine. It may be truly said that every hospital or other medical charity owes its foundation and success to the activities of the medical profession. Nay, every law inscribed on the statute books, in the interest of public health in this and other countries is the work of our noble profession. Acting upon the lofty principle that the education and betterment of the people in sanitation is not less humane than the healing of the

sick, the American medical profession has filled the measures of its philanthrophy by advocating laws to "regulate the health and physical well-being of communities," and thereby lessen its own income, but the results obtained during the last ten years are sufficient recompense. By the courtesy of Mr. Wm. A. King, Chief Statiscian of the U. S. Census Bureau, I am enabled to give you a forecast of the result of the work upon the mortality statistics at the close of the century:

The mortality returns for the twelfth census, which relate to the year beginning June 1, 1899, and ending May 31, 1900, have not yet been tabulated in full, but sufficient progress has been made to permit a comparison of the preliminary results with the figures for 1890 for a portion of the country.

Considering these results for these states in which the returns were secured from registration records in both 1890 and 1900, there appears to have been an absolute decrease in the general death-rate of about 1.5 per 1000 of population. This decrease seems to be most marked in the rates due to scarlet fever, whooping-cough, diphtheria and croup (combined), typhoid fever, malarial fever, consumption, diarrheal diseases, and diseases of the nervous system, the decrease in the mortality from diphtheria and croup amounting to more than 50 per cent. On the other hand, the rates due to carcinoma and tumor (combined), Bright's disease, heart disease and dropsy (combined), and pneumonia are apparently greater than in 1890, the increase being most marked in case of Bright's disease, carcinoma and tumor, and pneumonia.

The death-rate by age periods in the registration states has not yet been computed as the population figures are not yet available, but the effect of the decrease in the rates due to the causes specified is shown by a decrease in the proportion of deaths occurring at each period up to 30 years.

The results in the decreased rate of diphtheria, croup, scarlet fever, typhoid fever, whooping-cough, consumption, malarial fever and diarrheal diseases are the direct outcome of preventive medicine and are as gratifying as they are striking. We note with regret the increased rate in Bright's disease, heart disease, dropsy and pneumonia, and may well pause to inquire whether our ever-increasing "National Drink Bill," averaging 17.68 gallons per capita, may not be a factor in the development of these diseases, especially since there is reason to believe that the habitual and immoderate use of alcohol, apart from increasing the connective tissue and causing cirrhosis, also produces fatty degeneration, especially of the heart, liver and arterial coats, probably because it promotes the conversion of albuminoids into fats.

Without wishing to under-rate the brilliant achievements in surgery of the brain, stomach, intestines, liver, gall-bladder and other abdominal organs, and even wounds of the human heart which have been successfully sutured in four of the nine cases reported, what after all are the ultimate benefits compared with the results obtained by improved methods in sanitation?

Since our knowledge of the nature of infectious diseases has been more and more defined, scientific methods for their prevention have been applied. We have learned, too, that in addition to the germ there must be a suitable soil for its proliferation and that sanitation will not only destroy the environments for its development without the body, but also place the system in the best possible condition to resist its toxic action.

The application of this knowledge has saved millions of lives besides an incalculable amount of human suffering and distress, not to mention the economic aspect of the question. When we remember all this and the fact that Jenner's discovery at the close of the last century, of a fundamental and practical method of producing artificial immunity, has been far eclipsed in the last twenty years, and that we possess to-day not only curative but also protective sera for diphtheria, erysipelas, tetanus, plague and possibly cholera, tuberculosis, typhoid fever, pneumonia, and a number of other immunizing agents for diseases of man and lower animals, we have reason to believe that the solution of the problem of immunity is only a question of time, and we may indeed expect great possibilities in our battle against infectious diseases.

To the solution of this problem, the labors of Salmon and Smith, Sternberg, Welch, Osler, Councilman, Reed and other Americans engaged in experimental medicine have contributed their full share. Progress has crowned our past, we will not retrograde. Let our conduct raise no blush on the cheek of posterity. Let us hand in hand with heart and mind join in promoting the welfare of American medicine, until she has reached the proudest pinnacle in the world of science, until she has become the fountain-head of knowledge for the benefit of mankind. Then when at last we are called upon to pass through the portals beyond, Minerva Medica, in her sweeping robes of state, will proudly but reverently present us to the Supreme Healer of the Universe as types of the true physician.[8]

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**Symptoms of an Affection of the Pancreas.**—Scherschewski calls attention to the fact that the pancreas lies directly above the aorta and its plexus and receives its blood-supply from the same vessels as the liver and spleen. It is therefore probable that an affection of the spleen is usually complicated by a sympathetic lesion in the pancreas. Slight enlargement of the pancreas compresses the aortic plexus but as the enlargement progresses, the lumen of the aorta is also compressed and below this point the aortic sound is transformed into a murmur. A constant murmur, therefore, in the aorta indicates enlargement of the pancreas. Changes in the size of the spleen in the course of a few days, suggest an affection of the pancreas in the absence of malaria. Compression of the aortic plexus causes girdle pains and typical pains in the bladder and ureter. They are inconstant, resemble gall-stone colic, are more or less periodical, appear soon after eating and last one or two hours. They frequently appear at 1 to 2 a. m. They are not severe but are accompanied by intense nausea and weakness. They are never accompanied by defecation and have no connection with the amount or quality of the food. Another symptom is a pulsation in the stomach region, with cardiac distress and palpitations, independent of the condition of the stomach or ingestion of food. In most of his fourteen cases there was a history of malaria six or seven years previously. Malarial cachexia is probably due to an affection of the pancreas in many cases. In four patients the influence of a trauma was evident. He administered pancreatin in doses of .3 gm. after meals, with or without .01 ext. belladonnæ, with plastic clay on the stomach region, sometimes alternating with ice. Devoto has recently announced that any factors, traumatic or otherwise, which diminish the resistance of the organ or allow the penetration of the bacterium coli into the pancreatic duct, favor the evolution of acute pancreatitis. It may be accompanied by effusion, hemorrhagic or not, or by suppuration.

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8. In the preparation of this address, I have been greatly aided by the Library of the Surgeon-General's Office, the historical monographs on hygiene, by Professor Finkelnburg, of Bonn, now deceased, and Dr. S. W. Abbott, of our own country. I am also greatly indebted to Dr. W. T. Harris, the Commissioner of Education, and Dr. A. E. Miller of his Bureau. Other acknowledgments have been made in the text and are gratefully renewed.

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## THE DISINTEGRATION OF THE PERSONALITY.

Cases of so-called double consciousness or multiple personality are rather numerous in medical and psychologic literature and are generally of a common type—the individual possesses or is subject to two conditions of consciousness, in either or both of which he or she is unconscious or amnesic of his doings in the other. Such conditions are not at all infrequent in epilepties and often afford opportunities for interesting studies and speculations. It is not often, however, that we have a well reported observation of multiple personalties, coexisting as it were simultaneously in the subject from their first appearance to their final exit from the scene. What appears to be such a case forms the subject of a recent article by Dr. Morton Prince,[1] whose reputation as a physician and neurologist gives it the credibility that might otherwise be questioned.

The subject was a neurasthenic young woman, in whom a second state of consciousness could be induced by hypnotism. Upon both these was superimposed a third state, which became continuous. This third personality, which Dr. Prince calls B. III., and identifies with the subliminal consciousness, was co-existent with and independent of the other personality, B. I., knew all her thoughts, while with B. I. the reverse was true. B. III. was morally deficient and lively in disposition and hated B. I., who was hyperconscientious and depressed, and delighted in annoying and playing tricks upon her. Still later a fourth personality was superinduced upon both of these, which Dr. Prince calls B. IV. This was, in some respects, like B. I., but different in several important particulars, unimpressionable, quick tempered, not a musician, etc. By a course of reasoning founded upon close observation and the complete history of the case, Prince concluded that none of these four personalities fully represented the original Miss B., who, owing to a severe mental shock, became disintegrated and "as a complete psychical composition, departed this life in 1893. B. I. and B. IV. are each different disintegrated parts of the complete Miss B. In these disintegrations of the primary consciousness, a certain portion split itself off and became dormant. The remainder persisted as a modified personality, B. I." B. II. was simply B. I. or B. IV. hypnotized, while B. III. is the independent subliminal self. The conclusions which Prince considers justified by this case, are: 1. The subliminal self may become developed into a true independent personality, which may be awake contemporaneously with the primary consciousness, or may be awake alone, the other personalities being asleep. 2. Other so-called and apparent personalities may be nothing more than the primary self, mutilated by disintegration. 3. The absence of knowledge, and hence amnesia, on the part of the primary self of the subliminal is dependent on the normal psychophysiologic arrangements. 4. The amnesia of one mutilated self for another mutilated self is due to disintegration and to a severance and rearrangement of psychophysiologic associations. 5. Theoretically any number of personalities are possible according to the number and direction of the lines of cleavage. Each personality would depend on different combinations of different disintegrated pieces of the normal self. 6. Personalities may develop accidentally, as the result of accidental fracture, without design, and not be the result of education. 7. The subliminal consciousness is not necessarily the equivalent of the hypnotic self. 8. Personalities may represent any different psychic compounds. One may be that peculiar group of psychic elements which is called the subliminal self, and another may be a disintegrated compound of the ordinary supernatant self. 9. Two or more personalities may have successive existences in time, or when one is the subliminal self they may be coexistent. 10. Personalities, including the subliminal self, may be hypnotized, and thus the personalities may become still further disintegrated.

The details given by Prince, of this case, read almost like a fairy story, but it is obviously impossible to reproduce them more fully here. It is, in its way, a remarkable case from a psychologic point of view, but its medical interest is largely in that it is reported by an eminent neurologist presumably well qualified to study and detect hysteric manifestations and imposition, if they occurred. If the conclusions are accepted, their suggestiveness in many cases of mental derangement will occur readily to many who have had a wide experience with morbid mentality. These possibilities of disintegration of the self do not seem, at first sight at least, to simplify matters, but it may be otherwise estimated by the psychologists. Thus far the case has apparently escaped notice in medical literature, but it is as striking, or even more so, as the classic cases, so often quoted, of Azam, Mesnet and others.

1. Proc. Soc. Psych. Research, xl, Feb., 1901.

## SCLERODERMA WITH FACTITIOUS URTICARIA.

It would appear that two sets of affections result from deranged function of the thyroid gland, one due to excessive and the other to diminished activity. The type of those belonging in the first group is exophthalmic goiter, by the side of which it is possible there may be ranged a number of disorders that have been comprehensively included in the designation "vasomotor ataxia," such as symmetrical gangrene, morbid blushing and flushing and dermographism or factitious urticaria. In the second group belong myxedema and cre-

tinism, probably also scleroderma and possibly adiposis.

There are on record cases in which a case beginning as exophthalmic goiter has in the course of time been transformed into one of myxedema, and factitious urticaria not rarely appears in association with scleroderma; so that we have here evidence of the apparently paradoxic fact that there may be present in the same case at the same time indications both of increased and of diminished activity in the function of the thyroid gland. Bettmann[1] has recently placed on record two cases of scleroderma attended with factitious urticaria of a peculiar type. One of these occurred in a military officer, 39 years old, who for four or five months had noted moderate but progressive swelling of both hands, with a sense of coldness in some of the fingers, occasional cyanosis and pallor and circumscribed sloughing. Slight swelling appeared also in the feet, and indurated areas could be felt in the abdominal wall. From time to time, without appreciable cause, hard swellings developed on the feet, pitting on pressure and disappearing in the course of a few hours. In addition transitory irregularly circumscribed painful red spots appeared, especially on the soles. At points where the cathode was applied in the course of electric treatment redness resulted, persisting at times for twenty-four hours—on one occasion gooseflesh, likewise lasting for hours. On drawing the fingernail rapidly and without great pressure over the skin of the chest and the back factitious urticaria developed slowly, attaining its maximum intensity in the course of a few minutes, but persisting for an unusually long time—even for five or six days. The second patient was a machinist, 26 years old, with circumscribed induration of the abdominal wall and of the right lower extremity. In this case also factitious urticaria of slow development and lasting for twenty hours could be induced by irritation of the skin of the chest and the back.

Factitious urticaria of from eight to twenty-four hours' duration is exceptional, although it has been observed, but there is no previous record of a duration of six days. In the first case reported the condition persisted unchanged during the two months the patient remained under observation. In the second it subsided coincidently with improvement in the general state. It is impossible to determine whether the peculiar manifestation was related to the scleroderma, either primarily or secondarily, or whether it was merely a coincidental and independent disorder.

1. Berliner Klin. Woch., 1901, No. 14, p. 365.

## INFLUENZA OR PULMONARY TUBERCULOSIS?

Since the pandemic of influenza ten years ago there have been annual recrudescences of the disease, and on such intimate terms with it has the laity gotten that it feels competent to make the diagnosis; so that any obscure illness during the winter is likely to be looked upon as influenza. The symptomatology of this disorder, furthermore, is not so sharply defined as always to permit of ready diagnosis, even by the physician, and we fear that the bacteriologic evidence is not often invoked. It would, therefore, not be surprising if much of that which is designated influenza were found actually to be something else.

Dr. R. J. M. Buchanan[1] makes the not improbable suggestion that many of the so-called sporadic cases of influenza are really symptomatic of the initial infection of tuberculosis, or possibly an exacerbation of a latent tuberculosis previously unsuspected or undetected. Some support is apparently given to this view by the contention of a recent writer[2] that influenza is one of the most important predisposing factors in the etiology of tuberculosis.

The following clinical picture may be observed: The patient is seized with headache, rheumatic pains in the lower extremities, with tenderness in the fingers, a feeling of heaviness in the legs and a sense of swelling of the feet, sensations of chilliness alternating with warmth, sweating on slight exertion, increased frequency of pulse and elevation of temperature. Cough develops, with pain on one or the other side, often at the level of the angle of the scapula or in the interscapular or infraclavicular region on one or the other side of the sternum and tightness and constriction of the chest. On auscultation, crepitation may be audible over a small area of the lungs, not uncommonly about the angle of one or the other scapula. The expectoration may be slight and clear, or more tenacious and presenting a gelatinous appearance. The symptoms may subside in the course of a few days, the temperature decline by lysis, convalescence ensue and complete recovery take place. This may be permanent or it may be followed by a return of the previous symptoms. In other cases there may be noted a slowly developing lack of energy and an undue readiness of fatigue. The appetite fails and becomes capricious. Weight is lost and pallor appears.

The lesson taught by observations like these is that the diagnosis of influenza should not be made too lightly, and that in any event the possibility of tuberculosis should be considered and, so far as possible, excluded. The probability of cure in cases of tuberculosis is directly proportionate to the promptness with which appropriate treatment is instituted.

## ILL-CONSIDERED SENTIMENTALISM.

The trustees of a Chicago juvenile reformatory institution refused to permit the boys under their care to be examined with reference to their physical and mental peculiarities, etc., on the ground that it was, as a local newspaper expresses it, "a sort of psychologic vivisection with incidental publicity." It was held, apparently, that it would be cruelty to subject youthful criminals to any examinations for the purpose of testing for the signs of

1. Liverpool Medico-Chirurgical Journal, March, 1901, p. 38.

2. Dr. J. Ruhemann: "Aetiologie und Prophylaxe der Lungentuberkulose," Jena, 1900.

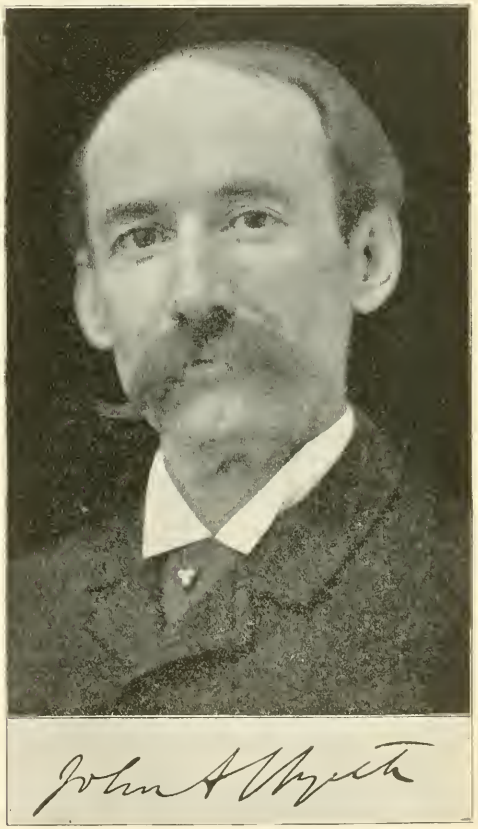
degeneracy. Nothing should be done to make them feel their degradation, and such procedures as were proposed were considered, in the language of the editorial commending the course of the trustees, as "unwarranted intrusion and gratuitous insult." The consideration for juvenile criminals is in line with that for older ones, which seems at times to become a dominating idea of certain sentimental reformers. It should be remembered that the public-school children of Chicago had been put through similar tests without protest, and the publicity would be only of the collective results and not of individual defects. The plea of "gratuitous insult" is, therefore, rather unwarranted, and the refusal looks like a confession of degeneracy and a plea for avoidance of its demonstration. Since such investigations have a certain value to the public, and there is no sound reason for their hindrance, the act of the officials in refusing to permit them in this case can be considered as hardly anything less than a malfeasance in office as well as an exhibition of silly sentimentalism.

## BIG PAY FOR A BEGINNER.

The practice of medicine is not considered usually as the most rapid method of building up a fortune, and there is no general impression that is better supported by facts. Occasionally, however, like thunder out of a clear sky, something happens that apparently reverses the order of things, and such has just been reported by the Chicago dailies. What is said to be one of the largest claims ever filed against an estate in the local probate court is the charge of $100,000, by a woman physician of Chicago, against the estate of a millionaire who died in June, 1900, for medical attendance and services under an alleged special contract, according to which she was to care for him as long as he lived. It is not the size of the bill alone that astounds one, but the apparent attending circumstances. She graduated in the spring of 1897. The millionaire died in June, 1900. Hence her medical services as a qualified practitioner could hardly have extended much over two years. This gives the handsome income of nearly $50,000 a year from the date of graduation. Such prizes as this fall to but few, and if the facts are as reported, and the still more important "if" in regard to the collection of her bill results according to her demand, she will be colossally eminent among the practitioners of her sex. Whether she collects her bill or not, she has attained a notoriety, which she may consider desirable; it is not an altogether unnatural suggestion that such demands on estates are sometimes made for the personal advertisement they bring.

## PRESIDENT-ELECT DR. JOHN A. WYETH.

The newly-elected President of the AMERICAN MEDICAL ASSOCIATION, Dr. John Allan Wyeth, is a southerner, having been born May 26, 1845, in Marshall County, Ala. His father was Judge Louis Wyeth of Alabama; his grandfather, John Wyeth, one of the early publishers of Philadelphia. His early education was received at the Lagrange Military Academy and during the civil war he served as a private soldier in the 4th Alabama Cavalry. Some of his experiences therein have served for subjects of his later literary work. His medical studies were carried on in the University of Louisville, and later at Bellevue Hospital Medical College, New York. After a brief period of practice in Alabama he removed to New York City, where he quickly became a prominent figure in the profession, taking almost at once a position on the teaching force of his alma mater, and also an active part in society proceedings and medical matters generally. Since then his record is before the profession; it is needless to say that it is an honorable one, and one that includes numerous




and valuable contributions to the sum of medical knowledge. It is indeed by his practical work in surgery that he is best known to the general profession, and this has made his name a familiar one to every practicing physician. His contributions to surgery and other departments need not be enumerated; they include not only many articles in the current medical literature, but also a well-known text-book and other works of note. It is not only as a scientific medical writer that he is known, he has contributed also to general literature, his best known work being his life of General N. B. Forrest, which has a decided historic as well as a literary value.

### THE CORPUSCULAR HYPOTHESIS.

Up to the present the atom has been looked upon as the expression of the ultimate divisibility of matter, and all our theories have been moulded on this conception. No chemical inference has been able as yet to make probable any breaking up of this unit, but recent physical research seems likely to undermine our belief in its indivisibility. In a recent lecture on cathode-ray phenomena, Prof. J. J. Thomson demonstrated the results of a series of remarkable studies of certain electrical phenomena that indicate the possibility that what we have been calling atoms, and considering as the ultimate particles, are themselves only combinations or constellations of still more minute bodies.* The details of these researches are too elaborate to be reproduced and, though stated in a semipopular form by Professor Thomson, are still not easy to make readily comprehensible to the casual reader not already considerably familiar with the physics of electricity. Taking only the statement of the results as given, it would appear that the particles sent out by the cathode rays, and also from certain metals or minerals, such for example as radium, and from all metals when sufficiently heated, convey charges of electricity which, supposing them to be atoms, are one thousand times greater than is carried by an ion in electrolysis. By an ingenious calculation based on certain known facts on condensation of moisture, Professor Thomson has been able to demonstrate that the charge conveyed was the same as in electrolysis, but that the particles conveying it were only one-thousandth the weight of a hydrogen atom. These corpuscles, as they have been named, are always negatively electrified; as far as known, nothing smaller than an atom is ever positively electrified. The final outcome of these researches, as the *Electrical Review* says, lies "in the womb of the future," but the suggestion, however indefinite it may be, of their possibilities, is inevitable. We have only to consider what has been already gained from the X-ray in medicine and surgery to see the probability of rational explanations in the future of much of what has been and is still to us mysterious and unknown. It is not worth while, however, to build on these results any too expansive deductions. To quote again from the *Electrical Review*: "The puzzle of the universe will no doubt be only moved back one step further by Professor Thomson's discoveries, and we shall doubtless be as far as ever from the dream of the materialists of the middle portion of the past century, who looked to an explanation of the cosmos on purely mechanical lines."

### THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.

From apparently authentic sources, it is announced that the preliminary steps have been taken for the establishment in New York City of an institute for medical research, by Mr. John D. Rockefeller, whose name it is to bear. That he has seen fit to set aside a considerable sum of money for the advancement of medical science in this country will be hailed with universal approbation. We hope that his example may not long remain isolated, but that other wealthy men with liberal tendencies may find medicine and medical institutions, hitherto somewhat neglected, worthy objects for their generosity. The eloquent plea of Dr. W. W. Keen,[1] in his presidential address before the American Medical Association last year, for endowments for medical institutions, sets forth most adequately the special grounds why endowments are needed, and it is certainly encouraging and stimulating to learn that Mr. Rockefeller has become a patron of scientific medicine. The purpose of the institute is to furnish facilities for original investigation, particularly in such problems in medicine and hygiene as bear upon the prevention and treatment of disease. The board of directors is composed of prominent pathologists and physicians in the large cities along the Atlantic coast, four of the seven members residing in New York. It is not intended to build immediately, but abundant funds have been placed at the disposal of the board so that research will be undertaken at once in several different laboratories. Buildings and equipment commensurate with the scope and aim of the foundation will receive consideration later. This announcement is a fitting one for the beginning of the new century, and it is fraught with great benefits to medicine in general. It will ultimately result in the establishment in New York City of an institution similar to the Pasteur Institute in Paris, the Institute for Infectious Diseases in Berlin, the Institute for Experimental Medicine in St. Petersburg, and the Jenner Institute in London. At this institute will be collected able original investigators, who will bend their energies to the solution of hidden problems in medical science, unhampered by other and often quite irksome duties. The plan adopted in regard to the work for the immediate future increases the opportunities for research very greatly indeed, and will appeal strongly to young men who are looking for just such advantages. It stands to reason, however, that the general and actual results to be expected from this plan can hardly equal in importance those that will be obtained when trained, mature investigators set to work in a properly equipped and fully organized institute.

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Smallpox Probably Spread by Infected Feather Bed.—The State Communicable Disease Inspector has reported to the Michigan State Board of Health office that in one case of smallpox which he visited recently he was informed that the child sick with smallpox had been for a few nights sleeping on the same feather bed on which one of the relatives of the family laid in Missouri, in which family smallpox existed, about two years ago. There was no other known source from which the disease could have been contracted by the child. The feather bed was sent to the family in Michigan from the family in Missouri some little time ago. This should be a warning to persons having dangerous communicable diseases in their families, to be sure that all things are thoroughly disinfected before using them again.

To Remove Adherent Dressings.—Mikulicz moistens the edges of the gauze with a little peroxid of hydrogen, and no matter how firmly they may be attached or mixed with the tissues, the effervescence of the peroxid mechanically detaches them at once, without the slightest pain or inconvenience.

1. Jour. A. M. A., June 9, 1900.

# Association News.

## AMERICAN MEDICAL ASSOCIATION.

*Fifty-second Annual Meeting, held at St. Paul, Minnesota, June 4-7, 1901.*

### OFFICIAL MINUTES OF THE GENERAL SESSIONS.

JUNE 4—FIRST GENERAL SESSION.

The Association met in the Metropolitan Opera House, and was called to order at 10:20 a. m. by the Chairman of the Committee of Arrangements, Dr. John F. Fulton, of St. Paul.

Prayer was offered by Bishop H. B. Whipple, after which Dr. Fulton introduced the Hon. R. A. Smith, Mayor of St. Paul, who delivered an address of welcome.

#### Address of Welcome.

In behalf of the City of St. Paul I extend to you my most cordial welcome. Aside from the natural pride which each man has in the community in which his life is cast, I believe there is much to warrant me in extending to you my congratulations on selecting St. Paul as the scene of your National Convention. Here you have exemplified, to an extent visible perhaps nowhere else in the world, the magic influence on the public and the individual health of favorable natural conditions. These natural conditions have been availed of to the utmost by the local members of your profession in the practice of their grand calling, so that your present hosts, the good people of St. Paul, thus enjoy the double blessing of long life and small doctor-bills.

St. Paul, as the statistical records of mortality show, is the healthiest city in the world; and it is so, I believe, in greatest measure, because of the high degree of perfection to which your profession has brought the science of hygiene. To the individual members of your profession among our fellow citizens, and especially to those of them who have from time to time been charged in our official life with the protection of the health of our people, we all regard ourselves as deeply indebted. Their profession, too, is indebted to them for the splendid demonstration they have here offered of the wonderful results which can be accomplished through the intelligent direction of the skilled physician and surgeon.

Within the lifetime of a single generation the soil upon which you now stand has upheld the Indian tepee. Here the Indian Medicine Man has, within that period, wrought his charms. The Indian tepee has been succeeded by the modern equipped hospital and the sanitary human dwelling; the incantations of the Indian doctor are forever silenced, and the cold and impersonal influence of medical and surgical science—as typified in the Medicine Man of Civilization—sways the lives and conserves and protects the health and happiness of human society. The change from the old conditions to the new, as illustrated in fifty years of life in the Capital City of the Great Northwest, is such as not only the members of your profession, but humanity itself, should rejoice in.

In common with all our people I sincerely hope that your stay with us will bring to each and every one of you that sense of pleasure, and leave with you those cherished recollections which enter so largely into the delights of the lives of all of us. The welcome which the people of our city extend to you is indeed a sincere one; and I beg of you not to measure its depths by my own unfortunate inability to give expression to it.

If most of you should not, as I believe you will not, come among us again, I feel that it is good advice for all of you to take with you—that if you can not come again yourselves you will at least send us those of your patients whom you can not cure, and we will send them back to you in such a condition of health that if they are not thereafter living monuments to your skill, they will at least all live long enough to prevent any alarming fluctuations in the visible supply of patients. (Applause.)

After the address of welcome by Mayor Smith, Dr. Fulton presented the President of the Association, Dr. Charles A. L. Reed, of Cincinnati, Ohio.

President Reed, on taking the chair, invited the vice-presidents and all ex-presidents of the Association who were present to take seats upon the platform.

Dr. Philip Marvel, of Atlantic City, third vice-president, took the chair, and President Reed delivered his address, which was punctuated with applause throughout its delivery.

At the close of the address, Dr. Ingals, of Illinois, moved that the President's address be referred to the Executive Committee, with instructions to report back to the Association on its many valuable recommendations. He moved further that the thanks of the Association be extended to the President for his able address and for the careful review of the numerous subjects of interest to the Association. Carried.

At this juncture, Dr. J. R. Pennington, of Chicago, made a brief speech, during which he unveiled the portrait of Dr. N. S. Davis, of Chicago, the subject of his remarks.

#### Presentation of Portrait of Dr. N. S. Davis.

Mr. President and Members of the American Medical Association: Of all the methods adopted by artists for perpetuating the memory of those who have acquired distinction in any department of human activity, none, as suggested by the President in his able address, are more pleasing to the majority of intelligent men and women than correct portraits that present, not only the contour, but also much of the living expression of those they represent. Consequently a large proportion of the higher educational institutions and permanently organized scientific, philosophic and professional organizations, seek to preserve the portraits of their founders and more distinguished members as a part of their permanent archives.

In the hope of initiating work in this part of the archives of the American Medical Association, I come prepared to present for your acceptance the portrait of *one* whom you will all recognize as pre-eminently the founder of this Association, and for more than fifty years its most constant attendant and faithful guide in every department of its work: One who has perhaps done more than any other individual in promoting the efficient social organization of the medical profession throughout the United States, and in elevating the standard of medical education: One who has been a pioneer investigator in the departments of physiology, hygiene, preventive medicine and medical journalism: One who has been an untiring and valuable contributor to medical science and literature, and who has enjoyed the highest official honors that his profession could bestow—President of this Association and of the Ninth International Medical Congress: One who in his own city organized the first permanent general hospital and established clinical instruction therein, and who was one of the founders and active supporters of the Chicago Relief and Aid Society for aid to the poor, of the Chicago Academy of Sciences, the Chicago Historical Society and the Chicago Medical Society: One who has been a life-long advocate and exemplar of temperance, morality and religion, and who still, in his 85th year of life and 65th year of medical practice, devotes five or six hours daily to his patients and attends promptly to all the duties of good citizenship in strict obedience to his favorite maxim, "He is most happy who is contributing most to the happiness of others."

Now, Mr. President I have the honor of unveiling the portrait of Dr. N. S. Davis, the subject of these remarks, and trust that its acceptance will carry with it the appointment of a committee to secure without cost to the Association the portraits of all the ex-Presidents of the American Medical Association.

On motion of Dr. Warner, the portrait of Dr. Davis was accepted by the Association, and thanks extended to Dr. Pennington for its presentation.

Dr. Love, of New York, moved the appointment of a committee of three for the purpose of securing portraits of all living presidents and ex-presidents of the Association, as far as possible, and expressed the hope that the time would come when the Association would have a magnificent home with a building of its own in which upon the walls may be hung the portraits of the living presidents of the Association and the noble men who had died. Carried.

The President announced that he would appoint this committee later.

Dr. Simmons, the Secretary, then read his report, which was referred to the General Executive Committee.

#### Report of Secretary.

To the Officers and Members of the American Medical Association: As nothing of especial importance has arisen during the past year in connection with my office, my report as Secretary will be brief and will consist in simply congratulating you on the continued increase in membership and the prosperity of the Association. The membership at the present time is some-

thing over 10,600, which shows an increase over last year of between 1500 and 1600—the largest increase in any year in the history of the Association. I have submitted to the Judicial Council, *pro forma*, correspondence in regard to two special cases of membership for its decision and advice.

I wish to call attention to Article VIII of the Constitution, under duties of the "Committee of Arrangements." In this article is the following: "It shall be the further duty of this committee to verify and report upon the credentials of membership, to receive and announce all essays and memoirs voluntarily communicated, either by members of the Association, or by others through them, and to determine the order in which such papers are to be read and considered, and to fix a definite hour each day for the general addresses before the Association. This committee shall prepare for publication the official program of each meeting, and with such program it shall publish the Constitution, By-laws and Code of Ethics of the American Medical Association."

I also call attention to Section 5 of Article III of the By-laws, the first paragraph of which is as follows: "It shall be the duty of every member of the Association who proposes to present a paper or report before a Section, to forward either the paper or an abstract indicative of its contents, and its length, to the Chairman of the Committee of Arrangements," etc. As the above duties have for years, and are now, performed by the Secretary, I would suggest that the Constitution and By-laws be amended to accord with existing conditions in this regard. Respectfully submitted,

GEORGE H. SIMMONS, Secretary.

Dr. L. Duncan Bulkley read the report of the General Executive Committee.

### Report of General Executive Committee.

The General Executive Committee held its first session of this meeting yesterday afternoon and considered carefully the program for 1901 in reference to the various regulations concerning it which had been passed at last meeting of the Association, and beg to report as follows:

In former years it has been noted that the number of papers was largely in excess of what was right and necessary and by resolution of the Association directed that the number be considerably reduced, to perhaps not over 35 in each Section. This has been measurably well accomplished and the total number of papers on the program this year is 391 as against 491 last year, and 615 in 1898, the highest number reached. The largest number in any section this year is in that of Practice of Medicine, 43 papers.

The committee beg, however, to call the attention of the Association to the fact that the regulation adopted some years ago and reinforced last year, providing for abstracts of papers for the program, has not been carried out to any great extent, and submits the following figures. Of the total number, 391 papers, there were abstracts printed of only 196, while 205, or the majority of them, had no abstracts printed. The committee recommends for adoption by the Association, the following resolutions:

*Resolved*, That hereafter no titles of papers be printed in the program unless the required abstract is furnished and printed in connection with the same.

*Resolved*, That the Secretary of the Association prepare and issue to all the chairmen and secretaries of Sections, printed slips containing the rules and regulations in regard to the length of papers, their abstracts, and also some printed matter which can be sent by the officers of sections to those desiring to read papers, that they may be fully informed of the rules of the Association in advance.

The committee have to report that, in accordance with instructions, they arranged with Dr. Flexner, of Philadelphia, to give a pathologic lecture on Wednesday evening, illustrated with lantern slides. At the very last moment a telegram came from Dr. Flexner saying that he was unable to carry out his proposed plans and the committee have only to regret that the notice was received too late for them to substitute another essayist. The committee therefore announce that the pathologic lecture, as stated on the program for Wednesday evening, will not be given.

The committee desires to call attention to the absence from the program of the rule governing the submission of abstracts for publication, and also that requiring the Sections to adjourn during sessions of the General Association.

L. DUNCAN BULKLEY, Secretary.

Inasmuch as this report contained several items, each item was considered separately and adopted.

It was then moved that the report be adopted as a whole, which was seconded and carried.

The President announced as the next thing in order the joint report of the Treasurer and the Board of Trustees, which was read by Dr. T. J. Happel, Tennessee.

### Report of Board of Trustees.

Report of the Board of Trustees of THE AMERICAN MEDICAL ASSOCIATION, made at St. Paul, Minn., June 4, 1901:

*To the Officers and Members of the American Medical Association:*

As required by our Constitution and By-Laws, your Board of Trustees begs leave to submit the following report. We desire, however, before entering upon the report, to state that heretofore it has been customary for the Treasurer to submit his report direct to your body, but under our laws, it is made the duty of your Board of Trustees to "annually audit and authenticate his accounts, and present a statement of the same in its annual report to the ASSOCIATION." This duty we have performed, and in our JOURNAL report, that of the Treasurer is included. The combination of the two reports in one prevents confusion and repetition, inasmuch as the receipts of the ASSOCIATION are represented by the two accounts jointly, the Treasurer receiving and receipting for membership fees, and the interest on investments, whilst the JOURNAL receipts for all subscriptions, advertisement sales, etc.

We would add further that all of the accounts of the Treasurer and THE JOURNAL office have been carefully scrutinized by expert accountants, and certified to as all correct in every respect:

REPORT OF TRUSTEES OF JOURNAL A. M. A., FOR YEAR ENDING DEC. 31, 1900.

Your JOURNAL business shows for the year 1900 as follows:

| 1900. | Debits. |
|---|---|
| Jan. 1.—Cash on hand, Treasurer's office | $13,556.36 |
| Jan. 1.—Cash on hand, Journal office | 799.15 |
| Loans repaid during year 1900 | 3,163.50 |
| Membership fees for year 1900 | 40,110.00 |
| Registration fees, Atlantic City | 6,150.00 |
| Interest on bonds, U. S. | 525.00 |
| Advertisements | 44,060.70 |
| Subscription | 17,618.94 |
| Reprints | 2,525.18 |
| Section reprints | 405.70 |
| Buttons | 568.65 |
| Sales | 558.93 |
| Jobbing | 1,492.00 |
| Postage | 12.70 |
| P. Marvel | 239.27 |
| Chicago Pathological Society | 451.35 |
| Electros | 129.33 |
| Sundries | 169.11 |
| Metal | 23.85 |
| Loss and gain | 50.00 |
| Pay roll refunded | 5.51 |
| American Academy Railway Surgery | 162.00 |
| General expense | 10.22 |
| | $131,787.45 |

EXPENDITURES IN TREASURER'S OFFICE.

| | Credits. |
|---|---|
| Mergenthaler Linotype Co., Balance, two machines | $5,400.00 |
| Linotype machine rent one year | 550.00 |
| Crocker-Wheeler Motor for Journal office | 225.00 |
| Latham Machine Co., stitcher Journal office | 223.25 |
| Printing press for Journal office | 2,925.00 |
| Paper cutters for Journal office | 325.00 |
| Salary of clerk for Treasurer | 300.00 |
| H. P. Newman, Treasurer, honorarium | 1,000.00 |
| Postage for Treasurer's office | 540.00 |
| Sundries for Treasurer's office | 82.28 |
| Premium on Treasurer's bond | 100.00 |
| Trustees' account, Chicago meeting | 452.50 |
| Trustees' account, Atlantic City meeting | 844.35 |
| Incidental expense of Trustee | 25.20 |
| Expenses of secretary of Trustee | 36.70 |
| W. B. Atkinson, salary and expense acct., Atlantic City | 138.00 |
| H. P. Newman, salary and expense acct | 98.00 |
| G. H. Simmons, Editor, Atlantic City | 75.00 |
| Stenographers, Atlantic City | 1,113.63 |
| E. A. Reilly, expense registration, Atlantic City | 280.25 |
| R. G. Hamilton, services | 52.12 |
| R. G. Kalb, stenographer, Atlantic City | 105.00 |
| Extra services, Spec. R.R. Agt., Atlantic City | 29.00 |
| Philip Marvel, Chairman Committee Arrangements | 370.42 |
| Gold Medal Prize | 85.00 |
| Geo. M. Gould, express on prize medal acct | 2.70 |
| Safety box rent | 10.00 |
| Expense account, list of members for Journal | 25.00 |
| Expense, U. O. B. Wingate | 216.50 |
| Expense account of Committee on National Legislation | 226.20 |
| Expense pathologic exhibit | 246.53 |
| Secretary's office (ledger) | 7.00 |
| Exchange on collections | 49.00 |
| Duplicate fees, Ret., Atlantic City | 40.00 |
| Total Treasurer's office | $16,192.63 |

EXPENDITURES IN JOURNAL OFFICE.

| | |
|---|---|
| Pay roll | $25,560.86 |
| Salaries | 11,788.33 |
| Editorials, reporting and news | 6,775.13 |
| Rent | 1,500.00 |
| Journal stock paper | 25,792.07 |
| Miscellaneous paper | 1,430.26 |
| Second-class postage | 5,616.66 |
| Stamps | 2,124.07 |
| Stamped envelopes, Committee Arrangements | 233.20 |
| General expense | 2,381.53 |
| Traveling expenses | 588.90 |
| Advertising and subscription commissions | 4,956.79 |
| Collection and exchange | 181.28 |
| Button account | 735.86 |
| Ink | 1,069.80 |
| Electros | 994.03 |
| Type | 206.32 |
| Electric power | 740.15 |
| Metal | 183.83 |
| Sundries | 60.85 |
| Accountant's charges | 200.00 |
| Press-room and office furnitnre and fixtures | 453.02 |
| Book-shop bindery (binding) | 376.34 |
| Bindery supplies | 68.72 |
| Smith-Premier Typewriter Co | 163.89 |
| Shaw-Walker Co | 75.31 |
| Sales | 118.00 |
| Section reprint, express charges | 47.99 |
| American Medical Association, express charges | 46.43 |
| C. T. Gordon, T. M. deposit | 60.00 |
| Subscription account refunded | 93.07 |
| Reprint account refunded | 9.25 |
| Linotype appliances | 57.49 |
| Machinery supplies | 546.57 |
| Jobbing account refunded | 50.00 |
| Advertising account refunded | 3.25 |
| American Academy Surg. reporting | 60.00 |
| Total expense Journal office | $94,542.65 |

| | |
|---|---|
| Total expense Treasurer's office for year 1900 | $16,192.63 |
| Total expense Journal office | 94,542.65 |
| Aggregate | $110,735.28 |
| 1901. | |
| Jan. 1.—Cash in hand of Treasurer | $15,512.23 |
| Jan. 1.—Cash in hand of Journal office | 5,539.94 |
| Aggregate | $131,787.45 |
| Jan. 1, 1899, cash bal. on hand | $18,729.95—Treas. |
| Jan. 1, 1900, cash bal. on hand | 13,566.56—Treas. |
| Jan. 1, 1901, cash bal. on hand | 15,512.23—Treas. |
| Jan. 1, 1899, cash bal. on hand | $931.31—Journal |
| Jan. 1, 1900, cash bal. on hand | 799.15—Journal |
| Jan. 1, 1901, cash bal. on hand | 5,539.94—Journal |
| As compared with Jan. 1, 1900, you have in your Treasurer's hands now a larger amount by | $1,945.87 |
| And in the Journal office a larger amount by | 4,740.79 |
| Total | $6,686.66 |
| But you have $3,000.00 less invested, the Indianapolis loan having been repaid. | |
| Cash on hand is as follows: | |
| Jan. 1, 1901, invested in U. S. bonds | $10,812.50 |
| Jan. 1, 1901, cash in Treasurer's office | 15,512.23 |
| Jan. 1, 1901, cash in Journal office | 5,539.94 |
| Total | $31,864.67 |
| As compared with Jan. 1, 1900 | 28,168.01 |
| Excess | $3,696.66 |
| In addition to this, you have paid out for machinery in the printing department as follows: | |
| Two Mergenthaler linotype machines | $5,400.00 |
| One Mergenthaler linotype machine, rent one year | 550.00 |
| One Crocker-Wheeler motor | 225.00 |
| One Latham Machine Co. stitcher | 223.25 |
| For printing press | 2,925.00 |
| For paper cutter | 325.00 |
| Total paid out for machinery | $9,648.25 |

There was estimated in the report of last year the cost of the press, $2,925.00; one stitcher, $223.25; one motor, $225.00; one linotype machine, $3,100.00; total ... ... $6,473.25

Making an excess over estimate of ... 3.175.00

Now, in addition to this, we have bought a third linotype machine, paying cash down as one year's rent on the same ... $550.00

We owe a balance on this machine of ... 2550.00

Our paper account, as well as all others, has been paid for to date.

If now you add to the excess of cash of the year 1900, over that of 1899 ... $3,696.66

the amount paid out for machinery during the year 1900, as shown above ... 9,648.25

You have your profit for 1900 ... $13,344.91

Your Board would report to you that we ordered enough money invested to make our investment, when added to the $10,000 in United States bonds, about equal to the sum of $25,000, par value. We trust this will meet your approval. Toward securing a permanent home for THE JOURNAL, you now have invested in gilt-edged securities $25,000, which yearly grows by the interest at least.

PLANT.

We do not deem it necessary to give a detailed inventory of press-room and proof-room furniture and fixtures. The additions to the same would fully balance wear and tear and would leave us with about the same valuation as last year, viz., $515.

OFFICE FURNITURE AND FIXTURES

Can be disposed of in the same way, $1004.50.

MACHINERY AND PLANT.

In this department everything has been paid for except the third linotype machine, the account for which is not yet due. The value of this department, not including the linotype machine, is $19,571.80.

RECAPITULATION.

The sum total of the items mentioned, viz., press-room, proof-room and office furniture and fixtures, and machinery and plant, less 5 per cent. for wear and tear, after all additions, amounts to about $21,000. The office, with the addition of one or two small motors which your Editor was authorized to buy, is almost complete, and can now do all of its own work. Its quarters are crowded, and for that reason some things can not be done to the best advantage.

There has been a steady growth in THE JOURNAL. An effort has been made by your Trustees and Editor to increase the quantity and quality of the reading matter in THE JOURNAL. It should be the best medical journal published in the world. With the support of a united profession it can be so made.

Your Board of Trustees has endeavored also to carefully guard the advertising pages of THE JOURNAL. Many advertisements have been refused, the quality of which were questionable. The formulæ of all internal medicines have been demanded, and as a rule published with the first insertion of each advertisement. This rule has not been so rigidly applied to medicines for external use. All medicines advertised in the newspapers, for the benefit of the laity, have been refused space in THE JOURNAL. A few contracts that had been made before such an order was passed had to be filled. As a result of the adoption of this rule some medicines that were advertised direct to the laity have been withdrawn from the newspapers and now appear in medical journals alone.

ADVERTISING DEPARTMENT.

The following comparative statement indicates the increase in advertising collections during the past twelve months: Collections for 1899 were $33,760.82; for 1900, $44,060.70; showing a gain of $10,299.88.

Our advertising collections for 1898 were $23,629.71, thus indicating an increase of $20,430.99, nearly doubling our revenue from this source in two years.

For the four weeks of January, 1901, THE JOURNAL carried over $1000 worth of advertising in each issue, and unless something unforeseen happens, there is no reason why this average should not be maintained throughout the year, making the revenue from advertising for 1901 considerably in excess of that of 1900.

SUBSCRIPTION DEPARTMENT.

The following figures indicate the gross issue of THE JOURNAL each week during 1900:

| *Weekly Edition.* | | | *Weekly Edition.* | | |
|---|---|---|---|---|---|
| Jan. 6... | 14,350 | | July 7... | 17,550 | |
| Jan. 13... | 14,350 | | July 14... | 17,600 | |
| Jan. 20... | 14,600 | | July 21... | 17,600 | |
| Jan. 27... | 14,600 | | July 28... | 17,525 | |
| | | 57,900 | | | 70,275 |
| Feb. 3... | 14,600 | | Aug. 4... | 17,550 | |
| Feb. 10... | 14,800 | | Aug. 11... | 18,100 | |
| Feb. 17... | 15,200 | | Aug. 18... | 18,100 | |
| Feb. 24... | 15,200 | | Aug. 25... | 18,100 | |
| | | 59,800 | | | 71,850 |
| March 3. | 15,200 | | Sept 1... | 18,050 | |
| March 10. | 16,125 | | Sept. 8... | 18,350 | |
| March 17. | 15,600 | | Sept. 15... | 18,500 | |
| March 24. | 15,700 | | Sept. 22... | 18,680 | |
| March 31. | 15,950 | | Sept. 29... | 18,640 | |
| | | 78,575 | | | 92,220 |

| | | | | | |
|---|---|---|---|---|---|
| April 7.. | 15,800 | | Oct. 6.... | 18,725 | |
| April 14.. | 16,550 | | Oct. 13.... | 19,090 | |
| April 21.. | 17,100 | | Oct. 20.... | 19,000 | |
| April 28.. | 16,300 | | Oct. 27.... | 19,200 | |
| | | 65,750 | | | 76,015 |
| May 5... | 16,150 | | Nov. 3... | 19,250 | |
| May 12... | 16,100 | | Nov. 10... | 19,185 | |
| May 19... | 27,000 | | Nov. 17... | 19,230 | |
| May 26... | 17,500 | | Nov. 24... | 19,300 | |
| | | 76,750 | | | 76,965 |
| June 2... | 16,600 | | Dec. 1... | 20,000 | |
| June 9... | 17,100 | | Dec. 8... | 20,100 | |
| June 16... | 17,000 | | Dec. 15... | 20,600 | |
| June 23... | 17,000 | | Dec. 22... | 20,650 | |
| June 30... | 17,400 | | Dec. 29... | 20,650 | |
| | | 85,100 | | | 102,000 |
| | | 423,875 | | | 483,325 |
| | | | | 1900. | 1899. |
| Grand total | | | | 907,200 | 710,750 |
| Weekly average | | | | 17,446 | 13,672 |

The total number of copies issued during 1899 was 710,950, during 1900, 907,200, indicating an increase of 196,250, or 27 2/3 per cent. The following indicates net gains and losses for twelve months ending Jan. 1, 1901:

| STATE. | Gain for the Year. | Loss for the Year. |
|---|---|---|
| Alabama | 104 | .. |
| Alaska | 1 | .. |
| Arizona | 3 | .. |
| Arkansas | 24 | .. |
| California | 49 | .. |
| Colorado | 29 | .. |
| Connecticut | 86 | .. |
| North Dakota | 1 | .. |
| South Dakota | 10 | .. |
| Delaware | 11 | .. |
| District of Columbia | 60 | .. |
| Florida | 15 | .. |
| Georgia | 308 | .. |
| Illinois | 391 | .. |
| Idaho | 5 | .. |
| Indian Territory | 12 | .. |
| Indiana | 199 | .. |
| Iowa | 224 | .. |
| Kansas | 122 | .. |
| Kentucky | 69 | .. |
| Louisiana | 69 | .. |
| Maine | .. | 17 |
| Maryland | 146 | .. |
| Massachusetts | 81 | .. |
| Michigan | 141 | .. |
| Minnesota | 53 | .. |
| Missouri | 228 | .. |
| Mississippi | 17 | .. |
| Montana | 10 | .. |
| Nebraska | 97 | .. |
| New Mexico | 5 | .. |
| Nevada | 2 | .. |
| New Hampshire | 32 | .. |
| New Jersey | 229 | .. |
| New York | 530 | .. |
| North Carolina | 69 | .. |
| Ohio | 122 | .. |
| Oklahoma Territory | 35 | .. |
| Oregon | 13 | .. |
| Pennsylvania | 535 | .. |
| Rhode Island | 10 | .. |
| South Carolina | 99 | .. |
| Tennessee | 293 | .. |
| Texas | 101 | .. |
| Utah | 11 | .. |
| Vermont | 7 | .. |
| Virginia | 154 | .. |
| Washington | 30 | .. |
| Wyoming | 10 | .. |
| West Virginia | 16 | .. |
| Wisconsin | 133 | .. |
| U. S. Army | 78 | .. |
| U. S. Marine-Hospital | .. | .. |
| Canada | 9 | .. |
| Cuba | .. | 3 |
| Hawaiian Islands | 2 | .. |
| Mexico | 6 | .. |
| Philippine Islands | 11 | .. |
| Porto Rico | 7 | .. |
| Foreign | 8 | .. |
| | 5122 | 20 |

The figures given below indicate the count of the mailing list Jan. 1, 1901, as compared with that of Jan. 1, 1900:

| | Jan. 1, 1900. | Jan. 1, 1901. |
|---|---|---|
| Copies to members | 8445 | 9841 |
| Copies to subscribers | 4623 | 8339 |
| Copies to advertisers | 233 | 306 |
| Copies to exchanges (domestic) | 153 | 149 |
| Copies to exchanges (foreign) | 59 | 49 |
| Copies to med. colleges and libraries | 108 | 113 |
| Copies to subscription agents | 4 | 45 |
| | 13,635 | 18,842 |

This indicates an increase of 5207, of which 5102 are new members and subscribers. This is nearly double the increase of 1899 over 1898, the increase in members and subscribers in 1899 being 2,628.

The following is a comparative statement of the net subscription collections for the years of 1899 and 1900:

| | 1899. | 1900. |
|---|---|---|
| January | $1,094.46 | $3,614.08 |
| February | 525.25 | 1,167.24 |
| March | 952.76 | 1,388.89 |
| April | 741.27 | 1,719.06 |
| May | 669.93 | 1,585.90 |
| June | 733.05 | 1,334.75 |
| July | 1,851.73 | 3,456.42 |
| August | 1,208.38 | 1,246.03 |
| September | 798.36 | 1,273.91 |
| October | 1,313.20 | 3,285.49 |
| November | 920.71 | 1,748.12 |
| December | 1,474.42 | 1,872.14 |
| | $12,283.52 | $23,697.03 |
| Indicating an increase of | | $11,408.51 |

Our subscription collection for January, 1901, were $4,862.74, which is $1,248.66 more than that for January, 1900.

THE JOURNAL has made an effort to improve in the quality of reading matter. How well it has succeeded you must judge. The figures presented in the first part of this report show that as a matter of financial policy it has been a success. As the number of readers of THE JOURNAL increases, it becomes more and more valuable as a medium of medical advertising, and the increase in revenue from that source shows that advertisers are not slow to appreciate that fact.

The Board of Trustees would also call attention to the fact that the frequent changes made in the program of the work of the Sections, all of which work is done in THE JOURNAL office, adds much to the expenses incident to printing of the JOURNAL. Your Board has deemed it best to instruct the Editor to make no changes in the program after May 4 of each year. It is suggested also that too many papers are on the programs of some of the Sections, and many of them are read only by title, and yet they must be treated and published, as if read and discussed by the Section. Your Board would suggest that such papers should be treated as volunteer papers. Especially should this apply when more than one paper is furnished by the same author at any annual meeting. In arranging the programs of the work of the different Sections your Board would suggest that the secretaries give preference to those who write for only one Section, over those who have furnished, or propose to furnish, papers for two or more Sections. This will limit the number of papers, and will tend to improve the quality. This course will become a necessity in view of the increased number of Sections, and the fact that each Section will be furnished a reporter so that all discussions can be reported in full. Under an order from your Board of Trustees, all stenographers will be employed by the Editor, to enable him to control all papers, and abstracts of the same. Your Board having directed an enforcement of Section 7 of the By-laws, in regard to the publication of papers, no paper will be published in THE JOURNAL which has appeared in full or in abstract form in any other journal, and no stenographer will be re-employed who furnishes any such abstract to any other journal.

Unless some curtailment of the number of papers to be published in THE JOURNAL can be obtained along the lines just suggested, the publication of many valuable papers read at our annual meetings must of necessity be delayed for nearly a whole year, a thing pleasant neither to the writer nor Editor. The ASSOCIATION might come to the relief of the Editor by limiting by by-law or otherwise the number of papers in each Section to thirty-five. If this is done, and the papers not read are ordered treated as volunteer papers, then much more room can be gotten in THE JOURNAL for papers from some of the best medical men in this country.

In order to still further improve the quality of the material, to eliminate as far as possible all that would be of little value to our readers and to fix the responsibility for all that is admitted to the pages of THE JOURNAL, your Trustees suggest that hereafter no paper presented to any section shall be printed until it has received the approval of the three members of the Executive Committee from that section, evidenced by their signatures to said paper.

INCREASED EXPENSES.

A glance at the credit side of your financial exhibit will show that with the increase in your circulation there has been a pro rata increase in certain expenses connected with your JOURNAL. The paper bill for the year 1900 was $2,874.23 more than during 1899, and second-class postage $1704.41 more, and ink $427.01 more; making an increase in these three items alone of $5005.65. It is not necessary to enumerate other items. These are presented as object-lessons.

We have referred to a few of the many sources of unnecessary expenses connected with the publication of our JOURNAL. Many of them could be avoided, if all Section officers, as well as ASSOCIATION officers, would make it a rule in future to comply with the letter of our Constitution and By-laws. Let all papers not considered worthy to appear in THE JOURNAL be passed upon and rejected by the Section officers, and not throw the burden of this responsibility upon the Editor or the Publication Committee of the Board of Trustees. Let the number of papers be limited to thirty-five to the Section, and let no changes be made in the programs of the Sections after May 4.

We present you this report in printed form, gotten out in our JOURNAL office, so as to have it ready for distribution to each member of the ASSOCIATION as he registers at our annual meeting. We trust that the work of your Board will meet your approval. In closing this report, we feel that we can present THE JOURNAL to you at the close of business at the end of the fiscal year, Dec. 31, 1900, as no longer an experiment in medical journalism, but as an assured success—a journal of which the ASSOCIATION may well be proud.

Respectfully submitted,

A. GARCELON, President.
H. L. E. JOHNSON, Secretary.
E. E. MONTGOMERY,
I. N. LOVE,
JOSEPH M. MATHEWS,
E. FLETCHER INGALS,
MILES F. PORTER,
W. L. RODMAN,
T. J. HAPPEL,
Board of Trustees.

On motion of Dr. Tuckerman, Ohio, the joint report of the Treasurer and Board of Trustees, with the recommendations contained therein, was adopted.

Dr. Bishop, Pennsylvania, moved that the Board of Trustees and the Editor of THE JOURNAL be extended a vote of thanks for their valuable and efficient services, which was unanimously carried.

The President announced as the committee to secure portraits of ex-presidents and living presidents, Drs. J. R. Pennington, of Illinois, W. L. Rodman, of Pennsylvania, and N. P. Dandridge, of Ohio. He also suggested in this connection that at present the Association had no appropriate depository for the excellent work of art which had been presented, and that it would be well for the committee to make arrangements to deposit this portrait of Dr. Davis in some art gallery until such time as the association would be able to provide quarters for its own art treasures.

The next thing in order was the report of the Committee on National Legislation, which was read by the Chairman of the Committee, Dr. H. L. E. Johnson, of Washington, D. C.

## Committee on National Legislation.

Second Annual Report of the Committee of the American Medical Association on National Legislation, presented to the St. Paul Meeting, June 4, 1901.

WASHINGTON, D.C., June 4, 1901.

*To the President and Members of the American Medical Association:*

*Gentlemen:*—We have the honor to report that at the last meeting of your Association, the constitution and by-laws were amended so as to provide for a standing committee known as the committee on National Legislation, said committee to be appointed annually by the President. In conformity with this, your honorable President appointed the following named gentlemen to constitute that committee: Drs. William L. Rodman, of Philadelphia, William H. Welch, of Baltimore, and H. L. E. Johnson, of Washington, D.C., who had served in this capacity during the past year, and reported to the Association at the meeting at Atlantic City, their work during the year with the recommendations, and the minutes of the annual conference held at Washington, D.C., with the delegates from the state societies, and the army and navy marine-hospital services. Their proceedings and recommendations were favorably reported upon by your General Executive Committee, and subsequently approved by the American Medical Association in general session.

We are pleased to report that as a result of the combined efforts of your committee, and the delegates to the annual conference, the obnoxious Senate Bill No. 34 entitled, "For the Further Prevention of Cruelty to Animals in the District of Columbia," known as the "Antivivisection Bill," has been defeated, and rendered practically impossible of passage in the future. As a result of the second annual conference held at Washington, Feb. 20 and 21, 1901, we have the honor to report the passage of Senate Bill No. 4171, entitled, "An Act Granting Additional Quarantine Powers and Imposing Additional Duty upon the Marine Hospital Service," and the defeat of Section 150 H. R. Bill 13,423, "The Codification of Postal Laws." This section, if it had become a law, would have cost the American Medical Association about $30,000 extra in postage in connection with the distribution of THE JOURNAL to our members and subscribers. We observe with great satisfaction and hope for future national influence of the American Medical Association, and the Committee on National Legislation, that the medical societies of the several states and territories are beginning to appreciate the importance of the annual conference, and the necessity of state co-operation in matters of medical legislation, both local and national, as evidenced by the increased attendance at the second annual conference which was held at Washington, D. C., in February last, at which conference the delegates in session appointed the standing committee of the second annual conference with full power to represent them, and act, *ad interim*, in all medical matters arising in the Congress of the United States. Two special matters were thoroughly discussed in their various phases, and received the unanimous approval of your committee and the conference. The first dealt with the unification of medical practice acts in the several states and territories, and showed a consensus of opinion that medical education and requirements should be raised to a given standard, said standard being adopted by the several states, thereby permitting mutual acceptance of medical licenses to practice. To this end the following resolution of Dr. John B. Roberts, of Philadelphia, was adopted:

*Resolved*, That the chairman appoint a sub-committee of three to study the question of uniform medical legislation on the basis of uniform medical education, and that this sub-committee report at the next meeting of this conference.

The chairman, Dr. Johnson, appointed Drs. Emil Amberg, of Detroit, Mich., Dudley S. Reynolds, of Louisville, Ky., and John B. Roberts, of Philadelphia, Pa. The other matter, of probably greater magnitude, at least from a legislative point of view, was the importance and absolute necessity of state medical organization in connection with the American Medical Association, through your Committee on National Legislation. The universal opinion of the delegates in conference was that the medical societies should be thoroughly organized throughout each State and have a principal representative through whom the entire regular profession of the state should be brought promptly in touch with your Committee on National Legislation, the American Medical Association, the National Congress, or a State Legislature whenever necessity requires. To this end, the following resolution of Dr. William H. Welch, of Baltimore, Md., was adopted:

*Resolved*, That the chairman of this conference send to each state society a communication, stating the character of the organization, and the purpose of this conference, advising each society to conform with the action of the American Medical Association, requesting the appointment of two members, as delegate and alternate, a State Committee on National Legislation to represent the State Society in this conference, and to co-operate with the National Committee. Each state society is requested to send to the Chairman of the National Committee, the names and addresses of the delegate and alternate.

To further carry out this important matter of state medical organization, the following motion of Dr. H. M. Bracken, of Minneapolis, Minn., was adopted: *Moved*, That a committee of five, with power to increase its number, be appointed by the chairman, to carry into effect state medical organization. The Chairman, Dr. Johnson, appointed Drs. C. R. Shinault, of

Helena, Ark., W. P. Goff, of Clarksburg, W. Va., L. B. Tuckerman, of Cleveland, Ohio, H. M. Bracken, of Minneapolis, Minn., and Charles E. Quimby, of New York City, N. Y.

We quote and reiterate our recommendation of last year, and we can not urge too forcibly its importance in connection with the future efforts of your committee. "Your committee is of the opinion that an annual conference at Washington, D.C., to consider pending national and state medical legislation, is desirable, in that it will tend to awaken interest in national medical affairs and will give the state and national legislators a medium for better understanding the wishes of the country at large with respect to medical questions. We recommend that the American Medical Association request affiliating medical societies of the several states and territories to provide in their constitutions for the appointment of a State Legislative Committee whose duty it shall be to consider all medical legislation arising in the state legislatures and in the national congress, and advise their constituent members thereof; further, the appointment of one member and an alternate to represent their society when called upon by your Committee on National Legislation to a general conference in Washington, each society paying out of its treasury the expenses of such delegate or alternate to said conference. We suggest that such committee shall be carefully selected with respect to special individual qualifications for such service, and that the tenure of office shall depend upon individual fitness for the position."

We officially report that on Feb. 20 and 21 of this year, in accordance with the constitution of the American Medical Association, your Committee on National Legislation held an annual conference at Washington, D.C., with the delegates from the medical societies of the various states, and the government services. We submit herewith the transactions of said conference, and recommend that it be printed in full in THE JOURNAL. We further recommend that the American Medical Association approve the several resolutions quoted and adopted by the second annual conference. Very respectfully,

H. L. E. JOHNSON, M.D.,
WILLIAM H. WELCH, M.D.,
WILLIAM L. RODMAN, M.D.,
Committee on National Legislation.

## Minutes of the Second Annual Conference of the Committee on National Legislation, Held at Washington, D. C., February 20-21, 1901.

The Committee on National Legislation had several meetings during the year, and the Chairman was instructed to send the following communication to the Secretary of the Medical Societies of each State and Territory of the United States, in accordance with the by-law of the American Medical Association:

WASHINGTON, D. C., December 28, 1900.

MY DEAR DOCTOR:

On behalf of the Committee on National Legislation of the American Medical Association, I earnestly request you to send, at your earliest opportunity, the names and addresses of the delegate and alternate who are to represent your State Medical Society at the annual conference at Washington, D. C., this winter.

When you furnish me the names I will notify them at once of the date of the proposed conference. Please refer to the report of the last conference, which appears in the JOURNAL of June 16, 1900, page 1547, and the report of the Trustees, on page 1559; also the report of the General Executive Committee of the Association, on page 1561, JOURNAL of same date. Respectfully,

H. L. E. JOHNSON, M.D.,
Chairman.

Subsequently, to those societies who did not respond, the following communications were sent:

WASHINGTON, D. C., January 23, 1901.

MY DEAR DOCTOR:

On behalf of the Committee on National Legislation of the American Medical Association, I earnestly request you to send, at your earliest opportunity the names and addresses of the delegate and alternate who are to represent your State Medical Society at the annual conference at Washington, subject to the call of the Association's Chairman.

Please refer to the report of the last conference, which appears in the JOURNAL of June 16, 1900, page 1547, and report of the Trustees on page 1559, and also report of General Executive Committee on page 1561, JOURNAL of same date. If your State Society has not appointed a delegate and alternate will you please urge upon the members the importance of so doing? Respectfully,

H. L. E. JOHNSON, M.D.,
Chairman.

WASHINGTON, D. C., January 23, 1901.

DEAR DOCTOR:

As your Society has not sent the name of the delegate and alternate to the Annual Conference of the Committee on National Legislation of the American Medical Association which meets here on February 20 and 21, 1901, will you please send the enclosed to the proper appointing officer or Committee of your Society that it may promptly reach your delegate or alternate, when such appointment is made? Very truly yours,

H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation.

Following thereon a regular call for meeting was sent.

WASHINGTON, D. C., January 30, 1901.

DEAR DOCTOR:

The Committee on National Legislation of the American Medical Association hereby requests you to meet in annual conference at Washington, D. C., on February 20 and 21, 1901, at 11 o'clock a. m., at the Arlington hotel, to consider various medical matters now pending in the National Congress of the United States and any other medical matters of local interest to your Society.

All the hotels of the city are crowded at this season of the year, but the proprietor of the Arlington Hotel, Mr. Frank V. Bennett, will provide for your room and comfort either there or at an annex on your arrival.

Please notify me by mail promptly that you will be present at this conference. I leave Washington on the 1st proximo to attend the third Pan-American Medical Congress at Havana, Cuba, and expect to return to Washington by the 12th or 15th, at which dates any correspondence from you will be promptly answered.

In case you cannot attend please forward this to your alternate.

Very truly yours,
H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation.

The conference was called to order by the Chairman, Dr. H. L. E. Johnson, of Washington, D. C., at 11:20 a. m., February 20, 1901, at the Arlington Hotel. The minutes of the last conference were read and approved.

PRESENT: Dr. Dudley S. Reynolds, Louisville, Ky.; Dr. Emil Amberg, Detroit, Mich.; Dr. Charles E. Quimby, New York, N. Y.; Dr. H. M. Bracken, Minneapolis, Minn.; Dr. C. S. Rodman, Waterbury, Conn.; Dr. W. P. Goff, Clarksburg, W. Va.; Dr. L. B. Tuckerman, Cleveland, Ohio; Dr. C. R. Shinault, Helena, Ark.; Dr. U. O. B. Wingate, Milwaukee, Wis.; Dr. Walter Wyman, Surgeon-General United States Marine-Hospital Service; Dr. Henry A. Beaudoux, Fargo, N. D.; Dr. H. L. E. Johnson, Washington, D. C.; Dr. George S. Armstrong, Spokane, Wash.; Dr. John B. Roberts, Philadelphia, Pa.; Dr. William H. Welch, Baltimore, Maryland; Dr. J. B. Massie, Houston, Tex.; Dr. Wm. L. Rodman, Philadelphia, Pa.; Dr. George M. Sternberg, Surgeon-General, United States Army.

The Chairman, Dr. Johnson, announced that the medical societies of the following States had nominated delegates, but their representatives had not appeared: Colorado, Florida, Indiana, Kansas, Maine, New Hampshire, Rhode Island, Tennessee; and that the medical societies of the following States had made no nominations to the conference: Alabama, Arizona, California, Delaware, Georgia, Idaho, Illinois, Indian Territory, Iowa, Louisiana, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, Oklahoma Territory, Oregon, South Carolina, Utah, Vermont, Virginia, Wyoming. The Massachusetts Medical Society sent the following communication, declining to send a delegate, and voting to lay the matter upon the table:

THE MASSACHUSETTS MEDICAL SOCIETY.

ROXBURY, MASS., February 25, 1901.

H. L. E. JOHNSON, M.D.
Chairman Committee on National Legislation, American Medical Association.

MY DEAR DOCTOR:

In reply to your communication of 23d instant I would say that on or about the 7th instaut I wrote to inform you that at a meeting of the Councillors of this Society, held on 6th instant, it was voted to lay on the table the matter of appointing a delegate to represent the Massachusetts Medical Society at the meeting of the Committee in Washington, D. C. Yours Respectfully,

F. W. GOSS,
Recording Secretary.

The Chairman, Dr. Johnson, addressed the conference, stating the object of the call, and outlined the work of the Committee *ad interim*, stating that after the first conference adjourned the special committee, consisting of Drs. H. L. E. Johnson, Washington, D. C.; W. P. Goff, West Virginia; H. M. Bracken, Minnesota, and L. B. Tuckerman, Ohio, as directed, drew up a preamble to the Senate and House of Representatives denouncing in positive terms, and urging against the passage of Senate Bill 34, known as the Antivivisection Bill, and had the same submitted to the Senate by the President *pro tempore*, Senator Frye. The bill is practically dead. We have heard nothing about it recently, and its former urgent supporters appear to have lost heart, at all events they are not pushing the matter.

Many of those who signed the original petition for the passage of the bill, have concluded the measure was too radical. We think the conference is to be congratulated upon its success in this particular. Following the instruction of the last conference, your committee called upon the different committees of Congress, in the interest of the other measures, endorsed by you.

The Chairman, Dr. Johnson, presented the following resolution, which was proposed at the meeting of the American Medical Association, at Atlantic City, June, 1900, and referred to the Committee on National Legislation, which decided to refer it to you for your consideration:

*Resolved*, That this Association heartily endorses the bill (H. R. 11015) now before Congress, providing that the rank, pay and allowances of the Surgeon-General of the United States Army shall be that of a Major-General of the United States Army, and that a committee of three be appointed by the President to assist in the securement of its passage.

On motion this resolution was endorsed.

J. LAWTON MIERS, M.D.
I. N. LOVE, M.D.
JOSEPH M. MATHEWS, M.D.

The Chairman stated that in December last, the Committee on National Legislation was appealed to by many prominent physicians, to co-operate with them, in urging an amendment to Senate Bill 4300, known as "the Army Reorganization Bill." The amendment proposed was to section 18, and referred to the medical department of the Army.

Your Committee saw the Chairman in charge of the matter in the House of Representatives, presented their objections to the measure, and later, arranged with the Chairman of the Senate Committee on

Military Affairs for a hearing. This was promptly agreed to by the Chairman, Senator Hawley, but subsequently this hearing was positively refused, the Chairman of the Committee sending the following letter to your Chairman:

UNITED STATES SENATE,
COMMITTEE ON MILITARY AFFAIRS,
CITY OF WASHINGTON, December 15, 1900.

Mr. H. L. E. JOHNSON, Chairman
American Medical Association, Washington, D. C.

MY DEAR SIR:

Personally I should be very glad to hear you as a representative of the Medical Association; but the committee has determined to stop taking testimony because we have had a flood of it, and we are anxious lest we shall be late in passing the reorganization bill and bring calamity upon our people in the Philippines. Our good friend, Surgeon-General Sternberg, has spoken to the committee and talked as long as he pleased. I think the committee understands pretty well the real needs of the staff corps. Yours very truly,

J. R. HAWLEY.

Upon receipt of this, your Chairman called upon several members of this Senate Committee, objecting positively to their course in this matter, and sent to the Chairman the following communication:

WASHINGTON, D. C., December 16, 1900.

Hon. JAMES R. HAWLEY, Chairman
Senate Committee Military Affairs.

DEAR SIR:

Your favor of the 15th instant, in which you decline giving further public hearing in the matter of the Army bill, S. 4300, has been received, and in reply thereto, I beg to say:

We, the Committee on National Legislation, which represents the American Medical Association, and each State and Territory Medical Society of the United States, do most respectfully, but earnestly, disapprove section 18 of said bill as reported by the House of Representatives, and request that the following be substituted therefor:

SEC. 18. That the Medical Department shall hereafter consist of one surgeon-general with the rank of brigadier-general; ten surgeons with the rank of colonel; twenty surgeons with the rank of lieutenant-colonel; eighty surgeons with the rank of major; two hundred surgeons with the rank, pay, and allowances of first lieutenant of cavalry for the first five years' service, and with the rank, pay, and allowances of captain of cavalry after five years' service; the Hospital Corps as now authorized by law, and the Nurse Corps: *Provided*, That all vacancies in the grade of colonel, lieutenant-colonel and major, created or caused by this section shall be filled by promotion according to seniority, subject to the examinations now prescribed by law, and that all vacancies in the grade of surgeon with the rank of lieutenant shall be filled by selection after competitive examination: *Provided*, That the period during which any surgeon shall have served as a surgeon or assistant-surgeon of volunteers, or as a surgeon under contract, since April twenty-first, eighteen hundred and ninety-eight, shall be counted as a portion of the five years' service required to entitle him to the rank of captain, but that after he attains the rank of captain his relative rank for subsequent promotion shall not be disturbed by anything herein. That on and after the passage of this Act the President may appoint, for duty in the Philippine Islands, fifty surgeons of volunteers with the rank, pay, and allowances of major, one hundred and fifty surgeons of volunteers with the rank, pay, and allowances of captain of cavalry: *Provided*, That so many of these volunteer medical officers as are not required shall be honorably discharged from the service whenever in the opinion of the Secretary of War their services are no longer necessary, and that the period for which they are appointed shall be limited to two years from the passage of this Act. That on and after the passage of this Act the President may appoint contract surgeons who have rendered faithful and satisfactory services for a year or more to be surgeons of volunteers with the rank, pay, and allowances of first lieutenants of cavalry, subject to honorable discharge whenever in the opinion of the Secretary of War their services are no longer required: *Provided further*, That all surgeons appointed shall be of good moral character and shall have passed a satisfactory professional and physical examination.

This request is made in the interest of the Medical Department of the Army and the Civilian Medical profession of the United States. As you find it impossible to grant us the audience promised, we respectfully request that this communication be laid before your Honorable Committee for consideration.

Very respectfully yours,

H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation,
American Medical Association.

Following the receipt of the above, your Chairman was promptly invited to appear before the Committee on Military Affairs of the Senate, and requested to explain the amendment suggested by your Committee. After an hour's conference and argument with the Committee, notwithstanding the fact that the matter had been practically closed, in recognition of your wishes the amendment to section 18, proposed by your committee, was referred to a special sub-committee of their members for consideration, who finally reported against the same. In order to reinforce the position taken by your Committee, your Chairman telegraphed the various members of the conference, and THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION as follows:

December 18, 1900.

Dr. ———:

As Legislative Delegate, from your State Society, wire at once Senator Hawley to vote for amendment to pending Senate Army Bill 4300, proposed by Committee on National Legislation.

H. L. E. JOHNSON, M.D., Chairman.

CHICAGO, ILL., Dec. 18, 1900.

EDITOR JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

The Committee on National Legislation has been in conference with the Military Committees of the Senate and House of Representatives, considering the Army Reorganization Bill (S. 4300), and has recommended a substitute for Medical Section 18, to meet the wishes of the civilian physicians of the United States and the Surgeon-General of the Army. The Committee on National Legislation appeals to every member of the American Medical Association, requesting that he write or telegraph at once, to both Chairmen, Senator Hawley and Representative Hull, urging them to vote for, and favor the passage of the substitute proposed by your Committee. The original bill is highly objectionable.

H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation.

This situation made us thoroughly appreciate the absolute necessity of thorough organization in the various States. We recommend a most thorough organization in the medical societies in the several States, so that your committee, *ad interim*, will be enabled to call upon some duly appointed individual, who will be able to bring the pressure of the entire medical profession of his State, to act for, or against, a measure in Congress when called upon by your committee. Many letters were received in reply to the telegrams of your chairman, one of which, from Dr. Black, is herewith presented, as it is in line with our suggestions:

ILLINOIS STATE MEDICAL SOCIETY.

JACKSONVILLE, ILL., February 13, 1901.

H. L. E. JOHNSON, M.D., Washington, D. C.,
Chairman Committee on National Legislation, American Medical Association.

DEAR DOCTOR:

As Chairman of the Committee on Medical Legislation of the Illinois Medical Society, I have been appointed to represent Illinois at the proposed meeting in Washington on the 20th and 21st of the present month.

I regret to say that it will be impossible for me to attend this meeting without there should be some radical change in my arrangements. In Illinois we are devoting our greatest energy towards organizing. Whatever influence we may be able to exert on legislation must come by an organized effort.

The Legislative Committee is using every means to secure a correct list of the members of all local societies in the State. In Illinois our local societies comprise at least four thousand members. We hope to soon have these men in a closer and more uniform organization, and by that means will be able to bring far more influence to bear on National as well as State legislation. Anything that I can do from this distance to forward the interests of your committee will be gladly undertaken.

Regretting my probable inability to attend your meeting, I am,

Very respectfully,

CARL E. BLACK, Chairman.

It seems to me that this is the secret of the success of this Conference—thorough organization. When you leave Washington and your committee, we are willing at all times to come to the aid of the physicians of the various States, but we must have some person appointed in each State to reach the various physicians in his individual State, so that they can correspond with their Members and Senators, expressing their wishes on a particular subject. Medical legislation has often been proposed by laymen, objectionable to the doctors, and medical men, comprising the cream of the profession, have objected to the measures, but no attention was paid to their wishes. The other day when a question came up in Congress about a particular clause in a certain bill, it was stated that Workingmen's Union, No. so-and-so, had drawn the bill, through their attorneys, and that it would undoubtedly pass. It seems to your committee that our profession should be given some recognition. If the members present will act on this, and appoint some man in each State, we can do more in the future. With respect to the Army Bill, Senate 4300, it has passed out of our hands, and is now a law. I want to call to your attention the article by Dr. Amberg, "The Present Status of Interstate Reciprocity, concerning licenses to practice medicine" (*Medical News*, October 27, 1900), which is very important and shows a great deal of work and thought on his part.

This practically sums up the work, *ad interim*, with the exception that at the last Congress we acted on Senate Bill 4171, which is herewith presented:

56th Congress, 1st Session. S. 4171. Report No. 1833.

IN THE HOUSE OF REPRESENTATIVES.

May 28, 1900.

Referred to the Committee on Interstate and Foreign Commerce.

May 29, 1900.

Referred to the House Calendar and ordered to be printed.

AN ACT

To amend "An Act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," approved February fifteenth, eighteen hundred and ninety-three.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That an Act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service, approved February fifteenth, eighteen hundred and ninety-three, be amended by addition of the following sections:

"SEC. 10. That the Supervising Surgeon-General, with the approval of the Secretary of the Treasury, is authorized to designate and mark the boundaries of the quarantine grounds and quarantine anchorages for vessels which are reserved for use at each United States quarantine station; and any vessel or officer of any vessels or other person, other than State or municipal health or quarantine officers, trespassing or otherwise entering upon such grounds or anchorages in disregard of the quarantine rules and regulations, or without permission of the officer in charge of such station, shall be deemed guilty of a misdemeanor and subject to arrest, and upon conviction thereof be punished by a fine of not more than three hundred dollars or imprisonment for not more than one year, or both, in the discretion of the court. Any master or owner of any vessel, or any person violating any provision of this Act or any rule or regulation made in accordance with this Act, relating to inspection of vessels or relating to the prevention of the introduction of contagious or infectious diseases, or any master, owner or agent of any vessel making a false statement relative to the sanitary condition of said vessel or its contents or as to the health of any passenger or person thereon, shall be deemed guilty of a misdemeanor and subject to arrest, and upon

conviction thereof be punished by a fine of not more than five hundred dollars or imprisonment for not more than one year, or both, in the discretion of the court.

"SEC. 11. That any vessel sailing from any foreign port without the bill of health required by section two of this Act, and arriving within the limits of any collection district of the United States, and not entering or attempting to enter any port of the United States, shall be subject to such quarantine measures as shall be prescribed by regulations of the Secretary of the Treasury, and the cost of such measures shall be a lien on said vessel, to be recovered by proceedings in the proper district court of the United States and in the manner set forth above as regards vessels from foreign ports without bills of health and entering any port of the United States.

"SEC. 12. That the medical officers of the United States, duly clothed with authority to act as quarantine officers at any port or place within the United States, and when performing the said duties, are hereby authorized to take declarations and administer oaths in matters pertaining to the administration of the quarantine laws and regulations of the United States."

Passed the Senate May 26, 1900.

Attest: CHARLES G. BENNETT, Secretary.

56th Congress, 1st Session. HOUSE OF REPRESENTATIVES. Report No. 1833.

GRANTING ADDITIONAL POWERS, ETC., UPON MARINE-HOSPITAL SERVICE.

May 29, 1900.—Referred to the House Calendar and ordered to be printed.

Mr. Corliss, from the Committee on Interstate and Foreign Commerce, submitted the following

REPORT.

[To accompany S. 4171.]

The Committee on Interstate and Foreign Commerce, to whom was referred the bill (S. 4171) to amend "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," approved February 15, 1893, beg leave to submit that this measure is necessary for the efficient performance of the duties devolving upon the Marine-Hospital Service.

We therefore recommend that the said bill do pass.

* * * * * * * * *

The Chairman, Dr. JOHNSON, continuing, said: This bill is now on the verge of passage. General Wyman will fully explain the features and necessity of this measure, and then we can close up the work, *ad interim*, and take up general matters, by States.

GENERAL WYMAN, U. S. Marine-Hospital Service: This bill was introduced in the Senate and House, and came up before the Senate Committee with some amendments and was by them reported favorably, and then it passed the Senate. It then went over to the House Committee, by whom it was reported favorably and placed on the Calendar. On account of the shortness of time remaining of this session an effort was made to gain unanimous consent to have the bill passed in one of the morning hours. There was no objection to the bill, but the gentleman who brought it up had inquired about it from one of the members who knew nothing about it, and he was a little tart in his reply, and in consequence he said: "I object." This prevented it from being brought up at that time. I have seen the Chairman of the Committee, and spoken to him of the importance of this bill, and urged him to put it through. I received a nice letter from him in reply, in which he said he would do so.

It had been reported favorably to the House by the committee, and the chairman of the committee has the privilege, by vote of the committee, to bring any matter up at the proper time whenever an opportunity is given to report bills. Mr. Hepburn said he would bring it up at the proper time. Another way is under the suspension of the rules. Last Monday was one of these days, and Mr. Corliss made a report; but the measure of the World's Fair at St. Louis was up, and there was no time then to take up our matter. Mr. Corliss will watch it closely and pass it, because there will be no objection.

The National Quarantine law passed in 1893 is a fine law, but the only penalty for a foreign ship leaving a port without a bill of health is through a court of law.

If the master of the ship says there is no one sick and there is some one sick, we have no way of punishing him for it. Heretofore we have been obliged to use the State quarantine laws for punishment, but we cannot do it as effectively under them as we could under our own. The penalties are not excessive, but there should be some penalty which would cause the master and officers of vessels to respect the law. The importance of it now lies in the fact that Congress passed laws granting additional quarantine powers to Hawaii and Porto Rico, and our own country should have the same, so that we may have some way of protecting ourselves from the introduction of contagious diseases. These laws are made to apply in the Philippines and Cuba. While the penalties might not be imposed, yet if we had the power of inflicting them it would be a great aid.

Another feature is for the National quarantine officers to administer oaths. Every State has this power, but we have not. One other feature relates to the surveillance of vessels that may leave foreign countries, such as Cuba, and hover around our coast claiming they don't enter our ports; they come within the 3-mile limit and we have no way of preventing them. They call themselves fishing smacks, and are often manned by new arrivals from Spain who are not immune. They come to the Florida coast for the purpose of smuggling tobacco and rum, and all we can do is to drive them off. We purchased a swift yacht and cruised along the coast to ward them away from the 3-mile limit. We have to put aboard a customs inspector. This law empowers the Secretary to make such regulations as will keep the coast safe from such vessels and not allow them to put a sick man ashore, and charge all expense against the vessel, which we would seize and transport to the nearest quarantine station for disinfection, the vessel paying all expenses.

Another feature of the bill is to make ont the anchorage so that any intrusion may be punishable by a fine. Infected vessels are placed within this anchorage, and should any vessel try to have communication with the infected ship we can drive them off or capture them. This bill will give us the necessary authority to impose a fine upon them. Everything is smooth, and the only thing now is to get it through. The chairman of our committee and Mr. Corliss are quite interested in it, but of course the time is getting short; but if the committee could interest the speaker and get him to recognize some one in the interest of this bill it will pass at once, and I think this can be done with some tact.

DR. TUCKERMAN, of Ohio, then moved that the special committee be authorized to represent to the members of the House Committee who have this bill in charge the urgent necessity of getting this bill through. Seconded by Dr. Goff, of West Virginia. Carried.

The Chairman, Dr. JOHNSON, suggested that they individually bring this matter to the attention of their Senators and Members, when they are seen this afternoon.

The Chairman, DR. JOHNSON, said it might be well for the Conference to pass on the *ad interim* action of the committee.

DR. JOHN B. ROBERTS, of Pennsylvania, moved that the Conference approve the action *ad interim* of the Legislative Committee of the AMERICAN MEDICAL ASSOCIATION and its subcommittee. Seconded by General Wyman. Carried.

The Chairman, DR. JOHNSON, on behalf of the Medical Society of the District of Columbia, extended an invitation to the members of the Conference to attend its evening meeting.

GENERAL WYMAN: It has occurred to me since sitting here that it might interest you to come to the Bureau and Laboratory of the Marine-Hospital Service. It will give me great pleasure to have you attend.

The Chairman, DR. JOHNSON, then called the delegates by states, for any matter they might wish to present the Conference.

DR. C. R. SHINAULT, of Arkansas, said he had nothing special to report.

DR. C. S. RODMAN, of Connecticut, had no business to introduce. He said: I may report from Connecticut that in consequence of the meeting here a year ago the Connecticut Medical Society introduced a recommendation to provide for reciprocity and, perhaps what is inseparable for a State Board, that a practitioner may have his license revoked on conviction of crime. This was introduced in the Connecticut Legislature last week, and we hope to have it passed. If so, it will be the result of your meeting last year. From my own experience, a larger representation might be gotten here if the President of each State Society was notified and the matter brought to his attention.

The Chairman, DR. JOHNSON, for the District of Columbia, said: We have several matters pending; the principal one is the reclamation of the Anacostia flats. This is a disease-breeding spot which affects the health of those in the public schools, Insane Asylum, Navy Yard, Arsenal, and the entire southeastern section of this city. Another matter is the water supply and filtration. The Potomac water here is the worst in the United States. We also have the bill, which has already been referred to, granting additional quarantine powers to the Marine-Hospital Service, and I urge that this be considered. All these things have been placed before the House and Senate and shifted from committee to committee because of our nonentity in Congress. We have a foothold on the Rivers and Harbors Bill. The water supply should be considered at once. We have possibly more typhoid fever here than in any other city in the United States.

DR. DUDLEY S. REYNOLDS, of Kentucky: I had not the privilege of being with you last year. I have learned a great deal since I came here, and I see now more fully the value of this committee, and when I return home I will endeavor to present a synopsis of the work to our State Society in May in Louisville. I know of nothing that Kentucky has to request.

DR. W. H. WELCH, of Maryland: I was not instructed to bring any special matter before the Conference. Apropos of your remarks, Mr. Chairman, on organization, I might say that our Society has appointed two delegates to represent them in this Conference, and it might be useful for this Conference to prepare a statement to be sent to each society to appoint two of their members who can be appealed to at any time.

DR. REYNOLDS, of Kentucky: A great many State societies have no knowledge of this committee and its possibilities, and if a brief statement was prepared, giving the nature of the organization, it would do much good. Not only should each society be requested to appoint two members as a committee, but it is also important that the chairman of this committee communicate with them. Each society should also report at this Conference as to their legislative work, and communicate with this Conference as to what they desire brought forward.

GENERAL WYMAN: Shall these two appointees be delegate and alternate?

DR. WELCH, of Maryland: Yes. If they could not attend, appoint a proxy, and bring this to the attention of each Society at their annual meeting.

RESOLUTION OF DR. WELCH.

I move that the Chairman of this Committee send to each State Medical Society a communication stating the character of the organization and the purposes of this Conference, and advising each Society to conform with the action of the AMERICAN MEDICAL ASSOCIATION, requesting the appointment of two members as a State committee on national legislation to represent the State Society in this Conference and to coöperate with the National Committee. Each State Society is requested to send to the Chairman of the National Committee the names and addresses of the local committee.

DR. REYNOLDS, of Kentucky: I would suggest that a subcommittee draft a report of the request.

DR. QUIMBY, of New York: Would it not be better for the societies to comply with the regulation?

DR. TUCKERMAN, of Ohio: The necessity of doing it now rests on the fact that a number of State societies meet before the AMERICAN MEDICAL ASSOCIATION meeting, and if they are communicated with now they will act this coming spring.

DR. REYNOLDS, of Kentucky: The idea I have about this resolution is, that it intends to notify these States which have not been informed that the AMERICAN MEDICAL ASSOCIATION invites each State Society to appoint a delegate and alternate.

DR. H. M. BRACKEN, of Minnesota: Mr. Chairman, who has provided for the alternate in the various States? In our State I was informed that no alternate was requested. These matters can be made clear to us now.

The Chairman, DR. JOHNSON, submitted a copy of the letter sent to each Society, and stated that each State and Territory Society had been communicated with, both this and last year.

The Chairman, DR. JOHNSON: Dr. Welch's resolution is in order.

The resolution was stated and carried.

DR. EMIL AMBERG, of Michigan: I should like to bring up the subject of interstate reciprocity. It appears to me that this subject is not entirely within the scope of this Committee, because this has more to do with interstate legislation. It is my opinion that the AMERICAN MEDICAL ASSOCIATION should appoint a special committee for this purpose. This requires study of the preliminary and medical education and the laws of each State, and I would therefore move that the AMERICAN MEDICAL ASSOCIATION, not appreciating fully the importance of this movement at its last meeting, the following resolution be adopted:

WHEREAS, The medical profession of the United States desires uniform medical legislation on the basis of uniform medical education, and

WHEREAS, The AMERICAN MEDICAL ASSOCIATION is the main representative of the medical profession of this country.

I move that the Legislative Conference of the AMERICAN MEDICAL ASSOCIATION, and affiliated societies recommend to the AMERICAN MEDICAL ASSOCIATION, at its next meeting at St. Paul, that the Association appoint a committee of three, which committee shall study the question of uniform medical legislation on the basis of uniform medical education, and that this committee report at the meeting of the Association in 1902, and that the actual expenses of this committee, not exceeding $600 for one year, be paid by the Association.

Seconded by Dr. Shinault, of Arkansas.

DR. JOHN B. ROBERTS, of Pennsylvania: I think if any legislative work is to be done, this Conference is the place, and far better than creating another committee, with other expenses, to do the same work we are doing now.

The Chairman, DR. JOHNSON: The matter of incurring extra expense to the AMERICAN MEDICAL ASSOCIATION would be referred to the Board of Trustees for approval. We could appoint from this Conference a committee and present it to the AMERICAN MEDICAL ASSOCIATION for its approval.

DR. JOHN B. ROBERTS, of Pennsylvania, offered the following amendment to Dr. Amberg's resolution:

*Resolved*, That the Chairman appoint a sub-committee of three to study the question of uniform medical legislation, on the basis of uniform medical education, and that this sub-committee report at the next meeting of this Conference. Dr. Amberg accepts Dr. Roberts' amendment, which, on motion, was carried.

DR. AMBERG, of Michigan: Something should be done on this matter at the next meeting of the AMERICAN MEDICAL ASSOCIATION.

The Chairman, DR. JOHNSON: In this matter we of the District of Columbia are annoyed. We have Maryland on one side and Virginia on the other, and we cannot practice in either place without examination, nor can they come here to practice.

DR. REYNOLDS, of Kentucky: Dr. Amberg is anxious for the AMERICAN MEDICAL ASSOCIATION to be heard throughout the country on this subject, and it will be met entirely by the amendment offered by Dr. Roberts. What we do here we report at the next meeting at St. Paul, that goes into the minutes of the AMERICAN MEDICAL ASSOCIATION, and if they approve of what we have done, that is then the expression of the AMERICAN MEDICAL ASSOCIATION itself.

The Chairman, DR. JOHNSON: The AMERICAN MEDICAL ASSOCIATION has already gone on record as requiring a four years' course in medicine before one can become a member of the AMERICAN MEDICAL ASSOCIATION, if they graduated after a certain date. What we want is a uniform requirement in granting license.

DR. REYNOLDS, of Kentucky: Yesterday, in this room, there was a conference of the Association of American Medical Colleges; this matter was considered and a conclusion reached which will give great impetus to the movement.

DR. AMBERG, of Michigan, moved as follows:

I move that the Chairman of the Conference be instructed to inform, in future, all members of the committee at least two months in advance about the principal features which will come up for consideration at the meeting and which are known to him at that date, and later on those which present themselves, until the date of the meeting.

Seconded by Dr. H. A. Beaudoux, of North Dakota.

The Chairman, DR. JOHNSON, informed the Conference that the motion is unnecessary and unwise, as certain important matters might come up after the notifications are sent out.

Dr. Amberg withdrew his motion.

DR. H. M. BRACKEN, of Minnesota, had nothing at present to report. The State Association is in sympathy with this work so far as it understands it. Bearing on the action upon Dr. Welch's resolution, I spoke to him about it, and his idea is that of a principal and alternate. I think it should be so expressed in notifying each Society.

The Chairman, DR. JOHNSON: Will Dr. Welch please explain his resolution?

DR. WELCH, of Maryland: One the delegate, the other alternate.

The Chairman, DR. JOHNSON: By unanimous consent, the change is made in the resolution of Dr. Welch.

DR. C. E. QUIMBY, of New York: I have no special report to make because this appointment was made rather suddenly. Therefore there is nothing to request in the direction of legislation from New York. We have in New York the typical organization. It is really Dr. F. H. Wiggin to whom the credit is due for having put the association where it now stands. The essence of that force lies in the basic principle of its organization, which is absolute equality for every part of the State, and the State Association is the County Association, and these are the State Associations. We have a council which is elected by the branches. It is divided into district branches. Of course there are a number of counties that have no association. These apply to the district branches. There is therefore a provision made for every man to be a member of the State Association and then the AMERICAN MEDICAL ASSOCIATION. There is one delegate for every ten members. These are the delegates to the AMERICAN MEDICAL ASSOCIATION. This authority lies with the County Association. The right of entrance is also decided by the County Association, so that the men among whom he lives decide as to his fitness for membership. The County Association Treasurer collects dues for his association. The State Association fixes its dues, and each County Association fixes its own. The necessity of these district branches will not appear in any other State as in New York.

The State Association was very slack for a time. There were five associations when the new charter was granted. Now these county associations are being formed at the rate of one a week. I have heard of three in the last ten days. It is spreading, and in New York they are rushing to come in out of the rain. The candidates elected at each meeting number from 10 to 25. I think the most satisfactory part of the report is in its influence on members in showing them a unified body with the authority among themselves. There has been nothing in New York within twenty years which has done as this has. The only committees are an executive and a legislative committee. The County Association rules on all legal matters of ethics. The County Association committees are all made subordinate to the State Association. So we are prepared to carry on organization. We have all our committees ready and are a perfectly organized body, not only in numbers, but in the character of the men who are coming in.

DR. H. A. BEAUDOUX, of North Dakota, had nothing to bring before this body. We have troubles of our own in our State. We have taken steps to close the back door and are doing it successfully. We expect to succeed in bringing about clean medical practice in our State and stop magnetic institutions and quacks.

DR. C. R. SHINAULT, of Arkansas: When my name was called before I did not know what to say or what was wanted. I had no instructions from my society. We are in sympathy with this Conference, and we want our medical law improved. There is a bill before our Legislature now to that effect. At present the only restriction we have is a board that is empowered to examine applicants and decide as to their abilities as practitioners. There are several counties that do not have three graduates. This bill calls for the appointment of two members from each Congressional district, which will constitute the examining board and board of health. We hope then to have better laws. The board now passes any one who has weight as a voter.

DR. L. B. TUCKERMAN, of Ohio: We have in our State enforced the medical examination law for the first time, and it has resulted in a very great thinning out of incompetents. Nearly 30 per cent. failed. The State Board did not enforce its full requirements, but we think it will next year. The State Society endorsed fully the action of the Conference here. There is one matter which concerns the AMERICAN MEDICAL ASSOCIATION, and it seems to me we might act on it here because during the next year, if this proviso passes, it will cost the AMERICAN MEDICAL ASSOCIATION to mail its journal about $30,000. There was a commission appointed to eodify the postal laws and some things were added. The daily papers have had it in for weekly papers for years. They tried to shut out the weeklies, but it was discovered in time and stopped. In Section 4,550 of H. R. 13423 we find "that the rate of postage on newspapers and periodicals not exceeding two ounces in weight, when the same are deposited in a letter carrier office, for delivery by its carriers, shall be uniform at 1 cent each; and periodicals weighing more than two ounces shall be subject, when delivered by such carriers, to a postage of 2 cents each, and these rates shall be fully prepaid by stamps affixed." If this proviso passes, the AMERICAN MEDICAL ASSOCIATION will be obliged to affix a 2 cent stamp to each copy that goes to a subscriber. If this were a necessity it would be all right, but when the Government has to pay the railroads nearly four times as much per ton more than the express companies pay, it is liable to shut out from the denizens of country districts all literary work, because subscribers will be required to pay from $1 to $1.50 more per year. I therefore move that we take immediate action in this matter.

Seconded by DR. WELCH, of Maryland.

Carried.

DR. REYNOLDS, of Kentucky: I would suggest that Dr. Tuckerman appear before the Senate Committee, and that he be authorized to use any expression as the sentiment of this body.

The suggestion was approved.

DR. JOHN B. ROBERTS, of Pennsylvania: We received the reports and adopted the suggestions of the AMERICAN MEDICAL ASSOCIATION. We have nothing special to present, but I feel sure that the want felt is some reciprocity clause. The delegate from Arkansas (Dr. Shinault) also says that this is desired. We should give the right to practice to those who deserve it.

DR. GEORGE S. ARMSTRONG, of Washington: I have nothing to report. We have a permanent committee on legislation, and as soon as the legislators are elected we get the names of all members and the doctors who have a pull with them, and when we want anything done we notify those doctors having a pull: they interview the legislators, and the bill passes. Our Members and Senators will vote for anything we like.

DR. L. B. TUCKERMAN, of Ohio: I hope everyone here will see his Senators and Representatives before we go home and speak about the things we will act on here. The committee will not have half the effect that the home doctor has.

DR. WILLIAM P. GOFF, of West Virginia: I have no special subject to report. Our State Society is thoroughly in sympathy with the Conference. Our society appoints a delegate yearly, but takes no further interest in the matter.

DR. U. O. B. WINGATE, of Wisconsin: I have nothing to report, except that our society is in thorough harmony with this Conference, and that at its last meeting it amended its constitution to create a committee of one to meet with this Conference, and also to consider reciprocity.

GENERAL WYMAN, U. S. Marine-Hospital Service: I have nothing to report beyond what I have already said.

DR. D. S. REYNOLDS, of Kentucky: This is a luxurious semi-senatorial body. We meet here at 11 o'clock. I have very important demands at home, and wish to give my vote to Dr. Tuckerman.

Before I leave the city I will address a communication to Senator Lindsay, of Kentucky, in reference to the postal law bill.

DR. L. B. TUCKERMAN, of Ohio: I move that to-morrow the first business will be the discussion of the details of the Army Bill and the matters which the Committee on National Legislation presented. I would be glad if General Sternberg could go over the matter with us. I want to give notice to Congress that a lay Secretary, who don't know a bacillus from a bedbug, has no business to sit down upon the medical profession in the way he has. Seconded by Dr. Beaudoux, of North Dakota. Carried.

DR. D. S. REYNOLDS, of Kentucky: I move that the Chairman of this Committee furnish each of the delegates to this conference with a copy of these proceedings within thirty days. Seconded by Dr. W. P. Goff, of West Virginia. Carried.

DR. C. S. RODMAN, of Connecticut: In the matter of sending of delegates, I have had a double experience, in securing a delegate and then coming myself. I am satisfied that two or three things should be provided. First, each state should be asked to pay the expenses of the delegate, and second, to select an alternate. It would be much better, I think, for each delegate to select his own alternate. The Society cannot depend on the alternate, if the delegate cannot attend. I found it quite a task to get a man to come here for me. I certainly think that the State Society should be asked to provide for an alternate, but that the delegate should select him, and that the State Society should be asked to pay the expenses. The President should be notified a month before the meeting of his State Society. At the annual meeting of the Connecticut State Society held last May, I do not believe there was a man in attendance who was aware of the fact that the AMERICAN MEDICAL ASSOCIATION provides for the expenses of delegates. Therefore I wish to emphasize it.

The Chairman, DR. JOHNSON: A copy of the transactions was sent to the delegate who represented your Society last year, and was published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Consequently all concerned should have been thoroughly informed on these matters. The AMERICAN MEDICAL ASSOCIATION does not provide for the expenses of State delegates—that is a mistake.

DR. H. A. BEAUDOUX, of North Dakota: I move we accept the invitation of General Wyman for 9 o'clock to-morrow morning, and from there proceed here, to meet at 11 o'clock. Motion carried.

A motion to adjourn was made and carried.

## SECOND DAY, THURSDAY, FEBRUARY 21, 1901.

The Chairman, DR. JOHNSON, called the meeting to order at 11:10 a. m., and announced that the first order of business was the consideration of the law, formerly known as Senate 4300, the Army Reorganization Bill.

DR. L. B. TUCKERMAN, of Ohio: I went up yesterday to the document room of the House and Senate and tried to get the full history of the bill. I got the bill as passed. I have a few copies of these, but the things that were knocked out I haven't got. I presume the best way to proceed would be for General Sternberg to explain to us about the things that got in that should not have, and about the things that did not that should have been added.

SURGEON-GENERAL STERNBERG, U. S. Army: In making my recommendation for an increased medical department, I asked for one I thought we should have for the size of our army, and this draft of my recommendation shows what I asked for. I may say here that for an army of 100,000 men the surgeon-general should have the rank of major-general. I shall be retired a year from next June, so I don't expect to get it, but my successor undoubtedly will. You can't get everything from Congress at once. Instead of giving us ten assistant surgeons-general, with the rank of colonel, they gave us eight. Instead of twenty deputy surgeons-general, with rank of lieutenant-colonel, they gave us ten. Instead of giving us eighty surgeons, with rank of major, they gave us sixty; and instead of two hundred assistant surgeons, with rank of captains and first lieutenants, they gave us two hundred and forty. They gave us forty more. They gave us about the same number all the way through, although they gave us more of the latter grade. This is bad politics on the part of Congress and something the medical profession should stand up against a little later. The fact is that the bill as passed has not done injustice to anyone. It promoted two lieutenant-colonels to be colonels, four majors to be lieutenant-colonels, and it promoted fourteen captains to be majors, and promoted the men below them. It did no injustice to anyone now in the service. It appoints a larger number of assistant-surgeons, who will not have the same opportunity for promotion. It is these men who are coming in now who will suffer. They will be captains in five years, that is the law. But his promotion to a majority will be slow. A man now gets to be a major in fifteen to eighteen years. The man who comes in now will have to serve twenty-five years or more before he attains his majority. This should be corrected by legislation. I presented the matter in the most forcible way I Congress, and we are on record as claiming this. If Congress gives this to us, the medical corps will not have suffered. Their estimate was for an army of 60,000 and not for the necessary estimate I prepared for the existing army of 100,000 men. This bill includes two hundred officers to serve two years. They would not give us the number of officers in the regular Army that I wanted. I then made a special claim for two hundred officers of volunteers, fifty as majors and one hundred and fifty captains. This has passed, and it will help us out for two years. At the end of these two years they go out because their time expires, and then we must have some additional legislation to increase the number of men in the regular army. This, then, is the time to strike for an increase in the corps, before the men go out. We must then again present the plea for more men in the higher grades. We have really no reason to abuse Congress. They have provided for our present needs. They have also authorized the appointment of as many contract surgeons as I require. I made an earnest effort to obtain volunteer commissions for the contract surgeons. I urged that all contract surgeons who have rendered satisfactory service for one year should be commissioned, but they did not put this in the bill. So we have gotten nothing for our deserving contract surgeons. We must still retain a great many contract surgeons in the service. Whatever defects there are in the bill as passed don't really do any injustice to the present men of the corps, and these defects can be remedied later. So we must not urge additional legislation now, but in a year or two this matter should again be taken up. Say at you next annual meeting it should be taken up by the profession. There was great urgency to get this bill through. If I had called upon the profession to block legislation until we could get what we wanted, it would have resulted in our getting nothing, so let it rest until later.

DR. L. B. TUCKERMAN, of Ohio: I would inquire of the Surgeon-General if by the next annual Conference there could be a bill prepared embodying what would be an ideal medical service in the Army.

SURGEON-GENERAL STERNBERG: Yes, this could be done. It could be best prepared in my office.

DR. L. B. TUCKERMAN, of Ohio: I move that this Conference request the Surgeon-General, as a member of this Conference, to prepare a bill creating an ideal medical service, with the provision that the Surgeon-General shall have the rank of Major-General. Seconded by Dr. William L. Rodman, of Pennsylvania. Carried.

SURGEON-GENERAL STERNBERG, U. S. A.: I would like to add that I was not so greatly disappointed that Congress did not give us a larger medical corps for this reason: If you have to get hastily three or four hundred additional men, you are not snre of getting the best; so, in the long run, it won't take long to fill the 130 vacancies which they have given us.

The Chairman, DR. JOHNSON: In behalf of the Army Reorganization Bill, which is now known as Public No. 30, approved February 2, 1901, I wish to say I appeared before the Senate Committee with the Surgeon-General. I presented the letter, a copy of which I had read here yesterday, making a request to them to grant us a hearing, and accept a substitute for Section 18. A hearing was given; but they did not accept our suggestions. I think, while it is very well to act on the advice of the Surgeon-General, it behooves this Conference to stamp that bill as not in accord with the wishes of the medical profession at large. We speak in behalf of the medical men of the country who differ from the men from West Point and Annapolis. We present ourselves for medical appointment, thoroughly equipped to master the situation before us; but this is ignored. This Conference should go on record as disapproving the Senate's action in ignoring the wishes of the medical men of this country. This will pave the way for a future consideration of this subject. If deferred, it will come up later as new matter, before new men, who know nothing about its history. This communication should be sent to the Chairman of the Military Committee of the House and Senate, and let them understand that we don't approve their action. Notwithstanding the amount of work the Surgeon-General and I had before this committee, we and you have been ignored completely.

Dr. L. B. TUCKERMAN, of Ohio: I move that the Chairman (Dr. Johnson) and Dr. Welch be empowered to draw up a suitable communication to Congress, stating our views on their ignoring the medical profession of the United States, and give them notice that they will hear from us later. Seconded by Dr. C. S. Rodman, of Connecticut.

The Chairman, Dr. JOHNSON: This will have more weight if drawn up by members from the States, because those of us who reside in the District have no vote; let us all sign, and then it will have still more weight. I think Dr. Tuckerman would be the man to draw up the communication.

Dr. C. E. QUIMBY, of New York: If this motion prevails I must oppose it on the grounds of politics. I am not versed in politics, but in New York we learn that when you are beaten, don't call the other man names. The men on that committee were as sincere in doing their duty as we were in doing ours. The Surgeon-General says they have done us no injustice. He also says, this matter can be remedied later. It would be wiser for us to say to those men that at a future time we will be allowed to explain more clearly, and that they will then agree with us. I oppose the sending to any committee in Congress a communication condemning their action, because it did not agree with us.

SURGEON-GENERAL STERNBERG, U. S. A.: Our recommendations are a matter of record, and as a matter of fact, the resolutions would be pigeonholed, and it would do no good, even though it might be some satisfaction to us. Let us be satisfied and take up the matter later *de novo*. They are not sure in their own minds how many troops they must have in the Philippines. If they provide it for 100,000 and the number required was only 50,000, they would have done an unwise thing. They provide it for the immediate necessities, and I think it well to start in on the campaign now. Moreover, when we are demanding legislation, this Conference should have its delegates on the spot to urge the matter, and present our views. This Conference won't be able to accomplish any great results unless it gets at them from behind. Each man should see his own Senator and Representative. As a matter of practical politics it is hardly worth while to pass this resolution.

Dr. Tuckerman withdrew his motion.

The Chairman, DR. JOHNSON: This demonstrates the necessity of thorough organization in the States, so that we can come in contact with the radicals of the State Societies.

SURGEON-GENERAL STERNBERG, U. S. A.: I would like to say in this connection, impressing upon all Congressmen and Senators the fact that medical men now have a very extensive education. After graduating from some college, they have four years at a medical college, and at least one year at some hospital, and these men cannot be induced to come into the Army without promotion.

Senator Proctor says, "you get to be a first lieutenant." The West and the West Point man is only a second lieutenant, and has not such an Point man goes in there, when a mere boy, and has not such an extensive education. I endeavored to bring this fact before the committee, but it had no weight with them. The committee could not recommend more than they could pass. We must educate the individual members of the committee to understand this, and I think we will get all we expect at some future time.

The Chairman, DR. JOHNSON: The next matter for consideration is the codification of the postal laws, as applied to our medical JOURNAL.

DR. L. B. TUCKERMAN, of Ohio: After adjournment yesterday I went to the Senate, with a letter to Senator Lindsay, of Kentucky, from Dr. Reynolds. I pointed out to him the clause which related to medical journals, and other periodicals. He took it to Senator Chandler, who said the bill would not go through with that proviso

we can be positively assured that it will not go through that way.

Incidentally, I want to emphasize the remarks of General Sternberg. The only way to secure legislation is for each one of us to see our Senator and Representative personally. We thought we were beaten in Ohio. The osteopaths had secured, by treating legislators' wives, the support of one of the members of the State Senate, and it looked as though he had a majority of the votes, and he could bring it up at any time. We called up his family physician, who took the first train for his home. They had lunch together, during which they had a heart-to-heart talk. He said to the legislator, "Thomas, you want to go to Congress? If you bring up this bill there are eighteen votes against you." Thomas dropped the bill. The purpose of this organization is to get a firm grip on every Congressman's appendix. I think if we carry it to the States and organize on the New York plan, in five years we can bring from any district enough pressure to bear on each Congressman.

Dr. C. R. SHINAULT, of Arkansas: I saw Senator Berry and two Congressmen. Senator Berry gave me his assurance that he would help us. He was very submissive, and he said he was at our mercy, and would grant anything we wanted.

Dr. C. E. QUIMBY, of New York: I saw Senator Depew and had the Postal Bill in my hand, and had gotten nearly through the formal greeting, when he took the bill, glanced at it, and threw it down, saying: "That will never pass."

Dr. EMIL AMBERG, of Michigan: I wish to say that Senator McMillan expressed himself in the same terms as Senator Depew with reference to the Postal Bill.

GENERAL STERNBERG: With reference to antivivisection legislation, this has been killed for the present. If it is ever revived we should protest against it.

Dr. L. B. TUCKERMAN, of Ohio: In reference to Senate Bill 4171, I saw my Representative, and called his attention to the importance of it, and telegraphed to my home, and had them wire Chairman Hepburn, to push it along. This bill should pass this Congress, as we may have an epidemic of yellow fever this summer.

The Chairman, Dr. JOHNSON: This bill has already passed the Senate and is waiting in the House for final action.

SURGEON-GENERAL WYMAN, U. S. M. H. S.: There are two ways in which this bill can come up. The chairman of the committee has the privilege of presenting to the House on his committee day such measure as he chooses, and he assures me that he will get it through. There is no objection to it on the part of anybody. It can be put through when there is a call of committees. There is a morning hour once a week on Mondays or on suspension day, when a motion can be made to suspend the rules, and put the bill through. On this day the speaker must recognize some one who will move that this bill do pass. On account of the St. Louis World's Fair project, Mr. Cooper, of North Dakota, is recognized.

Dr. C. E. QUIMBY, of New York: What provision is made for watching, recognizing and following bills of interest to the medical profession?

The Chairman, Dr. JOHNSON: Our committee, the Committee on National Legislation, looks after all such bills.

Dr. JOHN B. ROBERTS, of Pennsylvania: I should like to have some provision made for a permanent secretary to this committee.

The Chairman, Dr. JOHNSON: This is already provided for.

The Chairman, Dr. JOHNSON: Yesterday there was a resolution passed directing the Chairman to appoint a committee on uniform medical legislation, etc. The Chair appoints Drs. Amberg, Reynolds and Roberts.

The Chairman, Dr. JOHNSON: I think we would be very remiss if we did not appoint a Committee on State Organization. This committee should devise some way of reaching the voters. I would suggest that a committee of three be appointed for this purpose.

Dr. L. B. TUCKERMAN, of Ohio: Would it not be better to recommend that the American Medical Association appoint a committee for this purpose?

The Chairman, Dr. JOHNSON: That would be very unwise. The American Medical Association has done all it ought to do; it has appointed a permanent committee on legislation and provided for an annual conference. We should appoint some of our members to confer with the States, so that they can discuss the matter in the various sections of the country.

Dr. H. M. BRACKEN, of Minnesota: I move that a committee of five, with power to increase its number, be appointed by the Chairman, to carry into effect state medical organization. Seconded by Dr. H. A. Beaudoux, of North Dakota. Carried.

Dr. H. M. BRACKEN, of Minnesota: What have we to do so far as appointing our chairman is concerned?

The Chairman, Dr. JOHNSON: Nothing. The appointment is provided for by the American Medical Association.

Dr. L. B. TUCKERMAN, of Ohio: I would move you that the committee of the American Medical Association, on national legislation, shall represent the annual legislative conference, and shall act *ad interim*, and that due notice of the meetings thereof shall be published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Seconded by Dr. W. P. Goff, of West Virginia. Carried.

The Chairman, Dr. JOHNSON: The Committee on National Legislation is empowered to act *ad interim* for the American Medical Association. It will now, also, act for the conference.

Dr. H. A. BEAUDOUX, of North Dakota: This committee of three is appointed for one year only; therefore I move that it be appointed for all time to come, for the reason that you are thoroughly conversant with the work.

The Chairman, Dr. JOHNSON: While we have worked faithfully last year, and this, we might not do so next year. One cannot be lazy on this committee. We have already served two years. There is a large amount of work for this committee to do.

Dr. H. A. BEAUDOUX, of North Dakota: I move that this conference recommend to the American Medical Association a three-year term for this committee instead of one. Seconded by Dr. L. B. Tuckerman, of Ohio.

The Chairman, Dr. JOHNSON: This, if proposed, will lie over to be acted upon next year, as it is an amendment to the Constitution.

Dr. W. H. WELCH, of Maryland: The American Medical Association appoints a number of committees. This is the prerogative of the president. I ask that we do not ask for a longer term than the law allows.

Dr. C. E. QUIMBY, of New York: It strikes me that if we let the matter rest, we shall accomplish what we want, and men by their good work will come forward. We would have influence with the President, and can call his attention to them.

The Chairman, Dr. JOHNSON: When this matter comes up between the Trustees and Executive Committee, and they wish to make the terms of this committee three years, I shall oppose it, for I believe a committee should not be foisted upon the American Medical Association for more than one year. When a committee does good work the Association may want them to serve longer.

Dr. H. M. BRACKEN, of Minnesota: Let us leave it alone. The committee shall be made up from Maryland, Penosylvania and Washington, D. C.

Dr. WILLIAM L. RODMAN, of Pennsylvania: As a member of this committee, I think it should be left as it is now. The President of the American Medical Association should appoint whom he desires.

Dr. H. A. Beaudoux, of North Dakota, withdrew his motion.

Dr. L. B. TUCKERMAN, of Ohio: I move this conference appoint a committee of one to urge on Congress the immediate passage of S. 4171 passed by the Senate and now pending in the House. It should be passed at this session, because the daogers from the loopholes in the present law will menace as materially before another Congress can meet. Seconded by Dr. C. R. Shinault, of Arkansas. Carried.

The Chairman, Dr. JOHNSON, appoints Dr. L. B. Tuckerman, of Ohio, as this committee of one.

Dr. C. R. SHINAULT, of Arkansas: The Southern Congressmen, as a rule, are all favorable to the bill. They realize that summer is coming and the country is in danger.

The Chairman, Dr. JOHNSON: I would suggest that all the members see their Senators and Representatives in the interest of this bill.

Dr. W. P. GOFF, of West Virginia: I think the committee on organization is a very important one. The different State Societies appoint a number of delegates, and take it as a matter of course. If this matter of State organization is gotten at in the proper way it will make the State Societies treat this matter in a different manner. Those who don't might not be in sympathy with this conference.

Dr. C. E. QUIMBY, of New York: Is it not possible to do this work in one day? We come here for business and not for pleasure, and we can get to work early in the morning of the first day and have the afternoon for pleasure, and in the evening another session, and thus complete the work in one day.

Dr. L. B. TUCKERMAN, of Ohio: It seems to me that the preseot system is about as good as we can do. We got together and cleared up the business yesterday; went to Congress, and came back and had a session to-day, and have now cleared up the balance of the business. By putting in one more day, those of us whom it takes more than one day to get here, might not be able to accomplish our mission.

Dr. C. R. SHINAULT, of Arkansas: It will be time enough to consider this at our next meeting, and then we will probably have to have more than two days on account of the length of business.

The Chairman, Dr. JOHNSON: When the two days' session was decided upon by our committee it was arranged that during the first day of the session we would complete as much work as possible, and go to Congress on the same day, and close up all business on the following day. We could have our meetings earlier in the morning. I don't think it wise to have a one-day conference. We could not accomplish much.

Dr. H. M. BRACKEN, of Minnesota: If we had a night session, we could not leave the city until the next morning. Would it not be possible to have the meetings earlier in the season?

The Chairman, Dr. JOHNSON: The object of having the meeting now, was because the new session of Congress began in December, and to call us together simply for the Army Bill would have been unwise, so we decided to call it when it was deemed most advantageous. The next Congress, a long session, will do much work in the summer, and we might meet in December although we are empowered to meet but once in each year. I think it will be wise to leave to the judgment of the committee when to call the next meeting. It would be well for the delegates to send us word when they can most conveniently attend.

Dr. H. M. Bracken, of Minnesota, suggested the middle of January.

Dr. W. P. GOFF, of West Virginia: I move that a vote of thanks be extended to the Chairman for his great interest in this work.

Seconded by Dr. L. B. Tuckerman, of Ohio.

The Chairman, Dr. JOHNSON: I had rather this be given to the committee. We have labored equally.

The motion was put and carried.

The Chairman, Dr. JOHNSON: The Chair appoints as the Committee on State Organization, Dr. C. R. Shinault, of Helena, Ark.; Dr. W. P. Goff, of Clarksburg, W. Va.; Dr. L. B. Tuckerman, of Cleveland, Ohio; Dr. H. M. Bracken, of Minneapolis, Minn., and Dr. Chas. E. Quimby, of New York City. The committee has power to increase its number.

On motion the conference adjourned to meet at the call of the Chairman.

The following letter was presented by Dr. Tuckerman to the chairman of the Committee on Interstate and Foreign Commerce, in the House, and National Quarantine and Public Health, in the Senate, and a personal interview obtained with each committee.

WASHINGTON, D. C., February 21, 1901.

At the annual meeting of the National Legislative Conference of the American Medical Association and Affiliated Sister Medical Societies held at the Arlington, February 20-21, the following resolution was adopted, and Dr. L. B. Tuckerman, of Cleveland, Ohio, was appointed a special committee to present the same to the committee of the House. The resolution is as follows: *Resolved*, That this Conference urge the immediate passage of S. 4171, which has already passed the Senate and is now pending in the House for the reason that the dangerous loopholes in the present quarantine law will occasion a serious menace to the public health before another Congress can meet. Respectfully,

H. L. E. JOHNSON, M.D., Chairman.

The Chairman has the pleasure of congratulating the Conference, and announcing the passage of bill S. 4171, to amend "an Act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service." This bill is now a law and is known as Public No. 141, approved March 3, 1901.

H. L. E. JOHNSON, M.D., Chairman.

On motion of Dr. Emil Mayer, New York, the report of the Committee on National Legislation was referred to the General Executive Committee.

The President called for the reading of the report of the Committee on Reorganization, when Dr. Connell, Pennsylvania, moved that the report be read by title and referred to the Nominating Committee. Seconded. It was then moved and seconded that the motion of Dr. Connell be laid on the table, which was carried. Dr. McCormack then read the report of the Committee on Reorganization.

### Report of Committee on Reorganization.

*Officers and Members* of The American Medical Association: We, your Committee on Reorganization, respectfully submit the following:

We have keenly felt from the first the magnitude of the task set for us, but in all the months of exacting labor, we have been spurred on by the hope that our work would, if wisely performed, and if accepted by you, mark the dawn of a new era in the history of American medicine. After full consideration of the problems before us we early reached the conclusion that it would be useless at this late date to suggest the adoption of either half-way or compromise measures, and, therefore, we have prepared and now submit a completely revised Constitution and By-Laws designed to federate all the state organizations into this Association, to foster scientific medicine, and to make the medical profession a power in the social and political life of the Republic.

In a recent issue of THE JOURNAL we submitted for your consideration a full outline of the changes proposed and, in an exhaustive manner, presented the reasons for our recommendations. We earnestly request that every member of the Association shall, before passing judgment upon our work, carefully consider all the facts and arguments presented. Such examination will make it clear that we have been conservative, suggesting only such changes in the organic laws as are essential to the accomplishment of the high purpose for which the Association was organized.

It will be seen that we have left the Code of Ethics, based upon the original resolution of adoption, undisturbed and still in force. We have carefully preserved the membership of all those now in the Association, and have jealously guarded the rights and privileges of each state organization now in affiliation with this body.

In accordance with your instructions we have also submitted to the larger Committee, composed of one member from each state, a detailed scheme for the organization or reorganization of state and county societies, in harmony with, and in completion of the general plan, in which we ask your concurrence.

The various portions of the scheme of organization proposed are inter-dependent and should be permitted to stand or fall together. During the time devoted to the preparation of the report, we have considered the various questions in detail, and have rejected many propositions that we at first thought worthy of adoption, so that we feel that no amendment can be proposed from the floor which has not already been fully considered. We appreciate the fact that some of the details proposed are to a certain extent experimental, and their true value can only be determined by the test of experience.

As all the changes outlined, and the reasons for them, have been fully placed before you, no discussion of any part of them will be attempted here, the Constitution and By-Laws clear and distinct in every provision, being submitted as our unanimous report.

Respectfully,

J. N. MCCORMACK,
P. MAXWELL FOSHAY,
GEORGE H. SIMMONS,
Committee on Reorganization.

At its conclusion, Dr. Harris, New York, speaking in behalf of the delegation of the New York State Medical Association, which had unanimously endorsed the general plan reported by the committee, offered the following resolution:

*Resolved*, That the report of the Committee on Reorganization be referred to a Joint Committee composed of the General Executive Committee and the Enlarged Committee on Reorganization (representing as it does all the states); and that this Joint Committee meet at the rooms of the General Executive Committee, at the Hotel Ryan, during the afternoon and evening, to give a hearing to any member who desires to be heard on the subject of this report; and that this Joint Committee be requested to report to-morrow morning.

After presenting the resolution, he moved its adoption, which was seconded and carried.

At this point some confusion arose as to what disposition had been made of the report.

The President stated that the report had been referred to a joint committee composed of the General Executive Committee and the Enlarged Committee on Reorganization.

Dr. Baldy, Pennsylvania, moved a reconsideration of the action taken by the Association in referring the report to the General Executive Committee, etc. This motion was seconded.

Dr. Harris, New York, thereupon moved that the motion of Dr. Baldy to reconsider be laid on the table, which was seconded and carried.

Dr. Baldy then stated that the Chair had no right, according to parliamentary law, to recognize a motion to table a motion of reconsideration, and he therefore appealed from the decision of the Chair.

The Association sustained the Chair in his ruling.

Dr. Happel, Tennessee, made the point that when a motion to table a motion to reconsider was made and carried, it prevented the Association from taking any further action upon the matter for that day, according to parliamentary law.

This report was submitted to a committee composed of one representative from each State, Territory and Government Service at a meeting held at the Hotel Ryan, June 3, 1901.

This committee, after regularly organizing, considered the Constitution and By-Laws as submitted, section by section, and unanimously recommend it for adoption by this Association. The following states were represented. The names of their representatives are appended, and submitted herewith. [The states and representatives are given on next page.]

On motion, the Association adjourned until Wednesday.

JUNE 5.—SECOND GENERAL SESSION.

The Association met at 11 a. m., and was called to order by the President.

The President introduced His Excellency, S. R. Van Sant, Governor of Minnesota, who welcomed the Association on behalf of the state.

### Address of the Governor.

*Mr. President, Ladies and Gentlemen:* A welcome is none the less cordial because it is twenty-four hours late. Age improves some things, particularly in the medical profession. I have been associated with doctors and have worn their badges from time to time, and I have attended their banquets, and I confess to you that I am pretty near out of ammunition. I have said all of the good things I can say about your splendid profession. I have for a long time been interested in the work of the medical profession. I have done all I could for you and am ever willing to advance your interests. I am not going to talk to you this morning about medicine. I don't know any more about that subject than you do yourselves. (Laughter.)

We are somewhat proud of our University and of the medical profession of the great state of Minnesota. You can scarcely realize what a great state you have come to. This state is so large that it would take a great many states of the size of Rhode Island to fill it, and then there would be lots of territory left. We have here great wheat fields; we grind the wheat into flour and feed the world. We will send to other states 20,000,000 tons of iron ore, and will have enough left for the next 250 years.

I would call your attention to the beautiful and peerless women we have in this state; also we have the bravest men that can be found anywhere, and I think you will agree with me on the first proposition before you leave our beautiful city and state.

As I was entering the hall this morning, I noticed a reference to your next place of meeting. The notice stated that the convention should go south in 1902 and the reasons for it were given. I want to say a word or two along that line. I was one of the members who opposed the Grand Army of the Republic going south in 1895. I thought it ought to go to a northern city, but I want to say to you, that I am glad now that the Grand Army of the Republic crossed the Ohio river

and met in the beautiful city of Louisville. We received a cordial welcome to that city. They received us with open arms, and I never saw more patriotism to the square inch than in that city. The old flag greeted us on every hand. It was placed on public buildings, on churches and private residences, and the word "Welcome" was written everywhere. I shall never forget the sight I saw under the glare of the electric lights of the red, white and blue. There was one sign which pleased me very much. It was written in very large letters over the jail, "Welcome." (Laughter.) I want to say to you that when we heard that you were going to meet in St. Paul we tore our jail down (laughter), and we can not give you a welcome in that place, and we don't want to do so.

Here the governor spoke of the beauties of the south and referred to the monuments that were erected to distinguished men. He concluded his remarks by saying: "I sometimes think doctors have special privileges. This is hardly fair in a republic like ours. For instance, if I treat you, I pay the bill. If the doctor treats me or my family, I pay the bill still. (Laughter.) I do not know whether it is a good wish to make to a body of doctors or not, but it is a good thing for a lot of politicians. That wish is this: "I don't know what you want, but I hope you will all get it." (Applause.)

Following the address of welcome by the governor the minutes of the previous general session were approved as read.

The next order was the report of the Joint Committee, consisting of the General Executive Committee and the Committee on Organization upon the report of the Committee on Reorganization. This report was read by the Chairman of the Joint Committee, Dr. H. O. Walker, Michigan.

## Report of the Transactions of the Reorganization Committee on Revision of Constitution and By-Laws.

The Committee on Organization of the Constitution and By-Laws of the American Medical Association met in Parlor Four of the Hotel Ryan, St. Paul, Minn., at 11 a. m., June 3, 1901, and were called to order by Dr. McCormack, of Kentucky, Chairman of the Special Committee on Reorganization. Dr. G. N. Kreider, of Illinois, was elected chairman, and Dr. H. M. McClanahan, of Nebraska, elected Secretary. On request of the Chairman, Dr. McCormack stated the object of the meeting was set forth in the following resolutions passed at the 1900 meeting of the American Medical Association:

*Resolved*, That a committee be appointed by the Association on the organization of the profession throughout the United States to coöperate with the Committee on National Legislation; this Committee to consist of one member from each State and Territory represented in the Association.

*Resolved*, That a committee of three be appointed by the President to prepare plans in detail for such Committee on Organization, to enter into correspondence with the officers of the various State societies, and take such action in the premises as it may think advisable, and that the Trustees be requested to appropriate a sum not exceeding $150 for the necessary expenses of the Committee.

After briefly calling attention to many of the inconsistencies and the cumbersome condition of the present constitution, he submitted for the consideration of the members of the Organization Committee a printed copy of the results of the Special Committee on Reorganization and asked its indulgence in giving a careful examination. It was moved and seconded that the report of the Special Committee on Reorganization be accepted for consideration, which was carried, and a copy placed in the hands of its members. On motion of Dr. R. E. Conniff, of Iowa, the meeting then adjourned until 2 p. m.

PARLOR 4, HOTEL RYAN, ST. PAUL, MINN., JUNE 3, 1901.

The Committee on Organization was called to order by the Chairman, and in the absence of its Secretary, Dr. R. Harvey Reed, of Wyoming, was elected Secretary, and, in pursuance of its action at the morning session, the Committee on Organization proceeded to consider the proposed Constitution and By-Laws, section by section. After a full consideration of each section, the following proposed Constitution and By-Laws were unanimously adopted, section at a time, then adopted as a whole, after which they were duly signed by the members present or their authorized proxies. There being no other business before the Committee, a motion to adjourn was carried.

R. HARVEY REED, Secretary.

Approved: GEO. N. KREIDER, Chairman.

We, the undersigned, have examined and hereby indorse and approve of the revised constitution for the American Medical Association:

Drs. G. W. Harrison, Alabama; J. A. Dibrell, Arkansas; John L. Wills, California; W. W. Grant, Colorado; G. A. Shelton, Connecticut; John Palmer, Jr., Delaware; Wm. N. Fisher, District of Columbia; G. N. Kreider, Illinois; G. W. McCaskey, Indiana; R. E. Conniff, Iowa; Joseph M. Mathews, Kentucky; Alonzo Garcelon, Maine; H. O. Marcy, Massachusetts; A. W. Alvord, Michigan; J. N. Griffith, Missouri; H. M. McClanahan, Nebraska; H. D. Didima, New York; Geo. Cook, New Hampshire; Philip Marvel, New Jersey; John A. Wyeth, New York; W. J. Means, Ohio; J. A. Crook, Tennessee; J. W. Aird, Utah; G. T. Vaughn, U. S. Marine-Hospital Service; Charles Richard, U. S. Army; T. L. Catterson, Washington; A. H. Thayer, West Virginia; J. H. Pritchard, Wisconsin; R. Harvey Reed, Wyoming.

## Constitution.

### ARTICLE I.—TITLE OF THE ASSOCIATION.

The name and title of this organization shall be THE AMERICAN MEDICAL ASSOCIATION.

### ARTICLE II.—OBJECT OF THE ASSOCIATION.

The object of this Association shall be to federate into one compact organization the medical profession of the United States, for the purpose of fostering the growth and diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of medical laws, of enlightening and directing public opinion in regard to the broad problems of state medicine, and of representing to the world the practical accomplishments of scientific medicine.

### ARTICLE III.—COMPOSITION OF THE ASSOCIATION.

SECTION 1.—This Association shall consist of Delegates, Permanent Members, Members by Invitation, Honorary Members, and Associate Members.

SEC. 2. *Permanent Members.*—Permanent members shall consist of such members of the state societies, together with their affiliated local societies, entitled to representation in this Association as shall make application for admission, in writing to the Treasurer, and accompany said application with a certificate of good standing signed by the president and secretary of the society of which they are members, and the annual fee.

SEC. 3. *Members by Invitation.*—Members by invitation shall consist of distinguished physicians of foreign countries who may be invited by the officers of Sections or of the Association. They shall hold their connection with this Association until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of permanent members, but they shall not be assessed the annual dues.

SEC. 4. *Honorary Members.*—Honorary members shall be physicians of foreign countries who have risen to pre-eminence in the profession of medicine.

SEC. 5. *Associate Members.*—Representative teachers and students of the allied sciences not physicians may become associate members by the vote of the House of Delegates.

### ARTICLE IV.—HOUSE OF DELEGATES.

SECTION 1.—The House of Delegates of the AMERICAN MEDICAL ASSOCIATION shall consist of (1) delegates elected by permanently organized state and territorial medical societies in affiliation with this Association; (2) two delegates elected by each of the component Sections of this Association; (3) one delegate each from the medical departments of the U. S. Army and U. S. Navy, and one from the U. S. Marine-Hospital Service.

SEC. 2.—The total membership of the House of Delegates shall not exceed 150, and the delegates representing the state societies shall be apportioned among the several affiliated state and territorial medical organizations in direct ratio to their true membership.

### ARTICLE V.—SECTIONS.

In order that its appropriate scientific work may be expeditiously and systematically performed this Association shall be divided into Sections, each of which shall be devoted to the encouragement and pursuit of knowledge in one of the recognized branches into which the science and art of medicine are for convenience divided. New Sections may be organized from time to time as the necessity for their existence arises.

ARTICLE VI.—BRANCHES.

The House of Delegates shall have authority to provide for and create such branch organizations as may be deemed essential to the promotion of the welfare of the medical profession.

ARTICLE VII.—MEETINGS.

The regular meetings of the Association shall be held annually. The place of meeting shall be determined, with the time of meeting for each next successive year, by vote of the House of Delegates.

ARTICLE VIII.—OFFICERS.

SECTION 1.—The officers of this Association shall be a President, four Vice-Presidents, a Secretary, a Treasurer, and nine Trustees.

SEC. 2.—The officers of this Association shall be elected by the House of Delegates.

SEC. 3.—Each officer, with the exception of the Secretary and the Board of Trustees, shall hold office for one year or until his successor is elected and installed. Three trustees shall be elected annually by the House of Delegates for a term of three years.

SEC. 4.—No member of the House of Delegates shall be eligible to any of the offices mentioned in the foregoing sections of this article.

ARTICLE IX.—FUNDS AND APPROPRIATIONS.

Funds for meeting its current expenses and awards from year to year shall be raised by the Association by an equal assessment of not more than ten dollars annually on each of the permanent members; by voluntary contributions for specific objects; and from the profits of its publications. Funds may be appropriated by the House of Delegates in accordance with the articles of incorporation for defraying the expenses of its annual meetings, for publication; for enabling standing committees to fulfil their respective duties, conduct their correspondence, and procure materials necessary for the completion of their stated annual reports; for the encouragement of scientific investigation by prizes and awards of merit; and for defraying the expenses incidental to specific investigation.

ARTICLE X.—REFERENDUM.

SECTION 1.—The General Session shall have the right to discuss questions referred to it by the House of Delegates, and it may, by a two-thirds vote, order a general referendum on any question pending before the House of Delegates.

SEC. 2.—The House of Delegates shall, upon a two-thirds vote of its own members or upon a two-thirds vote of the General Session, submit any question, either through the JOURNAL, or by mail, to the general membership for final vote; and if the persons voting shall comprise a majority of the members, the majority of such votes cast shall determine the question, and shall be binding upon the House of Delegates.

ARTICLE XI.—AMENDMENTS.

The House of Delegates shall have authority to amend any article of this Constitution by a three-fourths vote of all the members composing the House of Delegates, *provided* that such amendment shall have been proposed in open meeting of the House of Delegates one year previous to being acted upon, shall have been published at least three times in THE JOURNAL during the interim, and shall have been officially transmitted to each affiliated state and territorial society for consideration at their annual meetings.

## By Laws.

### CHAPTER I.

MEMBERSHIP.

SECTION 1.—No permanent member shall take part in the proceedings of the Association or of any of its Sections, until he has exhibited his credentials to the proper officer or Committee, entered his name and address in full on the registration book and paid his annual dues. He shall also indicate the Section to which he will officially attach himself.

SEC. 2.—Permanent members who have complied with the foregoing regulations shall at all times be entitled to attend the General Sessions and Sections and to participate in the affairs of the Association, so long as they continue to conform to its regulations.

SEC. 3.—No individual who shall be under sentence of expulsion or suspension from an affiliated society of which he may have been a member, or whose name shall have been dropped from the rolls of the same, shall be received as a member or shall be allowed to continue as a member of this Association, until he shall have been relieved from said sentence or disability by such society; nor shall any person not a member of his local medical society be eligible to membership in the AMERICAN MEDICAL ASSOCIATION.

SEC. 4.—Members may vote for Section officers only in that Section with which, upon registration, they have declared their intention of uniting.

SEC. 5.—Any permanent member who shall fail to pay his annual dues for one year, unless absent from the country, shall be dropped from the roll of permanent members, after having been notified by the Secretary of the forfeiture of his membership.

SEC. 6.—Honorary members shall be elected by the House of Delegates on the nomination of a Section, but not more than three Honorary Members shall be elected in any one year.

SEC. 7.—Honorary and Associate Members shall have all the rights of membership except those of voting and holding office. They shall not be assessed for dues, nor shall they be entitled to receive THE JOURNAL free.

SEC. 8.—The House of Delegates shall have authority to provide for membership under proper restriction from among the members of recognized medical societies of neighboring countries, provided that the right of representation in the House of Delegates shall be restricted to affiliated state medical societies in the United States.

### CHAPTER II.

GENERAL SESSIONS.

The General Sessions shall include all registered members and delegates, who shall have equal rights to participate in discussions and to vote upon pending questions. Each General Session shall be presided over by the President, or, in his absence or disability, by one of the Vice-Presidents. Before it there shall be delivered upon the opening day of each annual meeting, the address by the President, whose recommendations shall thereupon go to the House of Delegates for action, and on each following session such addresses on scientific subjects as are assigned to orators selected for the purpose. It shall have power to create committees or commissions for scientific work of special interest or importance, and to receive reports of the same, provided that any expense incurred in connection therewith by the Association must first be authorized by concurrent action of the House of Delegates and the Board of Trustees.

### CHAPTER III.

HOUSE OF DELEGATES.

SECTION 1.—The House of Delegates, as far as may be consistent with the Articles of Incorporation, shall be the legislative and fiscal body of the Association. Its sessions shall be open to the members of the Association, but except upon invitation of the House of Delegates, they shall have no right to participate in its proceedings.

SEC. 2.—Each state and territorial society entitled to representation shall have the privilege of sending to the Association one delegate for every 500 of its resident regular members, and one for any additional fraction of that number; but each affiliated state and territorial society shall be entitled to at least one delegate.

SEC. 3.—The House of Delegates once in every three years shall appoint a committee of five on reapportionment, of which the President and Secretary shall be members. It shall be the duty of this committee to examine the membership lists of all the affiliated state and territorial medical societies, and to determine therefrom the number of delegates to the Association to which each state or territory shall be entitled for the ensuing three years, beginning with the annual meeting next succeeding that at which the reapportionment is approved by the House of Delegates.

SEC. 4.—Members of the House of Delegates shall be elected for a term of two years, and those state and territorial societies

entitled to more than one representative are requested to so arrange such election that one-half of their delegates, as near as may be, shall be elected each year.

SEC. 5.—In order that each state and territorial medical society may properly provide for a full delegate representation at each meeting of the Association, it shall have the authority to elect alternates, who, upon presentation of the proper credentials, shall be empowered to serve as delegates in the absence of the regularly-elected delegates. Provided that in case of the absence of the regularly appointed delegate or alternate, then the permanent members from that affiliated society, who are present at that meeting, shall select one of their number, who shall represent that society, and provided further, that when only one permanent member is present from any society, that member shall represent that society.

SEC. 6.—No one shall serve as a member of the House of Delegates who has not been a permanent member of the AMERICAN MEDICAL ASSOCIATION for at least two years.

SEC. 7.—Every Delegate from a state or territorial society before being permitted to take part in the proceedings of the House of Delegates must deposit with the Secretary, or other designated officer or committee, a certificate signed by the President and Secretary of the State Society from which he receives his authority, stating that he has been regularly and legally elected a Delegate to the AMERICAN MEDICAL ASSOCIATION for a definitely stated term, and the delegates from the sections shall present credentials signed by the president and secretary of the section they represent. This certificate shall be subject to review by the Judicial Council, and all disputes as to credentials shall be investigated by the Judicial Council and determined by vote of the House of Delegates.

SEC. 8.—The House of Delegates shall approve all memorials and resolutions of whatever character issued in the name of the AMERICAN MEDICAL ASSOCIATION before the same shall become effective.

SEC. 9.—The House of Delegates shall present a summary of its proceedings to the last General Session of each annual meeting of the Association, or it shall publish the same in a bulletin to be issued each day during the annual meeting.

SEC. 10.—A majority of the members composing the House of Delegates shall constitute a quorum for the transaction of business.

## CHAPTER IV.

### ELECTION AND INSTALLATION OF OFFICERS.

SECTION 1.—All elections shall be by ballot.

SEC. 2.—The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the annual meeting. Only those in attendance at the annual meeting at which the election occurs shall be eligible for election.

SEC. 3.—The officers elected at each annual meeting of the Association shall be installed at the closing General Session.

## CHAPTER V.

### DUTIES OF OFFICERS.

SECTION 1. *President.*—The President shall preside at the General Sessions and over the House of Delegates, preserve order and decorum in debate, give a casting vote when necessary, and perform all the other duties that custom and parliamentary usage may require. In addition to these duties the President, on the morning of the first day of the annual meeting following his election, shall deliver an address, not exceeding forty minutes in length, upon such matters as he may deem of importance to the Association. He shall discharge such other duties as the Association may impose on him from time to time. He may at any time make such suggestions as he may deem for the best interests of the Association, either to the General Session, or to the House of Delegates, or to any standing or special committee of the Association, provided that said suggestions are submitted in writing. He shall not be eligible for re-election.

SEC. 2. *Vice-Presidents.*—The Vice-Presidents, when called upon, shall assist the President in the performance of his duties, and during his absence, or at the request of the President, one of them shall officiate in his place. In case of the death, resignation, or removal of the President, the vacancy shall be filled by the senior vice-president, beginning with the first. They shall perform all other duties prescribed for that office.

SEC. 3. *Secretary.*—The Secretary shall keep in separate books the minutes of each day's proceedings of the General Session and of the House of Delegates, which minutes shall be read and presented for adoption by the respective bodies. He shall give due notice of the time and place of each next ensuing annual meeting; notify all members of committees of their appointment, and of the duties assigned to them; hold correspondence with other permanently-organized medical societies, both domestic and foreign; and carefully preserve the archives and unpublished transactions of the Association.

It shall also be his duty to verify the credentials of members, to receive and announce all essays and memoirs voluntarily contributed, to determine the order in which such papers are to be read and considered, and to fix a definite hour each day for the general addresses before the Association. He shall prepare for publication the official program of each meeting. It shall be the duty of the Secretary to provide a special registration book for members of the House of Delegates, in which shall be recorded the name of every delegate in attendance at each meeting, together with that of the society which he represents. It shall also be his duty to prepare a roll of delegates attending each annual meeting to facilitate voting by roll-call.

The Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION shall be Secretary of this Association.

SEC. 4. *Treasurer.*—The Treasurer shall have charge of the funds and property of the Association, and shall pay out its moneys only on the order of the Board of Trustees, properly attested by their respective officers. He shall give to the Board of Trustees bond for the safe keeping and proper use and disposal of his trust, and through the same Board he shall present his accounts, duly authenticated, at every annual meeting of the House of Delegates.

SEC. 5. *Board of Trustees.*—The Board of Trustees shall consist of nine members, three of whom shall be elected annually by the House of Delegates and shall serve for three years. It shall be the duty of this Board to provide and superintend the publication and distribution of all such proceedings, transactions, and memoirs of the Association as may be ordered to be published in such a manner as may be directed, and in doing this it shall have authority to appoint an editor and such assistants as it deems necessary, determine their salaries, and procure and control such materials as may be necessary for the accomplishment of the work assigned to it. Further to facilitate its work, it shall be the duty of the secretaries of the Association and of the several Sections during each annual meeting, or as soon thereafter as practicable, to deliver to the Board, or such editor or agent as it shall appoint, all such records of proceedings, reports, addresses, papers, and other documents as may have been ordered for publication either in the General Sessions, in the House of Delegates, or in the Sections. All moneys received by the Board of Trustees, or its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Association, and all orders on the Treasurer for disbursements of money in any way connected with the work of publication must be endorsed by the President of the Board of Trustees and countersigned by the Secretary thereof. All matters of the Association pertaining to the expenditure of other moneys shall be referred to the Board of Trustees who shall make a report of the same within twenty-four hours after the same are referred to them, and if the House of Delegates orders the expenditure of money in connection with said report, the payment shall be made by the Treasurer as provided above. It shall be the further duty of the said Board of Trustees to hold the official bond of the Treasurer for the faithful execution of his office, to annually audit and authenticate his accounts, and to present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association, under its

control, with such suggestions as it may deem necessary. In the event of vacancy of the office of Treasurer, by death or otherwise, the Board of Trustees shall fill the vacancy *ad interim*.

SEC. 6.—All business of each annual meeting shall be completed by the officers who have served through the meeting.

## CHAPTER VI.

### STANDING COMMITTEES.

The Standing Committees shall be the following:

1. A Committee of Arrangements.
2. A Judicial Council.
3. A Committee on Medical Legislation.
4. A Committee on Nominations.
5. A Committee on Transportation.

And such other Committees as the House of Delegates may create from time to time.

## CHAPTER VII.

### DUTIES OF COMMITTEES.

SECTION 1. *Committee of Arrangements.*—The Committee of Arrangements shall be appointed by the President, and shall be composed of seven members residing in the place at which the Association is to hold its next annual meeting. It shall be required to provide: 1. A hall for the General Sessions. 2. Halls for the Sections. 3. Rooms for Committees. 4. Rooms for postoffice and the force thereof. 5. Rooms for registration and the force thereof. To meet these expenses the Committee of Arrangements shall have the proceeds of the exhibition hall. This arrangement must be agreed to by the representative of the local committee inviting the Association, before a place for the meeting of the Association is selected by the House of Delegates.

SEC. 2. *Judicial Council.*—The Judicial Council shall be composed of nine members, three of whom shall be chosen annually by the House of Delegates, and shall serve for three years. All questions of a personal character, including complaints, protests, and credentials, shall be referred at once, after the report of the Committee of Arrangements or other presentation, to the Judicial Council without discussion.

The said Council shall organize by choosing a President and Secretary, shall keep a permanent record of its proceedings, and shall report its findings to the House of Delegates at the earliest practicable moment.

SEC. 3. *Committee on Medical Legislation.*—The Committee on Medical Legislation shall consist of one delegate from each state to be appointed annually by the President of the Association. It shall be the duty of this Committee to represent before Congress and elsewhere the wishes of this Association in regard to pending medical and sanitary legislation. It shall be the duty of this committee to consider and act upon all proposed national, state, or local legislation that in any respect bears upon the promotion and preservation of the public health, or upon the material or moral welfare of the medical profession. It shall have power to fill any vacancies that may occur in its membership, and to act *ad interim* when necessity arises.

The Committee on Legislation shall report to the House of Delegates at each annual meeting its action during the previous year, and shall recommend such action regarding pending legislation as it shall deem proper.

SEC. 4. *Committee on Nominations.*—The Committee on Nominations shall consist of nine members, not more than one from one state or territory, selected annually by the House of Delegates. It shall be the duty of this committee, after consultations with the members of the Association, to hold one or more meetings at which the assignment of the offices of the Association for each ensuing year shall be carefully considered. The Committee shall then on the morning of the third day of the annual meeting report the result of its deliberations to the House of Delegates in the shape of a ticket providing one, two, or three names for each office, but not more than one candidate for each office shall be named from any one state or territory. Nothing in this section shall be construed to prevent additional nominations being made by the members of the House of Delegates.

SEC. 5. *Transportation Committee.*—The House of Delegates shall appoint a Committee on Transportation, which Committee shall secure railroad rates for the annual meeting and publish the same in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION sufficiently early to enable all who desire to attend the annual meeting to obtain necessary information.

SEC. 6. *Duties of the Committees.*—The Standing Committees shall discharge all the duties imposed on them by the By-Laws and such other duties as the Association may from time to time direct.

SEC. 7.—The members of the Standing Committees whose appointments are not otherwise provided for shall be selected and appointed by the president of the Association before the adjournment of the annual meeting.

SEC. 8.—The Special Committees shall perform the duties for which they are created, and when the report of a special committee is received and acted on said committee shall cease to exist.

SEC. 9.—All Special Committees shall be appointed by the officer presiding over the meeting at the time the special committee is directed to be constituted. No one appointed on a special committee, who fails to report at the meeting next succeeding the one at which he is appointed, shall be continued on such committee, unless a satisfactory excuse is offered.

SEC. 10.—The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such Committees shall have the right to report to the House of Delegates in person, and to participate in the debate thereon pending the adoption of such reports; but they shall not have the right to vote.

## CHAPTER VIII.

### TIME OF SESSIONS.

SECTION 1.—The General Sessions of the AMERICAN MEDICAL ASSOCIATION shall be held at 11 a. m. and 7:30 p. m. of the first day of the annual meeting, at 7:30 p. m. of the two subsequent days, and at 12 noon of the concluding day.

SEC. 2.—The various Sections of the Association shall hold their first session of each annual meeting at 2 p. m. of the first day, and on subsequent days of the annual meeting they shall be in session from 9 a. m. to 12 noon and from 2.30 p. m. to 6 p. m. until their respective programs are completed, or as the Sections themselves may otherwise provide.

SEC 3.—The House of Delegates shall hold its first session of each annual meeting at 2 p. m. of the first day, and on subsequent days at such time as may be necessary to complete its business, provided that it shall not meet at hours that will conflict with the General Session of the Association.

## CHAPTER IX.

### SECTIONS.

SECTION 1.—The AMERICAN MEDICAL ASSOCIATION shall be divided into the following Sections:

1. Practice of Medicine.
2. Surgery and Anatomy.
3. Obstetrics and Gynecology.
4. Ophthalmology.
5. Laryngology, Otology and Rhinology.
6. Diseases of Children.
7. Materia Medica, Pharmacy and Therapeutics.
8. Physiology and Dietetics.
9. Nervous and Mental Diseases.
10. Cutaneous Medicine and Surgery.
11. Hygiene and Sanitary Science.
12. Stomatology.
13. Pathology and Bacteriology.

SEC. 2.—Each Section shall be composed of such members as have complied with Sections 1, 2, 3, and 4 of Chapter I of these By-Laws.

SEC. 3. *Officers of Sections.*—The officers of each Section shall be a Chairman, a Secretary, and an Executive Committee. The latter shall consist of the last three retiring chairmen. At the commencement of the afternoon session of the third day of each annual meeting, each Section shall elect its own officers to serve for the ensuing year, their duties to commence with the close of the annual meeting at which they are elected and to continue until their successors are elected and qualify. Each

Section shall elect annually two representatives to the House of Delegates. In each Section a nominating committee of three members shall be elected by open ballot on the first day to make nominations for section officers.

SEC. 4. *Addresses in Sections.*—The Chairman of each Section shall prepare an address on recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall occupy not more than twenty minutes.

SEC. 5. *Papers Before Sections.*—It shall be the duty of every member of the Association who proposes to present a paper or report before a Section to forward either the paper or an abstract indicative of its contents, and its *length*, to the Secretary of such Section, at least one month before the annual meeting at which the paper or report is to be presented. This abstract shall contain not less than fifty nor more than two hundred words.

It shall also be the duty of the Secretary of each Section to arrange such papers in the order in which they shall be read, after which he shall send such information to the Secretary of the ASSOCIATION at least twenty-eight days before the annual meeting, for publication in the official program for the use of all members attending the annual meeting.

SEC. 6. *Length of Papers and Discussions.*—No paper, the reading of which occupies more than twenty minutes, shall be read before any Section. Authors, however, may read abstracts before the Section within the allotted twenty minutes. Such papers shall be referred by the Section to the Executive Committee or to a sub-committee specially appointed for their examination. Such committee shall be allowed twenty days for such examination: at the end of which time they shall forward the Papers to the Board of Trustees, or to the Editor, with such recommendations as they may deem proper. No member shall address the Section more than once upon the same subject, nor speak longer than five minutes without the approval of the Section.

All papers presented directly to the Association, and other matters, may, at the discretion of the Association, be referred to the various Sections for their consideration and report.

SEC. 7. *Publication of Papers and Reports.*—No report or other paper shall be entitled to publication in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, unless it be approved by each member of the Executive Committee of the Section before which it is read.

Authors of papers are required to return their proofs within two weeks after their reception.

Every paper received by this association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

The Board of Trustees shall have full discretionary power to omit from the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, in part or in whole, any paper that may be referred to it by the Association, or any one of the Sections, unless specially instructed to the contrary by vote of the Association.

No report or other paper shall be presented to this Association, or any one of its Sections, unless it be so prepared that it can be put at once into the hands of the Secretary to be transmitted to the Board of Trustees, and all papers read before sections must be approved by each member of the Executive Committee of that section.

No paper shall be printed as having been read before this association unless it has actually been read by its author or unless for special reasons when the author has been present and prepared to read the paper the Association or Section to which it is presented shall unanimously vote to have it read by title. All other papers shall be treated by the board of trustees and editor as volunteer papers

## CHAPTER X.

### ADDRESSES.

The House of Delegates shall elect annually, three members to deliver addresses in the General Session of the next ensuing annual meeting—one on some topic or topics relating to general medicine, one relating to general surgery, and one relating to state medicine. None of these addresses shall exceed thirty minutes in its delivery.

## CHAPTER XI.

### DELEGATES TO FOREIGN MEDICAL SOCIETIES.

The President shall be authorized to appoint annually delegates to represent this Association at the meetings of such scientific bodies in foreign countries as are in affiliation with this Association, whose appointment is not otherwise provided for.

## CHAPTER XII.

### RULES OF ORDER.

SECTION 1. This Association shall be governed by the rules of order prescribed in "Roberts' Manual."

SEC. 2. *The Previous Question.*—When the previous question is demanded, it shall take at least ten members to second it; and when the main question is put under force of the previous question and negatived, the question shall remain under consideration as if the previous question had not been enforced.

SEC. 3. *Duties of Members.*—No one shall be permitted to address the Association, until he shall have announced his name and residence, which shall be distinctly repeated by the chair; but no member, except an officer of the Association, or an appointed orator, or an officer of a committee presenting a report, shall be permitted to address the General Sessions from the platform. Remarks shall be limited to five minutes.

SEC. 4. No new business shall be introduced at the General Sessions of the Association on the last day of each meeting, except by unanimous consent.

## CHAPTER XIII.

### ORDER OF BUSINESS.

SECTION 1. *General Sessions.*—The order of business of the General Sessions at the annual meetings of the AMERICAN MEDICAL ASSOCIATION shall at all times be subject to the vote of three-fourths of all the members in attendance; and, until permanently altered, except when for a time suspended, it shall be as follows:

1. The calling of the meeting to order by the President elected the preceding year, or, in his absence, by one of the Vice-Presidents.
2. Reading and adopting of minutes.
3. The report of the Committee of Arrangements.
4. The reception of members by invitation.
5. Reports of standing committees in the order named in the Constitution.
6. The annual address of the President.
7. The reception of the reports of all special committees and voluntary communications, and their reference to the appropriate Sections or committees.
8. The reading and consideration of the reports of the Committees on Prize Essays, of Chairmen of Sections, and of any special committees.
9. Resolutions introducing new business, and instructions to the standing committees.
10. Reports from the several Sections.
11. Unfinished and miscellaneous business.
12. Report of the House of Delegates.
13. Adjournment.

SEC. 2. *The Opening Session.*—The opening session shall be for the addresses of welcome, and the responses thereto, for the report of the Committee of Arrangements, and other exercises pertaining to the opening of the General Session, and for such other business as may be provided. At this Session the President shall deliver his annual address, which shall be referred to the House of Delegates for action.

SEC. 3. *The Closing Session.*—The closing session shall be devoted to such exercises as may be provided, to the report of the House of Delegates, to the announcement of the election of officers, and to their installation.

SEC. 4. *House of Delegates.*—

1. Call to order by the President.
2. Reading and adopting of the minutes.
3. Reports of officers.
4. Reports of committees.
5. Consideration of recommendations contained in the President's address.
6. Consideration of memorials, resolutions or other business referred from the General Session.
7. Consideration of memorials, resolutions or other business referred from the Sections.
8. Consideration of memorials, resolutions or other business referred from the State Societies.
9. Unfinished business.
10. New business.

SEC. 5. *Sections.*—Each Section shall have authority to arrange its own order of business.

## CHAPTER XIV.

### AMENDMENTS.

The House of Delegates shall have power to frame by-laws for its own government and for the government of the Association, and to amend the same, *provided*, that the proposed amendment shall be submitted in writing and lay over one day before it is acted upon; and provided, further, that it shall receive the affirmative vote of three-fourths of the Delegates present at the meeting.

## CHAPTER XV.

These By-Laws shall be in effect and force after the close of the annual meeting of 1901; provided that the Sections shall elect delegates during the session for 1901-2, and provided further that nothing in these By-Laws shall be construed to repeal the rules of the Association governing the relation of members to each other and to the Association.

After the reading of the report, the President asked the Association what disposition it would make of it.

Dr. Harris, New York, in order to properly bring the report before the Association, moved that the full report of the Joint Committee on Reorganization, including the Revised Constitution and By-Laws, be received and adopted. Seconded.

After the report was discussed by Drs. Bulkley and McCormack, Dr. Bulkley expressed the hope that the motion to adopt the report would be carried unanimously, if possible.

There were cries of "Question! Question!"

The President then put the motion and declared the report adopted by a large majority.

Dr. McCormack then moved to reconsider the vote by which the report was adopted, and that the motion to reconsider be laid upon the table. Carried.

Dr. Maher, California, moved that a report of the proceedings of the General Sessions, together with copies of the revised Constitution and By-Laws be printed and mailed to each delegate as soon as possible after final adjournment. Seconded.

Dr. Reynolds, Kentucky, moved as an amendment that a copy of the Constitution and By-Laws be printed in separate form, in order that the members may put them in their pockets for reference, and that a copy be distributed to every member. Seconded. The motion as amended was carried.

The President stated that inasmuch as there might be some clerical errors in the Constitution and By-Laws that had been adopted, he suggested that a committee of three be appointed for the purpose of engrossing the Constitution and By-Laws.

Dr. McMurtry, Kentucky, moved that the Committee on Reorganization attend to this matter. Carried.

This Committee consists of Drs. J. N. McCormack, P. Maxwell Foshay, and George H. Simmons.

Dr. Love, New York, moved that a vote of thanks be extended to the Committee on Reorganization for its superb report. Carried.

Dr. John A. Wyeth, New York, was then introduced and delivered the oration in surgery. (See page 1611.)

The President called for the report of the Committee on American Medical Association Medal, and in the absence of Dr. Osler, Baltimore, chairman, the report was passed.

The report of the Committee on Senn Medal, Dr. Maurice H. Richardson, Boston, chairman, was called for, and in the absence of Dr. Richardson, Dr. F. H. Wiggin, New York, made a verbal report in behalf of the committee, stating that the committee had received two papers during the year, and after due consideration of the matter came to the conclusion that neither paper was of sufficient scientific interest to warrant any award, and therefore no award was made this year.

The President said that the report of this committee required no action on the part of the Association, and that the committee would be continued.

The next order was the report of the Committee on the Rush Monument Fund, which, in the absence of Dr. James C. Wilson, Philadelphia, chairman, was read by Dr. Henry D. Holton.

### Committee on Rush Monument Fund.

H. D. HORTON, Treas., in account with Rush Monument Fund:

| 1901. | DR. |
|---|---|
| June 1, To cash on hand | $365 05 |
| June 28, To cash from Dr. A. Jacobi | 100 00 |
| June 29, To cash from West Virginia Medical Society | 50 00 |
| To cash from Averill note | 765 00 |
| To interest from funds invested | 602 50 |
| | $1882 55 |

| CR. | |
|---|---|
| By one thousand dollar bond Western Union Telegraph | $1000 00 |
| By interest and expenses | 140 67 |
| By cash on hand | 741 88 |
| | $1882 55 |

Amount of Fund June 1, 1901.

| | |
|---|---|
| Funds invested in bond and mortgage | $11,200 00 |
| Cash on hand | 741 88 |
| | $11,941 88 |

Dr. Reed, Wyoming, moved that the report be received and placed on file. Carried.

The report of the Committee on Scientific Research was called for and the secretary read the following letter:

### Committee on Scientific Research.

BALTIMORE, June 1, 1901.

Dr. George H. Simmons, Secretary of the American Medical Association:

*Dear Doctor:*—I regret that it is impossible for me to be present at the meeting of the American Medical Association this year.

I do not suppose that Dr. Wood has been able, on account of illness, to send a report in behalf of the Committee on Scientific Research. I can not learn that there was any organization, and certainly there has been no meeting of the Committee. Dr. Wood, however, inserted notices in the medical journals calling attention to the existence of the grant by the Association, and requested that applications for appropriations from the fund be sent to him before a specified date. Ten such applications were received, and Dr. Wood communicated with the members of the Committee by letter regarding the selection of applicants and the amounts to be appropriated to each. A decision in this matter had not been reached when Dr. Wood became so ill that he could give no further attention to it. He then asked me to take the matter in hand. You may recall that I then communicated with you, and that you suggested that in view of the lack of previous organization and of meeting of the Committee, and the lateness of the season remaining for action, it might be well to postpone further action until after the meeting of the Association. I have followed your suggestion. There have been ten applications for appropriations from the funds, several of which at least were eminently deserving.

While I regret that the initiation of this important undertaking on the part of the Association has not led to results during the first year, I sincerely trust that the grant will be continued. If the $500 appropriated by the Association last year could be added to an additional $500, making $1000 for the coming year, I believe that much good would result. If this is not deemed best, I hope that at least the appropriation of $500 will be continued for another year. I should suggest that the committee be not limited as now to the granting of sums not exceeding $100 to a single individual. It would be well, I think, in selecting the Committee to consider somewhat the care with which the members can be brought together for conference.

Hoping that the Association will continue these grants for research, I am, very truly yours, WILLIAM H. WELCH.

Dr. Bert Ellis, California, moved that the report be referred to the General Executive Committee with instructions to report back to the Association. Seconded.

Dr. Happel, Tennessee, asked whether the report did not involve the expenditure of money, to which the President replied it did, and the President suggested that it would be well to refer it both to the Board of Trustees and the Executive Committee for a joint report.

This suggestion was accepted by the mover and seconder of the original motion, and the motion as amended was carried.

Dr. Sims, New York, offered the following resolution:

*Resolved*, That this body deplores the action of Congress in abolishing the army post exchange, or canteen, and, in the interests of discipline, morality and sanitation, recommends its re-establishment at the earliest possible date.

Dr. Reed, Wyoming, moved that the resolution be adopted, which was seconded, and after some discussion a motion was made to lay the resolution on the table, which was carried, there being 54 for, and 25 against, tabling the resolution.

Dr. Reed, Wyoming, then brought up the matter in a different form and moved that a committee of three be appointed by the President to take up this resolution and present it before the proper body for consideration. Seconded.

The Chair ruled that the motion of Dr. Reed revived the specific subject that had been disposed of, and stated that if a motion was made to incorporate the general subject in proper

terms, it might come within parliamentary rules. Dr. Reed, Wyoming, thereupon moved that a special committee be appointed to consider the question of asking Congress to repeal the Canteen Act. Seconded.

It was moved as an amendment, that instead of appointing a special committee, the matter be referred to the Committee on National Legislation. Seconded.

The amendment was accepted, and as amended was carried.

The Secretary announced the members of the Nominating Committee.

On motion, the Association then adjourned until Thursday.

### Nominating Committee.

The Secretary announced the members of the Nominating Committee as follows:

COMMITTEE ON NOMINATIONS.—Alabama, W. G. Harrison; Arizona, R. W. Craig; Arkansas, Joseph P. Runyan; California, Bert Ellis; Colorado, C. K. Fleming; Connecticut, J. W. Wright; Delaware, John Palmer, Jr.; District of Columbia, G. L. McGruder; Florida, ———; Georgia, Thos. D. Coleman; Idaho, ———; Illinois, Hugh T. Patrick; Indian Territory, ———; Indiana, C. A. Daugherty; Iowa, Donald Macrea; Kansas, R. S. Magee; Kentucky, W. H. Wathen; Louisiana, ———; Maine, Seth Gordon; Maryland, ———; Massachusetts, Geo. J. Engelmann; Michigan, F. W. Robbins; Minnesota, A. J. Stone; Mississippi, W. H. Barr; Missouri, C. H. Wallace; Montana, T. J. Murray; Nebraska, W. S. Conwell; Nevada, ———; New Hampshire, Geo. Cook; New Jersey, Richard C. Newton; New Mexico, Edwin B. Shaw; New York, E. Elliott Harris; North Carolina, James A. Burrough; North Dakota, J. N. Wear; Ohio, Jos. E. Cook; Oklahoma Territory, R. D. Love; Oregon, Andrew C. Smith; Pennsylvania, W. S. Foster; Rhode Island, Philip K. Taylor; South Carolina, Charles F. McGahan; South Dakota, D. W. Rudgers; Tennessee, G. C. Savage; Texas, Bacon Saunders; Utah, S. C. Baldwin; Vermont, M. R. Crain; Virginia, Christopher Tompkins; Washington, N. Fred Essig; West Virginia, A. H. Thayer; Wisconsin, W. H. Earles; Wyoming, R. Harvey Reed; U. S. Marine-Hospital Corps, Geo. T. Vaughn; U. S. Army, Major Richards.

### Report of Committee on Nomination.

Your Committee on Nomination met June 5, with Dr. Wm. H. Wathen, chairman, and Dr. Thomas D. Coleman, secretary, and begs leave to report as follows:

For President for the ensuing year, Dr. John A. Wyeth, New York; first vice-president, Alonzo Garcelon, Maine; second vice-president, A. J. Stone, Minnesota; third vice-president, A. F. Jonas, Nebraska; fourth vice-president, John R. Dibrell, Arkansas. Treasurer, Henry P. Newman, Illinois. Secretary, Geo. H. Simmons, Illinois. On motion, the ballot of the committee was cast for Geo. W. Webster, Illinois, for Librarian. Board of Trustees, term expiring 1904: W. W. Grant, Colorado; John F. Fulton, Minnesota; T. J. Happel, Tennessee. Judicial Council: Geo. Cook, New Hampshire; H. H. Grant, Kentucky; John B. Murphy, Illinois; Philip Marvel, New Jersey; Louis H. Taylor, Pennsylvania; John L. Dawson, South Carolina; N. Fred Essig, Washington. Oration in Surgery, Harry Sherman, California. Oration in Medicine, Frank Billings, Illinois. Oration in State Medicine, J. M. Emmert, Iowa. Place of Meeting, 1902, Saratoga Springs, N. Y. Chairman of Committee of Arrangements: G. F. Comstock.

[At the General Session, June 6, the preceding officers were elected.]

## Book Notice.

MUNICIPAL SANITATION IN THE UNITED STATES. By Charles V. Chapin, M.D., Superintendent of Health of the City of Providence. Cloth. Pp. 970 Price, $5.00. Providence, R. I.: Snow & Farnham. 1901.

Dr. Chapin's work is a valuable compilation of the data of sanitary legislation in the United States, including the laws in regard to the registration of vital statistics. It is a compendium of sanitary practice, and not intended so much to say what should be done as what has been and is being done. The author's personal opinions are not obtruded, though they may be indicated in places. The utility of such a volume is at once apparent: there are few who are interested in sanitary matters who have not at times felt the need of a work of the kind. It does not materially lessen its value that it is impossible for it to be absolutely up to date; that would be impossible with the extensive field covered and the ever-present vicissitudes of municipal legislation. It is, nevertheless, probably as nearly so as it is possible for such a volume to be, and it is therefore a most valuable work of reference and one that will not be likely to be soon superseded. A thorough inspection reveals comparatively few deficiencies and a surprising number of facts that might reasonably be expected to escape notice. The chief trouble, as it appears to us, is, that in this country at least, sanitary legislation and sanitary practice do not always go hand in hand; the execution of the laws is too often defective. It would be impossible, however, to indicate all such deficiencies in a volume like this, which is on the whole the best, as the most recent and thorough work of its kind available for the physician and sanitarian. The author has conferred an obligation on both by its production.

## Societies.

### COMING MEETINGS.

South Dakota State Medical Society, Huron, June 10-11.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
Oregon State Medical Society, Portland, June 11-12.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.

### AMERICAN GYNECOLOGICAL SOCIETY.

*26th Annual Meeting, held in Chicago, May 30, 31, and June 1, 1901.*

President Dr. Ely Van de Warker, of Syracuse, N. Y., in the chair.

An address of welcome was delivered by Dr. Fernand Henrotin, of Chicago, which was responded to by the President.

DR. CHAUNCEY D. PALMER, of Cincinnati, read a paper on

**Intraligamentous Cysts: Their Diagnosis and Treatment.**

This paper had special reference to the diagnosis and treatment of these tumors. He spoke first of the classification of ovarian tumors in our text-books as being unsatisfactory. What we need is a classification that is helpful in the way of diagnosis and treatment. He spoke then of oöphoritic, paroöphoritic and parovarian cysts. He then referred to the symptoms and signs before removal which would enable the operator to differentiate intraligamentous cysts.

All ovarian cysts of whatever kind should be removed by surgical procedures, the sooner the better. But the removal of intraligamentous cysts demands the most correct knowledge of the parts and surroundings and superior skill. The essayist then dwelt upon the advisability, if not necessity, of operators availing themselves of the extraordinary opportunities, when the abdomen is opened, to see and to feel and to map out what it is, where it is, and determine what methods are best to adopt in the removal of pelvic growths. Intraligamentous cysts are, as a rule, easily peeled out of the broad ligaments. Enucleation, first suggested by Dr. Mynter, of Buffalo, can be done, but it ought only to be attempted when the attachments are superficial. An attempt begun in the old way on some intraligamentous cysts may have to be abandoned as an incomplete operation, or as an inoperable case. Many such cases have died on the table. He referred to the danger of wounding the ureters, wounding the uterine arteries, and then he earnestly advocated the advisability of completely exsecting the uterus as well as the appendages thereof, when the cysts are bilateral, and where they are deeply embedded within the surrounding textures. This new method of procedure, while seemingly the more radical way, is the only rational method of a skillful surgical extirpation of the diseased structures.

DR. WILLIAM H. WATHEN, of Louisville, read a paper on

**Improved Technic in the Surgical Treatment of Uterine Myomata.**

The perfection of technic in operations for the removal

of uterine or pelvic myomata is the result of the application in these operations of the variety of details suggested and practiced by different surgeons, and operators no longer speak of hysterectomy as an operation peculiar to anyone, nor can they in many instances outline in advance the complete technic to be observed or carried out in an operation. The dangers during the operation are hemorrhage or injury to the bladder, ureters or intestines, and if the surgeon is prepared to avoid these, and operate speedily, there is hardly a condition that may not be successfully treated. Unless there is some contraindication, myomata not larger than a fetal head may be easily removed per vaginam, and if the operator uses well-constructed forceps no successful operator would wound the bladder, the intestines or the ureter, the last-named of which, if necessary, may be protected by ureteral catherization, which may also be used as a means of protecting the ureters in the suprapubic method. Experience will aid in the selection of cases suitable for the vaginal method. While the author has removed with ease uterine myomata twice the size of a fetal head, he has had great difficulty in removing one much smaller than a fetal head.

### Painful Menstruation as a Factor in Determining Character of Operations on the Uterine Appendages.

DR. PHILANDER A. HARRIS, of Paterson, N. J., said that extra-uterine suppurations so commonly resulting from gonorrheal infection of the uterus, and from ordinary infections of childbirth and abortion, are of such frequent occurrence as to quite overshadow in importance all other causes of acquired dysmenorrhea. Not all cases of suppuration in the uterus or tubes cause painful menstruation. A small percentage of such cases, even in the presence of extensive and long-continued suppuration, menstruate painlessly. Tubal suppurations may, and usually do, cause painful menstruation before the development of ovarian abscess. This is proven by the fact that surgeons so often have exsected both suppurated tubes, at the same time leaving both ovaries, which appeared healthy, with the arrest of all pelvic pains and restoration to health, including a cure of the dysmenorrhea. Ovarian abscess frequently develops from tubal suppuration, with the effect of increasing, modifying or localizing not only intermenstrual pains, but also the pains of menstruation. Pronounced and persistent primary dysmenorrhea, or the dysmenorrhea which exists from puberty, will probably not be obliterated by the simple excision of diseased tubes, except, as in certain rare instances, it be due to gonorrheal infection prior to the beginning of menstruation, in which event it would be curable by excision of the tubes, vaginal incision and drainage, or the removal of the pyogenic sacs in the ovaries. By excision of a tube is meant its removal to the uterine mucosa by making an elliptical incision in the uterus about the tube and closing the chasm with sutures. The author's partially conservative surgical work in this connection has shown him that, while he has maintained for about 95 per cent. of all women thus operated the item of menstruation, he has had a higher percentage of relief and symptomatic cures, and far greater satisfaction with the results obtained than accrued from his former and more extensively mutilating and exsective operations.

DR. E. C. GEHRUNG, of St. Louis, read a paper entitled

### Status of Menstruation.

Menstruation is not, as has been supposed, a special function of the generative organs of women, but only the perverted counterpart of the menstruation of the lower animals. This transformation into a monthly "hemorrhage" (menorrhagia) has generally been brought about by the necessities and results of the social, moral and connubial life of mankind as well as through the transmission by inheritance of certain debilities of the generative apparatus, and more especially by the erect position and its natural consequences, assumed by the human species. This fact being admitted, the profuseness and prolongation of the sanguineous loss is a proof that it is now a physiologico-pathologic condition, predisposing to anemia and all its direful consequences, pre-eminently to the nervous system. In the great majority of cases the quantity of blood lost during so-called normal menstruation is an unnecessary, and therefore pathologic, waste of the very essence of life. It stands to reason that in all cases of depressed vitality this loss should be reduced as much as possible. The best means for controlling the waste is the vaginal (not uterine) tampon, applied "secundum artem." Whenever curettage is not indicated or applicable, and where it has failed in gaining the desired result, the tampon is the means indicated. Chronic and acute inflammation of the pelvic organs are contraindications. Unless the restriction of the waste is put in execution, tonics are useless, because they simply increase the pressure and consequently the waste, while after the repression, or simultaneously with it, they seem to work wonders.

### The Age of First Menstruation in the United States.

DR. G. J. ENGELMANN, of Boston, read a paper on this subject. Over 10,000 observations as to the time of first menstruation of American-born women, many with reference to points never before investigated, here or elsewhere, gives him ample material for an authoritative solution of the questions involved. These observations, from his own practice and that of helpful friends, are many, and the identity of results obtained in far distant points, Montreal and New Orleans, St. Louis, Cincinnati and Boston, vouches for their correctness. Furthermore, they are corroborated by all previous records, a total of 6,000, in such points as these may cover. The American-born are more precocious than the women of other countries in the same zone; 14 is the age of puberty in the United States and Canada; 15.5 in the temperate zone of Europe. The native American is more precocious than the American born of foreign parents, but the latter closely approximates the American of American parentage, even in the first generation. Racial characteristics fade rapidly away; the age of puberty in Germany is 15.5 to 16, in Ireland 15.3, and for the girl born in America of German or Irish parentage 14.5, in St. Louis as it is in Montreal; the Canadian-French are the only exception, between 14 and 15 in their native land, these alone of all races are more precocious than the American of the same class when born in this country, 13.7 is the mean age; climate here has absolutely no influence; race very little. Mentality, surroundings, education and nerve stimulation stand out prominently in this country as the factors which determine precocity.

### Cancer of the Uterine Fundus.

DR. J. M. BALDY, of Philadelphia, read this paper. It is with the object of calling attention of the profession to, and emphasizing as emphatically as possible, the wide practical difference between cancer of the cervix and cancer of the fundus, that this paper is presented. It has been said that practically all cases of cancer of the cervix eventually die of the disease; that practically all cancers of the fundus remain well if operated upon. This statement is more generally true than one would suppose at first glance. It has been my own, and the experience of other surgeons. Less than 5 per cent. of cases of cancer of the cervix are cured, no matter what line of treatment is followed. Twenty-four cases of cancer of the fundus have passed through my hands. Of these, 3 were either too far advanced for operation, or refused operative treatment. On the remaining 21 cases hysterectomy was performed by the vaginal method, the abdominal method or the combined vagino-abdominal method. Two of the 21 cases died of the operation. Of the 19 remaining cases, all are alive and well to-day, with two exceptions. One of these died of pneumonia seven years after operation. It is strongly suspected from the reports that the other one has recurrence. Making all allowances for mistakes and the general unreliability of statistics, the fact stands out strongly that about 75 per cent. of these cases are well and free from signs of cancer, as against 5 per cent. or less of cancer of the cervix.

### The Status of Hysterectomy for Uterine Cancer.

DR. CYRUS A. KIRKLEY, of Toledo, Ohio, read a paper on this subject. The paper was a plea for conservatism in the surgical

treatment of uterine cancer, and contrasted its pathology and treatment of half a century ago with that of the present. Electro-cauterization, as practiced by Dr. Byrne, was given the preference over all methods of operating. It had not received the recognition it deserves. Dr. Bryne's skill in its application could only be acquired as in other operations. Freedom from danger and longer period of exemption were its strongest recommendations. An old table published by Dr. Bryne in 1889 was referred to, so that in comparison vaginal hysterectomy might have the advantage. In a total of 367 cases there was not a single death from the operation. The position held by our fathers fifty years ago, that hysterectomy for cancer has its narrow limitations, that it should be done early, if at all, and that only temporary relief can be hoped for, is just as true to-day.

### Prolapse and Procidentia of the Uterus.

DR. HENRY T. BYFORD, of Chicago, read this paper. He holds that the essential feature of the prolapse is the want of supporting power of the pelvic connective tissue. To suture the uterus to the abdominal walls is to support the pelvic connective tissue by means of the uterus and is wrong and inefficient. The best and most rational method is to draw up and attach the peri-uterine tissue and thus keep the uterus up by means of its natural supports. In addition to the ordinary operations for lacerations and relaxation at the vaginal outlet, the author proposed a method which he described in detail.

### Panhysterokolpectomy, A New Prolapsus Operation.

DR. GEORGE M. EDEBOHLS, of New York City, read a paper under this title. There is room, in the treatment of complete prolapse of the uterus and vagina, for an operation which, properly and successfully performed, will guarantee a certain and permanent cure of the prolapse. Such an operation is panhysterokolpectomy, the essentials of which consists in complete removal of the uterus and vagina, followed by operative obliteration or columnization of the bed of the genital tract. The tubes and ovaries are not disturbed, if healthy; if diseased, they are removed with the uterus and vagina. Obliteration and columnization of the bed of the removed uterus and vagina is effected by means of from seven to nine buried pursing sutures of chromicized catgut placed about 2 to 2.5 centimeters apart and running parallel to each other. Each suture gathers the raw surfaces from the periphery in circular fashion, and draws or purses them together in the median line. It is buried by being pushed upward towards the abdomen, while the next suture is being tied beneath it.

The effect of the completed operation is to build a solid pelvic floor 10 to 15 centimeters in depth, and to establish broad apposition of the base of the bladder and the anterior surface of the rectum, conditions similar to those obtaining in the male pelvis.

### Pus in Abdominal Operations.

DR. HUNTER ROBB, of Cleveland, read this paper. The author has become convinced that operators not infrequently err in carrying out radical abdominal procedures when the patient's resistance is in such a lowered condition that she is very apt to succumb to the shock of the operation *per se*. Such a condition must always be given careful consideration when deciding for or against operative interference during an acute attack of a localized or more or less generalized pelvic peritonitis. Believing that this factor has a very important significance in influencing results, the speaker has made it a rule during the acute stage of a pelvic abscess to defer an operation so long as it seems safe to do so. In the meanwhile, the patient is kept perfectly quiet on her back in bed, and heat in the form of flaxseed poultices or turpentine stupes is applied to the abdomen. A vaginal douche of a gallon of a warm one per cent. solution of carbolic acid, or a saturated boracic acid solution, is given twice daily. For nourishing the patients he depends upon nutritive injections entirely.

After briefly discussing drainage in pus cases, the author gave the clinical and bacteriological analyses of 72 consecutive, unselected abdominal sections for suppurative diseases of the tubes and ovaries, with two deaths.

### Removal of the Female Urinary Bladder for Malignant Disease.

DR. MATTHEW D. MANN, of Buffalo, said that treatment may be removal through the urethra, the vaginal septum, or by suprapubic cystotomy. The operations are the removal of the growth and its base; resection of part of the bladder; or cystectomy. The ureters need no attention at the time of the operation, as by the removal of a portion of the anterior vaginal wall they will discharge into the vagina. If possible, the ureteric openings into the bladder should be left intact. This will rarely be possible. He does not believe in uretero-intestinal anastomosis. The vagina can be used as a receptacle for the urine, as was done by Pawlik. If this be done, there will be little danger of infection traveling to the kidneys, as the newly made bladder can be kept clean.

The operation is done in the Trendelenburg position. The peritoneum over the bladder being cut, the bladder is enucleated by the fingers, and the base, with the anterior vaginal wall still attached, is removed. The uterus is then removed, and the peritoneum closed over the floor of the pelvis. Mann reports two cases, both of which recovered from the operation.

### Total Extirpation of the Urinary Bladder.

DR. J. WESLEY BOVÉE, of Washington, D. C., gave an epitome of the history of operative procedures in partial and complete removal of the bladder, and a digest of 96 cases, which he had collected from the literature. He discussed the methods of disposal of the ureters, the indications and contraindications, and the results of all operations up to date.

### Shock from a Clinical Standpoint.

DR. EUGENE BOISE, of Grand Rapids, Mich., read a paper with this title. The generally accepted idea that the pathology of shock is essentially a paresis of the vasomotor nerves, does not seem to be borne out by the clinical manifestations, when analyzed according to undisputed physiologic facts. The basis of the theory of paresis is the thought that the extremely low arterial tension of shock is inconsistent with vasomotor stimulation, which, by causing arterial contraction, should give high tension. On the contrary, the symptoms of shock can, in reality, only be explained by the theory of extreme stimulation of the entire sympathetic system. Laboratory experiments have demonstrated that extreme stimulation of the cervical sympathetic will cause cardiac and arterial spasm with consequent low arterial tension by reason of incomplete diastolic relaxation of the heart. Post-mortem records show that in fatal cases of shock the heart is found contracted and empty, even ruptured, showing a condition of extreme stimulation of the vasomotor system, rather than paresis. In shock, then, there is arterial and cardiac spasm, with consequent low tension. This causes the peculiar pallor and the condition of mental and physical lethargy. The perspiration of shock is caused by stimulation of the secretory nerves of the sweat glands, branches of the sympathetic system. Experiments have shown that the secretion of perspiration is independent of vascular conditions. The other clinical manifestations of shock can readily be explained by this theory of hyper-irritation of the entire sympathetic system, and only by this. Moreover, those remedies which are of benefit in shock are such as act as sedatives to the vasomotor nerves. Nitrite of amyl and nitro-glycerin are noted arterial relaxants, and yet they are very beneficial in shock; so, also, with strychnia. The opinion of operators of large experience is that to be of benefit it must be given in very large doses. And yet all therapeutists agree that in such doses strychnia paralyzes the vasomotor center and the intracardiac ganglia, and therefore is absolutely contraindicated if the vasomotor nerves are already paretic; so also with normal saline infusion. To derive the greatest benefit it should be used intravenously and at a temperature of 118 or 120. Thus, when diluted by the mass of blood in the vena cava, the temperature is so reduced as to be sedative to the irritated cardiac and arterial nerves and muscles, and their spasmodic condition is relieved. Therefore, shock is essentially a hyper-irritation of the entire sympathetic system of nerves.

### Resections and Exsections.

DR. FERNAND HENROTIN, of Chicago, presented the salient

points concerning the questions involved in resection of the ovaries and tubes, as there is still much doubt regarding the results obtained, and as to the proper methods to pursue. He considered the subject of resection and exsection under three heads: 1, diseases involving the tubes; 2, ovarian disease; 3, chronic composite diseases. These three topics were taken up seriatim, and discussed at great length. The author has performed at least 250 operations which might be classified as salpingotomies, salpingectomies, and ovarian resections. He could safely state that 40 per cent. may be termed delayed and partial cures, or failures. Of this 40 per cent. the heaviest proportion by far comes from such as have had salpingotomy or tubal resection performed. The next most complaining class are those in which the ovaries alone were resected and the least suffering and the best health are found among those in whom the tubes when affected were entirely exsected and the whole or portion of the ovaries was removed. He has not had to re-operate more than five or six times. By salpingotomy the author means opening into the lumen of the tube, and by tubal resection is meant the removal of a portion of a tube including the mucosa, and his statement presumes a material pathologic alteration in the portion removed or incised. Under such conditions, he had no hesitation in stating that for every baby born there would be 40 uncured or partially cured patients.

### The Future of Gynecology as a Surgical Specialty.

The President's Address was on the future of gynecology as a surgical specialty. The general scope of DR. VAN DE WARKER'S address was given in an anecdote of a noted ovariotomist who was invited by the President to contribute a paper to the Section on Obstetrics and Gynecology of the AMERICAN MEDICAL ASSOCIATION, at the session at which he presided as Chairman. The ovariotomist declined on the ground that he was not a gynecologist. That ovariotomy and hysterectomy and other abdominal operations were general surgical procedures, and were more in the line of the general surgeon than the gynecologist, and wound up his letter of refusal by predicting that the time was not far distant when these operations would be by general consent of the public in the hands of the all-round surgeon. The speaker asks the question if that time has not arrived. The public consults the general surgeon as frequently as the special surgeon. A large proportion of the major pelvic operations are now made by men who are not specially recognized as gynecologists. Surgery in general has made as marked advances in all directions as that which was at one time by common consent relegated to the specialist. The lay public has become more familiar with serious abdominal operations made by the general surgeon than those made by the gynecologist. The old operation, ovariotomy, is but rarely seen in the title of a paper, and is relegated from the current journal to the pages of the text-books. The same may be said of the removal of the tubes and ovaries, the removal of pus sacs, Battie's and Tait's operations. Great international reputations were made in these fields, which is no longer possible. The influence of the gynecological surgeon will, however, always be felt. To him as a man of last resort will always be left the question of methods and expediency. Total hysterectomy for cancer is yet on trial. It is already abandoned by able men, while others are hopeful of good results. We know little of the subject of genital ptosis in women; our treatment of uterine displacements is rank empiricism. Would not the gynecologists of France be doing a better service to their country and to science if they were to find the cause and conceive the remedy for the decadence of the birth-rate, rather than bend their energies in finding a new way to perform an operation?

### Indications for Cesarean Section as Furnished by Pelvic Contractions.

DR. J. W. WILLIAMS of Baltimore, stated that in 2123 cases delivered in the obstetrical department of the Johns Hopkins Hospital, 278 (13.1 per cent.) had contracted pelves. The pelves were measured both externally and internally, and designated as contracted when the conjugata vera was 10 cm. or less in generally contracted, and 9.5 cm. or less in flat, pelves. Of the patients 941 were white and 1182 black. Contracted pelves occurred in 6.91 per cent. of the former, and 18.1 per cent. of the latter. That is, in every 14th white and every 6th black woman. Of the 278 cases 199 ended spontaneously (71.58 per cent.). The number of spontaneous labors decreased with the increase in the pelvic contraction, as shown by the following table: Conjugate vera 10.9 cm., 77.28 per cent. spontaneous; 8.9-8 cm., 61.54 per cent. spontaneous; 7.9-7 cm., 33 1 3 per cent. spontaneous; 6.9-5.5 cm., 0 per cent. spontaneous. The cases requiring operation were delivered by high forceps, version, symphysiotomy, Cesarean section, craniotomy, upon the dead child, or embryotomy, according to circumstances, giving a gross fetal mortality of 12.96 per cent., and a gross maternal mortality of 2.88 per cent., which, by deducting the cases in which the death of the child or the mother was not due to the operators, gave a corrected mortality of 4.32 and 0.72 per cent. respectively. In view of the markedly improved results following Cesarean section, the indications for its performance should be widened. Thus we find that Zweifel, Olshausen, Reynolds, Bar, Charles and Cragin have performed 162 operations with 5 deaths, a mortality of 3 per cent. He therefore believes that in uninfected cases the upper limit for the absolute indication for Cesarean section should be advanced from 5.5 to 7 cm., and the relative indication from 7 or 7.5 to 8.5 for flat, and 9 cm. for generally contracted pelves. With the absolute indication the operation should be done either at the end of pregnancy or the onset of labor; but when the relative indication is present the woman should be allowed to go into the second stage of labor, and have bearing-down pains for one hour, when, if the head does not show signs of molding or descending, Cesarean section should be performed, instead of forceps upon the movable head or version. So that at present Cesarean section for the relative indication should compete with high forceps or version, instead of with craniotomy upon the living child, as in the past. On the other hand, if the patient be infected, or her surroundings such that an aseptic operation can not be performed, high forceps or version should be attempted, followed by craniotomy in case one fails to deliver the child by their means, and Cesarean section reserved for those cases in which an absolute indication is present on the part of the pelvis.

### Circumstances which Render the Elective Section Justifiable in the Interests of the Child Alone.

DR. EDWARD REYNOLDS, of Boston, summed up his experience and study of the subject in the following propositions: 1. The Cesarean section performed late in labor, or in the presence of infection of the uterus or other complicating constitutional conditions, has been shown by the experience of almost every operator who has tried it, to have so high a mortality as to be totally unjustifiable when performed in the interest of the child alone. 2. When a Cesarean section is performed on a healthy woman, early in labor, and under other otherwise favorable circumstances, for merely mechanical indications, it has, in skilled hands, no mortality other than the fractional percentage incidental to all considerable operations *per se*. 3. The inconveniences and high morbidity rate of symphysiotomy render it distinctly inferior to the section as an operation of choice, but it is an operation which, as compared to craniotomy, or prolonged and forcible high forceps work without it, involves almost no increased risk to life. 4. The induction of premature labor for contracted pelvis results in so high a fetal mortality as to be unwarranted when placed in opposition to the performance of the Cesarean section at the beginning of labor and in favorable cases.

### The Technique of Cesarean Section.

DR. MATTHEW D. MANN, of Buffalo, first discusses the relative merits of the Saenger and Porro operations. He concludes that there is no rivalry, but that each has its proper place. The classical operation should be done in all elective cases, when the woman is in good health, the operation done in time, and all the conditions favorable. The Porro operation should be done when the uterus is septic; when gonorrheal infection is known to exist; when the uterus refuses to contract; when there are large fibroids, or ovarian tumors, which can not be removed without injuring the uterus. Small fibroids usually

disappear after pregnancy. Other indications for the Porro are: Disease of both ovaries; when the uterus is torn, or ruptured in labor; in cancer of the cervix; when the patient is greatly reduced and bearing the operation badly; in osteomalacia and bad atresia of the vagina.

**The Place of Symphyseotomy as Contrasted with Section.**

DR. CHARLES JEWETT, of New York City, presented the following conclusions: 1. Symphyseotomy is still a useful operation within a very limited range of pelvic contraction. 2. It is suited to conditions in which only very little additional pelvic space is required for delivery. 3. It is a valuable recourse, therefore, in cases in which forceps unexpectedly proves inadequate. 4. Axis-traction forceps, with the aid of posture, should always be tried before resort to symphyseotomy. 5. Its results would be much improved by restricting it to pelves with a conjugate of not less than 7.5 cm., 3 inches. 6. Under equally favorable conditions its total mortality should be no greater than that of Cesarean section. 7. When the pelvic space permits, it should replace Cesarean section in the presence of exhaustion. 8. It may be elected primarily as an alternative of Cesarean section, when the operator can be assured that the degree of obstruction is well within its safe limit. Here the choice of operation is largely a matter of individual preference. 9. Within its proper field symphyseotomy is better than Cesarean section for an operator of little experience in abdominal surgery.

**Relative Merits of Bipolar Version with Slow Extraction and Accouchement Force in the Treatment of Placenta Previa.**

DR. HENRY D. FRY, of Washington, D. C., stated that podalic version was discovered by Paré in the 16th century. The method was practiced and prompt delivery recommended in all cases of placenta previa. Until the discovery by Braxton Hicks, in 1861, of the bipolar method of version, subsequent literature added little of value except the use of the tampon; rupturing the membranes; and separation of the placental attachment as far as the finger could reach.

The mortality of these methods of treatment was from 25 to 50 per cent. for the mother, and from 50 to 80 per cent. for the infants. The main cause of death was loss of blood during the dilatation of the os, and from laceration of the site of the placental attachment. The advantage of bipolar version is the ability to successfully perform it with very little dilatation and with consequently less loss of blood. In placenta previa a fatal result is usually due to hemorrhage or sepsis. The hemorrhage is unavoidable and incident to dilatation of the os. Consequently the method requiring the least degree of dilatation necessary to perform version will naturally be expected to give the least hemorrhage. After dilatation be obtained in sufficient degree to insert several fingers, further continuance of the process by manual means is likely to endanger the integrity of the soft parts. In other words, the artificial dilatation sufficient to perform bipolar version is comparatively safe, while that necessary for the insertion of the hand and internal version is dangerous. The rapid delivery of the infant in accouchement forcé adds additional risk of rupture.

**Scratch Marks on the Wax-Tipped Bougies in Diagnosis Calculi.**

DR. HOWARD A. KELLY, of Baltimore, exhibited nine drawings made by Mr. Becker, showing scratch-markings made in wax-tipped bougies by calculi in the kidney and ureter, also pictures of the calculi and the bougies used were shown. A mixture of melted dental wax and olive oil, equal parts, was used to tip the renal catheters. This substance produces a smooth and highly polished surface, which on coming in contact with a stone is scratched or gouged in longitudinal striæ. The mucous membrane of the urinary tract cannot possibly affect the waxed surface.

DR. ANDREW F. CURRIER, of New York, said that the importance of this class of injuries is measured not merely by the immediate damage to the skull or the soft parts of the head, but by the possibility of death as a near or remote result, by the possibility of lifelong defect or deformity, and especially by such detrimental effect upon the structure of the brain that development is arrested or prevented, the individual manifesting mental incompetence in any degree between slight backwardness and hopeless idiocy. Unfortunately, post-mortem examinations in fatal cases from this cause are seldom made, hence our pathological knowledge of the subject is incomplete. The free use of the obstetric forceps has, on the whole, produced favorable results, but it is equally true that its untimely, injudicious or unskillful application has caused injury to many mothers and destroyed the lives of many children.

**Tetanus Following Celiotomy, with Report of Two Cases.**

DR. HENRY C. COE, of New York, in his introductory remarks stated that tetanus is such a rare complication of abdominal section, that many operators of large experience have never had a case. Statistics have shown that the disease is especially fatal after ovariotomy and hysterectomy. Tetanus is a rare cause of death after aseptic operations, as shown by reviews of various hospital records. Environment seems to make little difference. In Bellevue Hospital, where conditions are apparently most favorable to development of tetanus, this is almost unheard of, except as the result of wounds received before the patient is admitted. In the General Memorial Hospital, on the contrary, where the conditions are infinitely better, two fatal cases have occurred since the Hospital was opened (1887), and both in the service of the writer. In both cases tetanus followed clean operations, after a normal convalescence, and under conditions which were quite inexplicable.

DR. J. DUNCAN EMMET, of New York City, read a paper on "Myomectomy During Pregnancy with Delivery at Full Term."

The following officers were elected for the ensuing year: President, Dr. S. C. Gordon, Portland, Me.; first vice-president, Dr. George M. Edebohls, New York City; second vice-president, Dr. Edward Reynolds, Boston; secretary, Dr. J. Riddle Goffe, New York City; treasurer, Dr. J. Montgomery Baldy, Philadelphia. Atlantic City, N. J., was selected as the place for holding the next annual meeting.

## AMERICAN ACADEMY OF MEDICINE.

*Twenty-sixth Annual Meeting, held at St. Paul, Minn., June 1-3, 1901.*

President Dr. S. D. Risley, of Philadelphia, in the chair.

Drs. L. Duncan Bulkley, of New York; Thomas D. Davis, of Pittsburg, and Dr. G. Hudson Makuen, of Philadelphia, were appointed the nominating committee. Forty-two new members were added to the fellowship.

**The First Year Medical Curriculum.**

DR. THOMAS D. DAVIS, of Pittsburg, said there had been great changes in the curriculum of the academical departments of all our institutions of learning—changes—not advances. He did not agree that many of the changes had been improvements in education. It would appear that the courses in arts and sciences had been arranged mainly to give a short cut into the profession rather than to broaden and deepen the foundations of true mental development. It is his conviction that no plan surpasses for true professional education foundation the old severe classical course, particularly valuable in developing the judgment and reason and forming the habits of application and mental concentration. Anything that can not show its advantages in dollars and cents has been placed in the background. He impressed the importance of the subjects taught in the last two years of a college course, and believes that the first-year course of a medical school should approach the last-year course in a college. A four-year medical course is not of itself an advancement in medical education. An entire rearrangement of the curriculum in our medical schools is necessary to correspond to the four years required. Botany should be taught, to give a more correct foundation for the vegetable materia medica.

DR. LAERTUS CONNOR, of Detroit, believed that colleges of all kinds were committing a grievous wrong to their students in not having them taught so to write that they could be understood clearly and forcibly, as well as in not teaching them how to talk when upon their feet. Without this training they are handicapped. If necessary, this instruction should be put in with the study of anatomy and chemistry. Manual training

in that their fingers might be able to follow out the students' perceptions was also advocated; as was also "a little bit of business training" which would make the physician more prosperous, and more reputable in the minds of those in business circles. A number of physicians are wrecked because they lack business training.

DR. V. C. VAUGHAN thought it a mistake that our students were not more frequently compelled to write theses, and that the abolition of the requirement was a backward step. Before a man studies medicine he should know mathematics through plain trigonometry. Also, the man who will get the best out of medicine must have a reading knowledge of French and German. He should have some knowledge of both Latin and Greek. The fact that a man has an A. B. degree may mean much or almost absolutely nothing. He thought it time that those interested in medical education in this country should force the literary school to give courses that properly lead to medicine. He expressed himself in sympathy with the law enacted by the New York legislature compelling every student to stay four years in a medical school, no matter what degree he may have.

DR. ALBERT GOLDSPOHN, of Chicago, heartily endorsed Dr. Vaughan's sentiments in regard to a knowledge of French and German. He felt that there is no possibility of a man keeping abreast with what the world affords unless he were a thorough student of German and French, from them getting the substance of what the rest of the world produces. A deficiency in the medical curriculum of to-day is the failure to appreciate the power of mind over matter, the want of a proper understanding of this psychologic part of man. The amount of instruction in histology is grossly defective. He felt that a good, thorough college course and then a four years' medical course likely to do the most good.

DR. EDWARD JACKSON, of Denver, thought that the study of logic and psychology as carried on furnished a very poor outfit, or a very insufficient guarantee of a logical mind or an ability to apply psychologic principles to general facts. In illustration, a baseball or billiard player learns to do a certain thing with perfect accuracy, promptness and ease, and yet knows nothing perhaps of the names or forms of classification or arrangement of the muscles by which he does it, still less of the nerves paths by which he accomplishes his purposes.

DR. L. DUNCAN BULKLEY thought that crowning evil of medicine, the advertising drug business, was due to faulty education in our medical schools. Another fault was in too great a crowding from minutiæ. He emphatically approved of the suggestion that students be required to write a thesis at the end of each year. He had seen too often in young men coming up for hospital examinations a want of concentration of thought.

### Is the Demand for Reciprocity Based on Fact or Fancy?

DR. CHARLES MCINTIRE, of Easton, in this paper gave the results in the examination of reports of the various state boards of medical examiners for 1900, in order to form an estimate of the comparative number of physicians who seek to move from one state to another. The figures quoted in the paper give the entire number examined, the number failing, and of those failing, the number who were not graduates of the last class. A tabulated statement showed that out of 511 individuals, 292 could have had an opportunity of taking a state examination elsewhere. A considerable number failed, and were coming up for a second, only to fail again. It would be far from the truth to infer that of the larger number who were sustained in their examinations, the same proportion of older men presented themselves; at the same time, many such are included in those who received a license, and it will not be an overstatement to assume that the number of those who passed the examinations, who would have had the privilege of reciprocity extended to them, fully offsets the number who failed in the examinations, who had never made the effort to practice elsewhere. If so, there are at least 292 out of the total number examined who would have been able to avail themselves of the privilege of reciprocity, or about 7.5 per cent.

### The Desirability of Reciprocity in Medical Licensure.

DR. J. N. HALL, of Denver, said that an experience of six years on the Colorado State Board of Medical Examiners demonstrated that many physicians of excellent repute seek a residence in that state because of illness, either personal or otherwise. Though such men are fitted to practice medicine they are rusty on the details of the foundation studies. Reciprocity between states having stringent requirements would be of the utmost benefit to men of this type. Reciprocity, however, should not be established, except among those states where requirements are essentially equivalent.

### Reciprocity in Medical Licensure from the Standpoint of a Physician Who Changes His Residence.

DR. EDWARD JACKSON, of Denver, in this contribution, said that about one in every four or five physicians changes his field of practice from one state to another, at some time during his professional career. In making such a change the difficulty is not with the practical branches, but with passing the examination in what may be regarded as the preliminary studies—chemistry, anatomy, etc. The physician who removes across state lines can not justly be expected to keep better posted in those branches than the most of those who do not move. "Reciprocity" seems liable to be a waiting for others to do something rather than a practical measure of relief. The acceptance of the certificate of another state board, as evidence of a proper acquaintance with such preliminary studies, would remove the chief hardship. The main obstacle to this is fear of "lowering the standard." But the "standard" in many states is already "so high" as to favor evasion and special legislation letting in all sorts of irregular practitioners and to threaten the permanence of laws regulating medical practice.

### Some of the Ethical and Sociologic Relations of the Physician to the Community.

DR. S. D. RISLEY in his presidential address showed that a most striking characteristic of the medical man is a sense of obligation to the community, that this ethical attitude finds expression, not only in the daily routine of his laborious professional service, but in a pronounced educational influence on all those lives which pertain to the healthfulness of the people and their socio-medical welfare; that this influence is signally exerted in the investigations and control of the relation which our defective classes sustain to the social body. Almost suddenly the student of social evolution has come to realize that through the altruistic spirit of our civilization a rapidly increasing percentage of degenerates have grown up in our midst, a fact which presents a serious and most complex problem for solution by the new century. Two suggestions are made for its arrest: 1, the legalization of means to prevent propagation of defectives by a sexualization; and, 2, by a wider education of the community regarding the importance of selection in the marriage contract and its control by the state. To solve it wisely and humanely will require the best efforts of the churchman and the physician and the statesman.

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## ILLINOIS STATE MEDICAL SOCIETY.

*Fifty-first Annual Meeting held at Peoria, May 21-23, 1901.*

President Dr. George N. Kreider, Springfield, in the Chair.

At a preliminary meeting of the Society, called by the Legislative Committee, several propositions were discussed. The question of a medical practice act and board of examiners was taken up, freely discussed, and a committee appointed to draft a bill providing for a Board of Medical Examiners in the State, the committee to consult such laws as are operating best in other States. A resolution was adopted requiring that a bill be introduced in the next legislature, urging that the true names and quantities of ingredients be plainly printed on each package of patent medicines and nostrums offered for sale, the Society being instructed to do what it can to further the passage of such bill provided the Legislative Committee believes it can be done without jeopardizing other desirable bills.

*Resolved*, That school of graduation shall be no bar to membership in the Illinois State Medical Society, providing such physician is recognized by the local society as qualified and not claiming to practice any exclusive system of medicine.

STATE SOCIETY JOURNAL.

After a free discussion, the following resolutions were adopted:

*Resolved*, That as far as practicable the *Journal* of the Society be made the official organ of the city, local, county and district societies in the state.

*Resolved*, That the *Journal* may accept all ethical advertisements under the same restrictions that apply to advertisements in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

*Resolved*, That the Judicial Council select some member of the Society to act as Editor and Manager of the *Journal*, said Editor and Manager to be paid a reasonable salary out of the net profits to be derived from the publication; the amount of salary to be determined by the Judicial Council.

REORGANIZATION.

A committee of five, consisting of Drs. Graham, Pettit, McAnaly, Oehsner and Roskotten, was appointed to study the plan of reorganization as submitted by the Secretary of the AMERICAN MEDICAL ASSOCIATION, Dr. George H. Simmons. This Committee reported as follows: Your Committee would respectfully recommend the following, believing that this form of notice is sufficiently comprehensive to allow of all desired changes and yet sufficiently specific to meet the requirements of the constitutional provision relating to amendments.

Notice is hereby given in accordance with Article IX of the Constitution that, at the next annual meeting of the Society, to be held in May, 1902, such changes in the Constitution and By-Laws will be presented for consideration and adoption as will provide for reorganization on the basis of the following propositions:

1. That the work of the Society be divided into two parts, *scientific* and *general business*, the latter to include the nomination of officers, the control of finance, the conduct of the *Journal*, work relating to legislation and such other matters as may be referred by the Society, and to be conducted by delegates who shall be chosen by the constituent societies.

2. That membership in good standing in a county medical society, or, in the absence of such county society, then in a district or city covering the county of residence, shall constitute membership in the State society.

The Committee also recommended that the Society be requested to appoint a committee of three to formulate and adjust the proposed amendments during the coming year.

The report was unanimously adopted.

This meeting was the most successful in the history of the Society, both as regards its scientific work and attendance. The number of members who registered was a little over four hundred, and at one of the sessions nearly six hundred physicians were present.

OFFICERS.

The following officers were elected for the ensuing year: President, Dr. J. T. McAnaly, Carbondale; first vice-president, Dr. M. L. Harris, Chicago; second vice-president, Dr. J. W. Hensley, Peoria; secretary, Dr. E. W. Weiss, Ottawa; treasurer, Dr. Everett J. Brown, Decatur; editor and manager of the Society *Journal*, Dr. George N. Kreider, Springfield.

Quincy was selected as the place for holding the next annual meeting.

The following are the officers of sections:

Practice and Medicine—Chairman, Dr. R. B. Preble, Chicago; secretary, Dr. S. E. Munson, Springfield.

Surgery and Obstetrics—Chairman, Dr. E. E. Mammon, Bloomington; secretary, Dr. William E. Schroeder, Chicago.

State Medicine—Chairman, Dr. J. M. Wilcox, Clinton; secretary, Dr. W. K. Newcomb, Champaign.

## NEW YORK OBSTETRICAL SOCIETY.

*Regular May Meeting.*

Dr. N. J. Boldt in the chair.

### Two Ventral Fixations, One Ending in Rupture and One in Cesarean Section.

DR. ROBERT L. DICKINSON, of Brooklyn, read this paper. He said that although ventral fixation and suspension had been reported in some hundreds of cases, the two complications here presented were sufficiently rare to warrant publication. Cesarean section had been done eight times up to 1889, and rupture of the uterus was not common.

The second case presented four points of interest: 1. The uterus was more displaced, more upside-down, so to speak, with a cervix located higher above the promontory than in any case he could find reported, namely, at the third lumbar vertebra. 2. The stretching or distension was not, as usual, at the expense of the posterior wall chiefly, helped by contributions from the lateral walls, with a squat uterus as a result, but was largely from the right lateral wall. 3. Failure to recognize this new condition—lateral distension—prevented him from considering liberation of the adhesion in the seventh month. 4. Ventral fixation had taken place though suspension had been attempted.

### Ventral Fixation for Prolapse; Rupture of Uterus; Death.

L. H., 35, German, married eight years, had had four children; the labors were easy, but severe laceration had occurred with a complete prolapse of the uterus and vagina. In February, 1899, a famous gynecologist did "ventral fixation, intra-abdominal shortening of the round ligaments, and vaginal plasties." At term a tumor was said to obstruct delivery and version and perhaps embryotomy was done. After three weeks of sepsis, she was sent in to his service at Brooklyn Hospital, in a sinking condition. Peritonitis with extensive exudate surrounded a right-sided rent running from external os to cornu, splitting the broad ligament and into the peritoneal cavity, four fingers wide. The uterine globe extends half way to the navel, the fundus is fixed to a scar above the pubes, and the posterior wall is thin and relaxed. The anterior wall is 2 inches thick and runs from the top of the scar half way back across the pelvis, and almost from side to side, even at this late date. The patient never rallied.

### Cesarean Section for Ventral Fixation of Uterus; Death.

A delicate patient weighing less than one hundred pounds, had severe dysmenorrhea until after an operation by a celebrated gynecologist four years ago. She says that a one-inch cyst was removed from the left ovary, and that her womb was "tacked up in place." She was married in October, 1899, in her thirty-third year, and last menstruated on January 1, 1900. Nausea began in February and lasted throughout. On March 1 there occurred a threat of miscarriage with a marked flow of three days. Constipation, with somewhat persistent intestinal toxemia, troubled her throughout her pregnancy. The kidney action demanded constant stimulation and attacks of headache were frequent. In August he found the pelvic measurements ample, and abdominal examination showed the fetus in the right sacro-anterior position, of normal size. At the right side of the fetus and a little anterior to its highest point, the ovary could be detected; further forward the tube, and still further forward and downward the round ligament swept in the shape of a crescent from the middle of Poupart's ligament upward and forward. The distance between the ovary and upper end of the round ligament showed that the cornu was stretched. The right cornu being thus thrown forward, the left horn was searched for at the same level on the posterior and opposite side of the uterus, but such was the sensibility of the neurotic patient that anything like a satisfactory examination was impossible. It was therefore supposed very natural, that one end of the suspensory ligament which bowed this fundus forward was attached below at the scar above the pubes, and the other end above, at or behind the level of the tube. The portio vaginalis was in front of the promontory. When she had run beyond term, with slight labor pains at times during several days, he anesthetized her to make a complete examination and to induce labor by dilating and dragging the cervix forward. The right horn of the uterus was, as stated, high and to the front. The left ovary and round ligament, however, instead of being at the same level, lay along Poupart's ligament. The external os was crowded against the middle of the

first sacral vertebra. A strong double tenaculum was made fast in the anterior lip to pull it downward, and the longest finger was passed into the cervical canal. Instead of the usual length of four centimeters, he could pass his finger nearly 10 centimeters into the cervical canal. Though unable to reach an internal os, the finger tip passed to the first lumbar vertebra. The anterior wall facing downward into the pelvic was at least 4 centimeters thick. One-half hour of persistent effort with the strongest downward traction, the hand in the vagina and the finger in the cervix, failed to reach or stretch or bring forward the internal os. He worked to the danger point of rupture. No bag would stay within the cervical canal to stretch it. Professor Jewett saw her in consultation. On the same day no active pains intervening, a Cesarean section was done, at Brooklyn Hospital. The first child was delivered within 45, the second child within 70 seconds. The broad ligaments were seized by Dr. Westbrook. The first child lay in a right sacral position with its placenta in front of it completely covering the second child, which the tension and the sensitiveness of the uterine wall had prevented them from detecting. The second child was in the right occipital position with its placenta posterior. There was moderately free blood loss from the slackly contracting uterus, and some shock. As the incision in the uterus lay in the long axis of the mother's trunk, it ran from behind the right horn diagonally across the fundus to the front of the left horn, the major part of it being necessarily on the rear wall of the uterus. The patient was put to bed in fair condition, but died of shock within twelve hours. There was no internal bleeding, as demonstrated by the removal of the upper abdominal stitch. The girl weighed 5 pounds, 10 ounces; the boy 5 pounds, 4 ounces. They have gained nearly an ounce a day.

### Band or Ligament Stretched by Enlarging Pregnant Uterus.

As bearing on the matter of ventral suspension and the stretching of the new suspensory ligament made at that operation, and running from the fundus to the anterior abdominal wall, he presented a series of diagrams from a case of adherent retroflexion. This case had a slender ligament on the opposite side of the uterus. The patient was a delicate little woman of 26, who had been treated with pessaries for fifteen months by a female who has no place in our medical directory, and had ulceration of the vaginal fornix and a peritonitis in the cul-de-sac. A year or more later she became pregnant. He drew attention to the way in which the uterus drags on the ligament which fastens the fundus to the cul-de-sac, to the development of the fetus in the bay window of the anterior wall, and to the final result wherein he showed the uterus in good position at term. He knew positively that the ligament was ultimately torn away because, after delivery, the uterus staid forward easily, and because, at a laparotomy ten years later, he found in the middle of the rear wall of the body of the uterus the old depressed scar of that adhesion. As a matter of comparison he showed a picture of a ligament as seen six months after operation. The patient was a neurasthenic with an aggravated retroflexion of an enlarged uterus and microcystic ovaries. As she was but 21, he resected the ovaries at the first operation, March 28, 1900, and sutured the uterus to the abdominal peritoneum with three sutures of chromicized gut. October 7, 1900, he did an abdominal hysterectomy for persistent pelvic pain. The cause was evident. The strip of apparently sound ovary, .5 cm. in width, left on each side, had grown to a size greater than that of a normal ovary. Moreover, the broad ligaments presented one of the very marked conditions of varicose veins. These suspensory ligaments are sufficient to hold the fundus forward, but readily pull away in the pregnancy. He had seen the ligaments suspending the uterus in five cases where the abdomen had to be reopened. In one a 6-inch ligament allowed the fundus to drop back to the mid sacrum. In four it did its work well.

In 37 of his cases of suspension whose later histories he had searched he found two pregnancies. The first was that of a highly nervous woman of 36, whose retroflexion was corrected by suspension after curetting, repair of cervix and perineum, and anterior colporrhaphy. The cystic left ovary was removed and a tiny fragment of the right ovary. A year later he had to empty her uterus for pernicious vomiting at the second month. The ligament permitted a 3-inch play of the fundus, and the suspension can not be credited with the need of abortion. He used two chromic gut sutures, through uterine wall and abdominal peritoneum. The second pregnancy was after suspension for fixed retroversion, in a woman of 32 years, who had had one child. Both ovaries were resected. Pregnancy began three and a half months after operation. Now, at her seventh month, the abdominal wall presents two prominences, one above and one below, the scar, and the round ligaments indicate that the fundus is bowed forward, yet the cervix is not high up nor is the anterior wall thickened within the pelvis.

Dr. Paul F. Mundé said that the first case was operated upon by him two years ago. She had a complete prolapse and he did an operation that was rather unusual for him, making a broad denudation on each lateral wall and another on the posterior vaginal wall from cervix to vaginal orifice. He did this latter because there was a large ulceration present which he did not wish to leave. The denudations were closed with sutures, tying them as he went and replacing, at the same time, the vagina and uterus. The perineum was closed as high as possible. The abdomen was then opened for the purpose of performing uterine suspension. Three silk sutures were introduced, one at the fundus uteri, one just below the Fallopian tube, and the third on a level with the round ligaments. The round ligaments were also shortened by doubling them upon themselves and stitching them together with chromic catgut sutures. The patient made a good recovery and was discharged from the hospital with the uterus and vagina in absolutely normal position.

He had seen but one other case of pregnancy after ventral suspension for retroflexion where the woman went on to the fifth month, when intermittent uterine contractions occurred and she miscarried. He did not favor ventral fixation or suspension for backward or downward dislocations. The case that Dr. Dickinson reported was the first of the kind in his experience in which a serious accident occurred from subsequent confinement, and he doubted very much if, in the future, he should not continue to perform the operation which had done him good service for years, that is, the Alexander operation, which he had done in over 300 women and in whom he had seen many a pregnancy and a normal confinement with the uterus remaining in a normal position; for this reason and for its almost perfect safety he preferred the Alexander operation to any other method of suspending the movable retro-displaced uterus, when the appendages are normal.

Dr. Egbert H. Grandin said that it had always seemed to him where a fixation or a suspension was done and the sutures were passed posterior to the fundus of the uterus, that these women, if they became pregnant, would have their pregnancies interfered with and if they went to full term, would have difficult deliveries, because the uterus was placed in an exaggerated position of anteflexion. He passes the suture through the parietal peritoneum through the body of the uterus anterior to the fundus, and thence through the parietal peritoneum. He wished to secure a suspensory ligament of parietal peritoneum whereby the uterus could undergo normal movements and, in the event of pregnancy, the anterior position not being exaggerated, he had never seen the reason why the uterus should not rise and develop as it should normally and pregnancy progress to term without difficulty. This method of lifting the uterus to a higher level and maintaining it there relieves the congestion or varicosities of the broad ligaments, which are necessarily present when the uterus has been retroflexed for years.

Dr. Joseph E. Janvrin used two sutures inserted into the anterior wall of the fundus on a level with the beginning of the Fallopian tubes. Results have been excellent.

Dr. A. Palmer Dudley did not believe in ventral fixation, nor in ventral suspension if done in such a manner that it would interfere with Nature. He never used a buried suture. Nature never intended that the uterus should become fixed,

but that it should be supported; therefore, he supported it, and did so in this manner: Two sutures are used, passing them through the fundus of the uterus, scarifying the organ between the two sutures, and then closing the abdominal wound with the same sutures. In twenty days he removes the sutures and Nature forms the ligament which suspends the uterus. He thought the mistake made in this operation was in using a buried suture that can not stretch or accommodate itself to Nature.

# Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### Hemoptysis.

Lemoine, as noted in *Med. News*, advises a hot foot-bath and purgation with the following combination:

℞ Pulv. Sennæ
Sodii sulphatis, āā ..... ℥ss 16
Aq. bullientis, q. s. ad ..... Oi 500

If the hemorrhage is subsiding use only magnesium sulphate.

For continuous small bleeding, he uses the following:

℞ Quininæ sulphatis ..... gr. v 30
Pulv. ergotæ ..... gr. viii 50
M. Sig.: One such capsule every morning.

In sudden large hemorrhages, omit the foot-bath and envelop the legs in iodized cotton and bathe the hands in hot water to dilate the peripheral vessels. He states that perchlorid of iron is useless and ergot not very good, but ergotol may be given hypodermically.

### Treatment of Neurasthenia.

The following outline of treatment has been recommended in neurasthenia:

℞ Hydrarg. chloridi mitis ..... gr. 1/10 006
Podophylli ..... gr. 1/4 015
M. Sig.: One such capsule often repeated and followed in the morning with Carlsbad salts.

And as intestinal antiseptic the following:

℞ Sodii sulphocarbolatis ..... gr. v 30
Pot. permanganatis ..... gr. i 06
M. Sig.: One such capsule before each meal.
Or:
℞ Sodii sulphocarbolatis
Sodii benzoatis
Beta-naphthol, āā ..... gr. v 30
M. Sig.: One such capsule before meals.

Baths, exercise, rest and proper diet complete the cure.

### To Abort Furuncles.

℞ Sodii boratis ..... 3i 4
Acidi boracici ..... 3i 4
Acidi salicylici ..... 3i 4
Pulv. acidi tannici ..... 3i 4
M. Sig.: Apply the powder, sprinkled upon a yeast poultice to the affected part.

### The Use of Elaterin in Ascites.

A. H. Bigg, in *Med. Record*, states the great benefit derived from the employment of elaterin in combination with suitable adjuvants and correctives. He employs the following in removing ascitic fluid:

℞ Elaterin ..... gr. 2/3 04
Strych. sulphatis ..... gr. 1/4 015
Glonoini ..... gr. 1/20 003
Ext. digitalis ..... gr. iiss 15
Caffeinæ citratis ..... gr. x 66
Pulv. caryophylli ..... gr. x 66
M. Ft. cap. No. x. Sig.: One capsule every three to six hours.

He emphasizes the importance of pushing the treatment until four to six copious evacuations per day are maintained, and until permanent relief is obtained. He combines with the elaterin, the heart stimulants in order to avoid the tendency to depression, which very frequently accompanies the active hydragogue cathartics.

### Treatment of Epilepsy.

H. Campbell Thomson, as noted in *Month. Encyclop. of Med.*, states that when cases will not stand the bromid salts in high doses, because of the resultant toxicity developed, a 10 per cent. solution of bromin made up in oleum sesami may be given. This emulsion is prepared as follows:

℞ Gum. acaciæ ..... ℥vi 192
Olei sesami ..... ℥viii 256
Syr. simplicis ..... ℥ii 64
Ol. gaultheriæ ..... m. xl 2 66
Aquæ ..... ℥vi 192
Add
Bromi puri ..... ℥ii 69
M. Sig.: One tablespoonful night and morning, increasing as directed.

### Treatment of Tinea.

In tinea involving the scalp in children, the following is recommended as a hair wash:

℞ Tinct. cantharidis ..... 3iss 6
Tinct. capsici ..... 3iss 6
Olei ricini ..... 3ii 8
Eau de Cologne, q. s. ad ..... ℥iii 96
M. Sig.: Use as a hair wash.
Or:
℞ Sodii boratis ..... gr. xl 2 66
Spts. camphoræ ..... 3i 4
Glycerini ..... 3ii 8
Aq. aurantii q. s. ad ..... ℥iii 96
M. Sig.: Use as a wash to the scalp.

### Treatment of Pulmonary Tuberculosis.

The following prescriptions are noted in *Merck's Archives* for constitutional treatment of tuberculosis:

℞ Arseni iodidi
Strychninæ sulphatis
Hydrarg. chloridi corros., āā ..... gr. i 06
Quininæ sulphatis
Iodoformi, āā ..... 3ii 8
M. Ft. pil. No. xl. Sig.: One pill three times a day.
Or:
℞ Ichthyol
Creosoti carbonatis, āā ..... 3iv 16
Glycerini ..... 3vi 24
Aq. menth. pip. ..... 3iiss 10
M. Sig.: Ten drops, gradually increased to thirty drops in wine or lemonade three times a day.

### Mercurial Stomatitis.

While a patient is taking large doses of mercury for any length of time, the physician must watch the condition of the patient's mouth, according to Dr. C. Bruhm, in *Berl. Klin. Woch.*, as it is usually in the mouth where the early symptoms of mercurial poisoning are first noticed. The patient should be required to rinse and cleanse the mouth frequently. If a stomatitis appears, pure tincture of myrrh may be applied to the gums. If the stomatitis is severe the gums should be painted with a 3 to 5 per cent. solution of chromic acid or a 5 to 10 per cent. solution of silver nitrate. In some cases it will be found necessary to discontinue the mercurial treatment for a certain length of time.

### Treatment of Mercurial Sore Throat.

A. I. Liants, in *Phila. Med. Jour.*, states that to prevent mercurial angina, the patient should be instructed to wash the mouth with some antiseptic both before and after each dose. The sore throat is best treated with peroxid of hydrogen, while the ulcerations should be treated by the applications of silver nitrate, chromic acid and glycerin emulsion of iodoform.

### Orexin Tannate as a Stimulant to the Appetite.

Zeltner, in *Phil. Med. Jour.*, states that he has obtained

splendid results in more than thirty cases from the use of orexin tannate. It was employed in the anorexia of phthisis in thirteen cases and proved very efficacious in most of them. In seven cases of uremia there was marked improvement in five. The advantage of the tannate over other preparations of orexin is that it causes no burning sensation in the stomach. It was given in 5-grain doses twice daily, two hours before meals.

Orexin tannate is a yellowish, odorless, tasteless powder, insoluble in water. Its general use is as an antiemetic, stomachic and to increase the appetite. It is contraindicated in excessive acidity of the stomach and gastric ulcers.

### Headache Dependent Upon Ovarian Disease.

W. Sinkler, of Philadelphia, in *Sys. of Pract. Ther.*, advises the following:

| | | | |
|---|---|---|---|
| R. | Ammonii bromidi | ʒvi | 24 |
| | Ext. hydrastis flu | ʒss | 16 |
| | Tinct. gent. comp. | ʒiss | 48 |
| | Aquæ | ʒiv | 128 |

M. Sig.: One dessertspoonful three times a day in water.

In anemic headaches associated with uterine disorders he states that Hamilton recommends the following:

| | | | |
|---|---|---|---|
| R. | Ammon. bromidi | ʒi | 32 |
| | Tinct. cannabis indicæ | ʒi | 4 |
| | Mucilag. acaciæ | ʒiv | 128 |
| | Spts. menthol. pip. | ʒii | 8 |

M. Sig.: One teaspoonful in water three times a day.

### Treatment of Acne Rosacea with Adrenal Extract.

Munro, as observed in *Amer. Med.*, administers adrenal extract both internally and externally to cause constriction of the dilated blood vessels affected. Five-grain doses of the dried extract are given twice daily and afterward increased to six times a day. If giddiness or nausea occur the dose is reduced or the drug temporarily withdrawn. Locally the extract is applied as a paint by dissolving one tabloid in a dram of sterilized water and painted on at night after bathing the affected parts. The first application causes smarting and hyperemia, which soon passes off, leaving the parts anemic. In addition the face is bathed in hot water and the following lotion applied and allowed to dry:

| | | | |
|---|---|---|---|
| R. | Sulphuris precip. | ʒiss | 6 |
| | Zinci oxidi | ʒii | 8 |
| | Calamini | ʒiii | 12 |
| | Glycerini | ʒii | 8 |
| | Aq. rosæ | ʒvi | 192 |

M. Sig.: Apply locally.

He states that the object of the above line of treatment is to prevent the formation of pustules. This treatment does not apply to the hypertrophic forms of the disease.

### Treatment of Asthma.

The following is recommended by Eshner:

| | | | |
|---|---|---|---|
| R. | Hyoscinæ hydrobrom. | gr. 1/6 | 01 |
| | Strychninæ sulphatis | gr. 3/4 | 05 |
| | Morphinæ sulphatis | gr. vi | 36 |
| | Sodii bromidi | ʒvi | 24 |
| | Liq. potass. arsenitis | ʒii | 8 |
| | Tinct digitalis | ʒiv | 16 |
| | Infusi gentianæ comp. q. s. ad | ʒvi | 192 |

M. Sig.: Two teaspoonfuls every three hours in water.

### Treatment of Pertussis.

J. E. Godson, in *Birmingham Med. Rev.*, states that he has derived marked benefit by the use of creosote vapor as an inhalation. He uses it with steam by means of a kettle or steam-spray producer, by the use of a dry or moist inhaler, sometimes by sprinkling the creosote on a cloth hung up to dry in a room, or by vaporizing over a spirit lamp. He has found that the best results are obtained by the continuous inhalation. His method of treatment is as follows: Begin with the continuous inhalation of creosote by suspending cloths saturated with creosote solutions, both in the day and night rooms. The density can be regulated by varying the number of cloths. The chest and upper part of the spine should be treated by counter-irritation. Good air, warm clothing and wholesome food are necessary.

## Medicolegal.

**Nature of Drug Used as Abortifacient if Immaterial.**—The Supreme Court of North Carolina holds, in the case of State vs. Crews, that there was no error in charging the jury that if they believed that the defendant advised and procured a certain-named woman to take turpentine with intent thereby to procure her miscarriage, it made no difference whether it would procure abortion or not, he would be guilty; that is it made no difference whether turpentine was a noxious drug or not if the defendant advised the woman to take turpentine with intent thereby to procure her miscarriage he would be guilty. At common law, it says, the noxious nature of the drug was essential, but under the North Carolina statute the essential ingredient in the offense is the intent with which the medicine, drug, or other thing whatsoever is used. The nature of the drug or article is material only as throwing light upon the intent. It is no defense even if the defendant could show that the drug would not in fact cause a miscarriage. The law deems no experiments in an effort to procure abortion innocent when the jury is convinced that the drug or other article was used with the criminal intent to procure such attempted abortion.

**Sufficient Information Against Illegal Practitioner.**—The Supreme Court of Nebraska holds, in Sofield vs. State, that the information on which trial was had in this case was not defective in substance although it omitted to state the name or names of the persons upon whom the accused, who was charged with the crime of practicing medicine without a license or certificate so to do, practiced his profession. The court holds that the averment that he "did unlawfully practice medicine to divers and sundry persons, whose names are to the county attorney unknown," was sufficient. Of course, it says, the county attorney was not required to set out in the information the names of the persons the accused treated, when such persons were unknown to such officer, and he so pleaded in the information. The case, it explains, is distinguishable from one where the information omitted the names of the persons treated, and failed to allege that their names were unknown to the county attorney. Furthermore, it holds that an information need not negative the exceptions of a statute which are not descriptive of the offense, and that, therefore, the information in question was not defective in failing to contain any negative averment relative to the exceptions contained in section 17 of chapter 55 of the Compiled Statutes of Nebraska bearing on this offense.

**Physician's Certificate No Shield to Abuse of Writ.**—A certificate of the attending physician of a child of 12 years of age, who had been sick with the measles, that she had so far recovered that removal from the premises would not injure her health, the Supreme Court of Iowa holds, in the case of Bradshaw vs. Frazier, was not a legal shield in an action for damages for an alleged abuse of process in the execution of a writ of removal in proceedings against her stepfather causing her death, the evidence being conflicting as to when the certificate was issued in fact, and as to the examination made by the physician before issuing it. The court says that it was proper for the jury to consider it in determining the issues presented, but the court should not say as a matter of law that it was a complete defense. Nor does it consider that the contributory negligence on the part of the parents, and on the part of the relative with whom the child remained a few days after the ejectment, if it existed, as contended, would be a defense in such a case. Without a statute on the subject, it says that there can be no doubt that the law will more carefully guard the health of a human being than it will personal property; otherwise, it would not deserve the respect of the meanest inhabitant of the state.

**Bills for Services in Cases of Contagious Diseases.**—The Supreme Court of Michigan holds, in the case of Browne vs. the

Board of Supervisors of Livingston County, that, where a physician presented his bill to the board of supervisors as a bill for services rendered to indigent persons, and received an order and money thereon without protest for an allowed smaller sum than the amount of the bill, he could not afterward collect the balance claimed to be due him by presenting a bill for services rendered under section 4424 of the Compiled Laws of Michigan in caring for contagious diseases, and crediting thereon the amount received, although the services rendered were really of the latter character. In the same opinion, but in what may be called the case of O'Neil vs. the same defendant, it further holds that the duty of examining into each case to which he is called is imposed upon the health officer as one of the general duties of his office by section 4460 of the Compiled Laws of Michigan, and that for determining in such cases whether the patients are affected with a disease dangerous to the public health his compensation is fixed by section 4462, at not less than $2 a day, to be paid by the township, city, or village of which he is health officer. Section 4424, concerning contagious diseases, does not provide that the costs of these services may be recovered from the supervisors. That section covers expenses that are incurred after such determination. The question of whether the patient is afflicted with a disease dangerous to the public health must be first determined. The expense of determining this is not an expense incurred in taking care of the diseased person. If it is determined that the disease is dangerous, then the provisions of section 4424 apply to the case. For the former services, the examining into the case, the township, city or village must pay; for the latter, or caring for a person afflicted with a disease dangerous to the public health, the county must pay.

**Right to Examine Body Does Not Extend to Dissection.**—Certain policies of insurance against loss through external, violent, and accidental means provided that any medical adviser of the company should be allowed, as often as he required, to examine the person or body of the assured in respect to the alleged injury or cause of death. The question was raised whether this gave the company the right to have the body exhumed and have an autopsy of it after it had been buried, or, in other words, to dissect it. The United States Circuit Court, in Kentucky, holds, Sudduth vs. Travelers' Insurance Company, that it did not. It does not think that the ordinary and natural meaning of the words referred to, when fairly construed, would have such a meaning. To put it a little differently, it does not think that any ordinary person, in agreeing to the stipulation for an examination of the insured before or after death, would suppose he was agreeing to what would have been much more clearly expressed by the word "autopsy" or by the word "dissect." That is to say, it does not think that one would ordinarily suppose that the word "examine," as applied to the human body, either living or dead, would, by the force of the term, include, or by an insured, at least, would be supposed to include, the idea of cutting it up. The word "examine" may not definitely express the same idea to every person who sees or who uses it, but the court says that it is quite clear to it that it does not, in the clause of the contract under consideration in this case, include the idea either of an "autopsy" or of a "dissection," if there is any essential difference between those two words in this connection. While an autopsy, generally speaking, always includes an examination, the court does not think that an examination always includes an autopsy, or that it can be fairly held that the simple word "examine," as used in the policies sued on, would be accurately defined in the same words as those used to define either "autopsy" or "dissection," when endeavoring to arrive at the mutual agreement of the parties at the time they were contracting, particularly when construing policies for insurance against death from external causes only, and which ordinarily would only involve or require external inspection. It may be that the right to dissect a body, even after burial, is or would be an important right to the company; but that, the court adds, would make it all the more necessary for it to express it in language in no way ambiguous or doubtful, or which, in order to effect the company's purpose, would have to be extended beyond its ordinary import.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## American Medicine, May 25.

1 *Apoplexy and Hemiplegia. Harold N. Moyer.
2 *A Case of Intermittent Claudication. David Reisman.
3 Disease and Deformity of the Knee; Etiology, Diagnosis and Treatment. Daniel W. Marston.
4 *Chronic Heart Disease in Children relieved by Systematic Movements. John Madison Taylor.
5 Peripheral Venous Thrombosis in Cardiac Disease, with Report of a Case. J. A. MacGregor.
6 *A Hitherto Undescribed Reaction Following the Inoculation of Vaccine Virus. A Preliminary Report. Heinrich Stern.
7 Pregnancy Complicated by Fibroid Tumors. Cesarean Hysterectomy at Eighth Month. Mary Almira Smith.
8 *On the Use of Alcohol in the Treatment of Carbolic Acid Burns and Poisoning. F. Pirkner.

## The New York Medical Journal, May 25.

9 Hyperacidity (Superacidity. Hyperchlorhydria. Superaciditas Chlorhydrica); a Clinical Study. H. Illoway.
10 *Nasal Condition Observed in the Aged. Beaman Douglass.
11 What Route Shall we Adopt in Examining the Eye Muscles? Alexander Duane.
12 *Ossiculectomy for Chronic Suppurative Otitis Media. J. A. Stucky.
13 The Importance of Early Recognition of Abdominal Infections. W. D. Hamilton.
14 Antistreptococcus Serum in Two Cases of Puerperal Septic Infection. A. J. Primrose.

## Boston Medical and Surgical Journal, May 25.

15 *Municipal Care of the Consumptive Poor. S. A. Knopf.
16 Echinococcus of Liver and Perforation into the Lungs and Bronchi. William F. Gay.

## Medical News, May 25.

17 *Some Notes on Medical Diagnosis. Wm. N. Berkeley.
18 *The Mineral Waters of Mt. Clemens, Mich, as Viewed and Compared with Those of European Watering Places. Richard Leuschner.
19 The Treatment of Chronic Purulent Otitis Media. James F. McKernon.
20 *Tuberculosis of the Iris. William F. Mittendorf.

## Medical Record, May 25.

21 *Orchitis and Epididymitis in Typhoid Fever. Francis P. Kinnicutt.
22 *The Operative Treatment of Umbilical Hernia in Adults. Jos. A. Blake.
23 *The Borderland of Insanity: Where and What is It? Henry Waldo Coe.
24 Recurrent Oculomotor Paralysis: Report of a Case with Remarks. Wm. M. Leszynsky.

## Philadelphia Medical Journal, May 25.

25 *The Surgical Treatment of Chronic Ulcer of the Stomach. A. W. Mayo Robson.
26 *Late Results of the Treatment of Inexorable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus. Wm. B. Coley.
27 *Trauma as an Exciting Cause of Paralysis Agitans. F. Savary Pearce.
28 Two Cases of Lobar Pneumonia Following Ether Anesthesia with Unusual Course. W. S. Schley.

## St. Louis Medical Review, May 25.

29 The Operative Management of Retro-Peritoneal Abscess of Appendicular Origin. Gilbert Geoffery Cottam.
30 *Dr. Gaylord's Cancer Parasite—A Criticism. C. Fisch.
31 Antitoxin in Diphtheria. Robt. F. Amyx.

## Cincinnati Lancet-Clinic, May 25.

32 *Gonorrhea in Women. Can its Frequency be Lessened? J. Ambrose Johnston.
33 *What is the Significance of Cervical Lacerations: Some Points Connected with Their Treatment. Chauncey D. Palmer.
34 A Case of Locomotor Ataxia. Mark A. Brown.

## University of Pennsylvania Medical Bulletin (Phila.), May.

35 *A Trimanual Method of Percussion for the Detection of Cystic or Loculated Fluids in the Abdomen. John G. Clark.
36 *Recent Statistics on the Primary and Ultimate Results of Hysterectomy for Cancer of the Uterus. John G. Clark.
37 Diagnostic Curettage of the Uterus. Brooks M. Anspach.
38 A Unique Case of Sarcoma of the Uterus, Associated with Fibroma of the Inguinal Canal. John G. Clark.
39 Unique Pathological Changes in Two Cases of Uterus Bicornis Unicollis. 1. Unilateral Pyometra and Pyosalpinx. 2. Myoma. John G. Clark.

40 *A Practical Application in Abdominal Surgery of Scientific Investigations on the Function, Anatomy and Pathology of the Peritoneum. John G. Clark.

### New York University Bulletin of the Medical Sciences, January.

41 *Gelatin as a Food-stuff. Graham Lusk.
42 *On a Method of Balancing the Acids and Bases of the Urine for the Recognition of the Pathologic Excretion of Organic Acids and the Approximate Determination of Their Amount. C. A. Herter and A. J. Wakeman.
43 The Alloxuric Bodies; Their Origin and Estimation. John A. Mandel.
44 *A Few Experiments Upon the Effect of Low Temperatures and Freezing for Various Periods of Time on Typhoid Bacilli and Other Varieties of Bacteria. Wm. Hallock Park.
45 The Development of the Conception of Disease. Horst Oertel.
46 A Brief Report of Two Interesting Cases of Bacterial Infection of the Urinary Tract. Wm. H. Park and Robert J. Wilson.

### American Journal of Obstetrics (N. Y.), May.

47 A Visit to the Wards of the Promateruity Hospital: A Visiou of the Twentieth Century. J. W. Ballantyne.
48 *Infant Feeding. Henry Dwight Chapin.
49 *Results of Treatment of Cancer of the Cervix, and the Ureliability of Statistics on the Same. J. M. Baldy.
50 *A Flap Operation for Atresia of the Vagina. George H. Noble.
51 Muscle-cell Sarcomata of the Uterus. William H. Weir.
52 Report of Two Additional Cases of Rupture of the Symphysis Pubis During Labor. Joseph B. De Lee.
53 Points of Similarity and Dissimilarity of Croupous Pneumonia and Pulmonary Tuberculosis in Young Children. Samuel S. Adams.
54 Cyclic Vomiting. George N. Acker.
55 Ovariotomy in the Eightieth Year. Wilmer Krusen.
56 Varicocele of the Broad Ligament. John B. Shober.
57 A Case of Infective Fever Resulting in Premature Labor, Peritonitis, and Death. John H. Girvin.
58 *Some Recent Operative Work for the Relief of Prolapse of the Uterus and Bladder. I. S. Stoue.
59 Dermoid and Other Cysts of the Ovary. Samuel W. Bandler.

### The Providence Medical Journal, April.

60 Diagnosis Between Appendicitis and Typhoid Fever. Maurice H. Richardson.
61 The Relation of Mental Content to Nervous Activity. E. B. Delabarre.
62 The Disagreement between the Physician and the Pharmacist. John E. Groff.
63 The Dangers of Some Common Eye Diseases if Not Properly and Promptly Treated. V. L. Raia.
64 Nitrous Oxid Anesthesia in General Surgery. Albert H. Miller.
65 Appendicitis at the Rhode Island Hospital 1891 to 1900. Donald Churchill.

### Canadian Practitioner and Review (Toronto), May.

66 *A Case of Primary Abdominal Pregnancy. J. E. Pickard.
67 History of a Case of Smallpox. J. Godfrey.
68 Diphtheria vs. Acute Follicular Tonsilitis. John Gunn.

### The Post-Graduate, May.

69 The Operatinn of Litholapaxy. James Pedersen.
70 Typhoid Fever in Children. Henry Dwight Chapin.
71 Artificial Respiration. Thomas E. Satterthwaite.
72 Report of Clinic—Hernia, etc. Dr. DeGarmo.

### Buffalo Medical Journal, May.

73 *Experiences with the Recent Epidemic of Rabies in Buffalo, N. Y. Ernest Wende.
74 *Rabies. Mazyck P. Ravenel.
75 Notes upon the Rabies Epidemic in Rochester, with a Report of a Verified Death from Hydrophobia. George W. Goler.
76 Toxemia of Pregnancy. Montgomery A. Crockett.
77 A Brief Résumé of the Grosser Animal Nature and its Application in Medicine. (Concluded.) G. N. Jack.

### Western Medical Review, May 6.

78 Endothelioma (Adenoma) of the Base of the Tongue Simulating a Stuma of the Tongue. J. E. Summers, Jr.
79 Analgesia from Spinal Subarachnoidean Cocainization. John B. Murphy.
80 Psoriasis. E. J. Angle.
81 *Facial Paralysis. J. M. Aiken.
82 The Need of More Thorough Physical Examination of the Abdomen. Wilson O. Bridges.
83 Compensation and Failure of Compensation in Heart Disease. Millard Langfeld.
84 Cretinoid Myxedema, or Arrested Development Causing Degeneracy Treated by Desiccated Thyroid. M. H. Evans.
85 Two Cases of Appendicitis of Unusual Course. Herman E. Pearse.

### Richmond Journal of Practice, April.

86 Pathology of Diseases of the Liver. M. D. Hoge, Jr.

### Annals of Gynecology and Pediatry (Boston), May.

87 Malignant Disease of the Breast. J. Collins Warren.
88 *Pregnancy and Tuberculosis. M. Samuel Bernheim.
89 Chronic Laryngitis in Children. J. L. Goodale.
90 *Nausea and Vomiting During Pregnancy. J. Richard Taylor.
91 Empyema. Frederick G. Smith.
92 Emergency Hospital at the Pan-American. Herbert Shearer.
93 The Nature and Treatment of "Weak Back" in Women. Charles W. McIntire.

### The American Practitioner and News, April 1.

94 The Progress of Surgery in the Nineteenth Century. Wm. O. Roberts.
95 The Causes of Death after Abdominal Operations. Louis Frank.

### St. Louis Courier of Medicine, May.

96 The Mesogastrium—Omentum Majus. (Concluded.) Byron Robinson.
97 *Our Daily Bread. George Homan.

### Annals of Otology, Rhinology and Laryngology (St. Louis), February,

98 *Myxoma of Larynx. Joseph S. Gibb.
99 A Case of Primary Tuberculosis of the Nasal Septum. William L. Ballenger.
100 *The Treatment of Laryngeal Tuberculosis at the Montefiore Home for Chronic Invalids (N. Y.). W. Freudenthal.
101 *Laryngeal Tuberculosis. J. Homer Coulter.
102 Acute Edema of the Larynx: Report of a Case. Franck C. Todd.
103 *On the Use of Camphorol, Menthoxol in Diseases of the Ear. F. C. Hotz.
104 An Exceptionally Large Myxofibroma (Occupying the Naso- and Oro-Pharynx and Having its Origin in the Posterior Third of the Middle Meatus). Redmond Payne.
105 A Case of Sternutation. Dr. Mosse.
106 Opacities of the Vitreous and Retinal Detachment Following Ethmoido-frontal Sinusitis. Dr. Broeckaert.

### American Gynecological and Obstetrical Journal (N. Y.), May.

107 Chronic Appendicitis. Willis E. Ford.
108 *Vesico-vaginal Fistulæ. M. C. McGannon.
109 *Uretero-vesical Implantatinn—Three Cases. J. F. Baldwin.
110 *The Streptococcus in Gynecology. Guy L. Hunuer.
111 Spinal Anesthesia in Cases Strongly Contraindicating General Anesthesia—A Report of Five Cases. Andrew J. Downes.

### Cleveland Journal of Medicine, May.

112 Empyema of the Gall-bladder. Dudley P. Allen.
113 *The Physical Characteristics of the Pneumonia of Influenza. George W. Moorehouse.
114 A Case of Embolism of one of the Right Lenticulo-Optic Arteries Complicatiug Pneumonia, with Autopsy. Charles J. Aldrich.
115 Lead Poisoning. Hubert L. Spence.
116 A Case of Cardiopulmonary Murmur Illustrating the Importance of Differentiatiou. P. Maxwell Foshay.

### Occidental Medical Times (San Francisco), May.

117 Diagnosis of Renal Calculus. F. B. Carpenter.
118 *The Medical Treatment of Renal Calculus. Wm. Watt Kerr.
119 *Remarks on the Surgical Treatment of Renal Calculus. Emmet Rixford.
120 Surgical Treatment of Rachitic Deformities. S. J. Hunkin.
121 A New and Convenient Arrangement of Bi-focal Lenses. George H. Powers.

### Memphis Medical Monthly, May.

122 Gall-Stones; A Report of Seven Cases. Frank D. Smythe.
123 Some Notes on Antitoxin—Diphtheria and Streptococcus. C. M. Sebastian.
124 Report of Cases from the Eye and Ear Service of the City Hospital (Panophthalmitis, etc.), January and February, 1901. E. C. Ellett.
125 Acute Catarrhal Enteritis. D. M. Hall.
126 Bronchitis. B. T. Bennett.
127 Report of Three Cases of Acute Infantile Spinal Paralysis (or Poliomyelitis). J. G. Pou.
128 Treatment of Diseases with Static Electricity. W. T. Watson.

### Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), May.

129 Annular Lichen Planus; the Report of a Case of the "Ring-formed Papule," with its Histopathology. Martin F. Engman.
130 *Mercury in the Treatment of Lichen Planus—Report of Seventeen Cases—Disease Regarded as a Syphilide. Thurston G. Lusk.
131 *Condylomata Acuminata Linguæ (Venereal Warts of the Tongue). M. L. Heidingsfeld.
132 Diverticulum of the Bladder, Accompanied by Persistent Bacteriuria. George Knowles Swinburne.
133 An Apparent Case of Varicella in Utero. Joseph Grindon.

### The Medical Herald, May.

134 A Case of Ectopic Pregnancy. Enos Mitchell.
135 Faculty Address at Commencement of Ensworth Hospital Medical College, at Tootle's Opera House, March 18, 1901. P. I. Leonard.

136 *Clean Surgery versus Mutilating and Unscientific Obstetric Procedures as Practiced Upon the Viable Unborn Infant. J. E. Summers, Jr.

Medical Dial, May 1.

137 Report of Cases. (Syndactylism, etc.) Charles W. Williams
138 *The Hospitals of Japan. Edward C. Register.
139 Some Practical Points in the Surgical Treatment of Dysmenorrhea. Southgate Leigh.

Southern Medical Journal, April.

140 Chronic Ulcers: A Clinical Report. J. W. P. Smithwick.
141 Opium Poisoning Treated with Permanganate of Potassium. Eustorjoi Calderon.
142 The Medical Treatment During the Adolescent Period. Edwin Rosenthal.

Georgia Journal of Medicine and Surgery, May.

143 Internal Derangement of the Knee-Joint, with a Report of Two Cases of Removal of the Internal Meniscus or Semi-Lunar Cartilage. George Ryerson Fowler.
144 Medical Supervision of Schools and School Children. Edgar J. Spratling.
145 Report of an Unusual Surgical Case (Complicated Fracture of Leg). Hugh Burford.
146 Ophthalmia Neonatorum from the Standpoint of the General Practitioner. M. L. Currie.
147 Hypertrophic Elongation of the Cervix Uteri, with Complete Eversion of the Vagina from Fibroid Tumor of the Cervix. Restoration by Supravaginal Amputation of the Cervix and Inversion of the Vagina. George Henry Noble.
148 Prognosis in Chronic Non-Exudative Nephritis. Norman C. Varian.

## AMERICAN.

1. **Apoplexy.**—The definition of apoplexy is discussed and the common use of the term criticised by Moyer. The importance of distinguishing cerebral hemorrhage from thrombosis and embolism from a practical point of view is emphasized and their diagnosis pointed out. It is impossible in many cases to distinguish between the conditions. When in doubt, treat the case carefully, avoiding those measures which may do more harm than good, and he strongly condemns the use of strychnin and ergot. The diagnosis, he points out, will depend largely on the previous history, the suddenness of the attack, the co-existing conditions, etc.

2. **Intermittent Claudication.**—This disorder, first mentioned by Charcot, consists of an intermittent inability to walk, due pathologically to a deficiency in circulation, largely connected with obliterative endarteritis of the peripheral arteries. Its etiology coincides largely with that of arterial sclerosis, which is the principal anatomic condition found in the disease, but as arterial sclerosis is common and intermittent claudication rare, other factors must take their part, and these are presumably vasomotor disturbances, which may in turn be connected with endarteritic changes in the vasa nervorum. The majority of patients with this intermittent claudication are Hebrews, and excessive users of tobacco. After reporting a case, Reisman suggests as treatment a diet largely vegetable; exclusion of alcohol, tea, coffee, etc.; the use of alkaline mineral waters, moderate exercise, avoidance of fatigue, protection from cold and dampness, galvanism, and for drugs iodids and nitroglycerin and cardiac stimulants of the strophanthus order. His case was benefited by the use of bromids and nitroglycerin.

4. **Chronic Heart Disease in Children.**—Taylor gives the details of his experience in the treatment of chronic heart disease in children, especially noting the fact that in many cases apparently hopeless conditions may be no detriment to a long life, and that much may be done to restore cardiac activity, as is shown by the results of training. Physicians are often ignorant on these points, and often give worse advice than practical trainers. What is true of boys is still more true of girls, who have a complex circulatory apparatus made for special strain during periods of gestation. The advantages of the exercises are the prevention of congestive developments in the liver, kidneys and lungs, keeping up the functions of the skin and of the nervous system and generally assisting in healthy metabolism. While he believes in rest in bed in marked cardiac disorders, he believes that when the condition improves there comes a time when some activity may be commenced under guidance and rule, preventing irregular and damaging results. No harm can come from employing certain systematic procedures, passive movements by the operator twice a day when absolute rest is still required, and as the condition improves the use of gentle massage of the limbs, and later of the trunk, twice or thrice a day. Still later forced breathing to exercise the diaphragm and lungs, teaching the child to lift the shoulders and make them flexible by placing the clasped hands on top of the head and making repeated efforts at raising and lowering the scapular muscles. While still lying on the back, active extensions of the limbs in different directions may be made, and as the condition improves the operator may meet these extensions with a certain amount of increasing resistance, watching the effect, however, on the pulse and circulation. Later the child may be allowed to sit up and the exercise carried still further. Neck exercises are of great advantage, moving the head, and the muscles of the upper thigh and hips should receive special attention in cases of weak heart and lungs. Later more complex movements suitable for more vigorous children may be employed.

6. **New Vaccine Reaction.**—A new reaction recently noticed by Stern consists in the improvement following vaccination in lithemic and rheumatic disorders. He found this out at first accidentally and then looked up a number of other cases where the same results occurred. Later he vaccinated, with their consent, two more sufferers from lithemia, the vaccination not being necessary as a protection from smallpox, and in both with benefit. All the cases had one symptom in common, pain, though they were, clinically speaking, cases of uricacidemia, rheumatism and neuralgia, and he thinks there is enough evidence that the vaccin virus had a positive influence. He suggests as an explanation that the reaction is a secondary one. The system in its endeavor to rid itself of the virus develops increased oxidizing qualities. He admits the possibility that the symptoms may be due to bacterial activity, and the reaction also to the influence of cytorhyctes variolæ, the variola-vaccina-sporozoa. He does not offer these facts as showing that vaccination is a specific for pain, for it is not, but simply to call attention to its possible occasional influence.

8. **Carbolic Acid.**—Pirkner reports a case of a child who swallowed a tablespoonful of pure carbolic acid. He was called in about half an hour after the dose was taken, and administered absolute alcohol, which apparently relieved the child, but was too late to cure it entirely. He thinks, however, that this case alone is sufficient evidence of the antidotal effect of alcohol on the amount of carbolic acid that remained in the child's stomach when it was given. He suggests that there may be a possible danger in the use of alcohol when a certain amount of carbolic acid has been absorbed, and he would advise under similar conditions not to repeat the dose of alcohol if it can not exert its specific effect because of the large amount of chemically unchanged carbolic acid in the circulation.

10. **Nasal Conditions in the Aged.**—Douglas has examined with special care all cases above 45 years of age which came under his observation in his clinics, and finds a surprising number of cases with nasal pathological conditions, which are not shown by any subjective symptoms. Five cases are reported. He theorizes on this phenomenon and suggests a possible explanation. It would appear, he thinks, as if nasal symptoms were not so much caused by these pathological conditions as by associated ones of disturbed circulation and nerve irritation. This draws our attention to the fact that chronic congestive interference with circulation, lymphatic obstruction and neurotic temperament are very important factors in nasal cases, and the symptoms may not disappear with the mere mechanical removal of the lesions.

12. **Ossiculectomy.**—The anatomical construction of the middle ear favors pathological conditions, and the question arises whether, in view of the great importance of these conditions, radical conservative treatment is most advisable. Stucky has removed necrosed ossicles in twenty-nine cases with results justifying the operation. In only two of these was the

stapes removed. The treatment outlined is as follows: After removing the ossicles and all or part of the tympanic membrane and having the cavity thoroughly curetted, the anterior attic wall is removed, and we have free drainage and can make remedial applications which could not otherwise be done. He thinks this is the most conservative and satisfactory procedure and better than the radical surgical treatment, at least as a first resort.

15. **The Consumptive Poor.**—Knopf reviews the statistics of the mortality of tuberculosis, and calls attention to the fact that consumption is not a hopeless disease, though in the unhealthy conditions of the city tenements, its prognosis is bad. The condition, also, of the poor in cities is especially unfavorable to recovery. He points out the economy of early care in these cases, and insists on the educational advantages of sanatoriums in a hygienic way. He thinks there is little danger of such institutions diminishing the value of real estate, and gives an instance where the opposite result occurred.

17. **Medical Diagnosis.**—Berkeley reviews the various points in regard to diagnosis, the importance of the instruments of precision, and of the use of the microscope; the avoidance of brilliant snap diagnoses, which he thinks are risky; the necessity of close, rigid examination, which he goes over in detail, and finally the need of logical judgment from the facts obtained. The details of the article are numerous and the reader is referred to the original.

18. **Mt. Clemens Springs.**—The medicinal waters of Europe are noticed, many of them in more or less detail, and compared with those of Mt. Clemens. Leuschner claims that the latter have the combined properties of the waters of Aix-la-Chapelle, Wildbad, Kreuznach, Oeynhausen and Nauheim. He maintains that with the scientific management of the waters of Mt. Clemens, many if not all the benefits obtained in these other localities would be readily obtained. He shows how absorption takes place through the skin and into the general circulation, and the concentration of the Mt. Clemens salines is a distinct advantage. The value and efficacy of the Mt. Clemens sulpho-iodo-bromo-salines have been amply established in rheumatic, gouty and syphilitic conditions, and skin diseases, nervous disorders, alimentary catarrhal affections, diabetes, etc.

20. **Tuberculosis of the Iris.**—The different forms of iris tuberculosis are described by Mittendorf, who finds it sometimes a primary and sometimes a secondary affection, which may be divided into two classes, the solitary and multiple forms, and the latter may be divided again into chronic and acute. As a rule, it is a disease of youth or middle life, and one eye is usually alone affected. In the first class described there is generally tuberculosis in the general system, not necessarily, however, of the lungs, and it is characterized by one or more grayish nodules developing in the iris, early appearance of ciliary injection and intense pain in the eye and forehead, and synechiæ. The disease rapidly advances and the vision becomes impaired, the humors become turbid, the whole eyeball may become filled with tubercular matter and enucleation is likely to be required. Another form occurs in the early stages of pulmonary tuberculosis, and runs a much slower course. It may last several months, and be entirely relieved with the general improvement of the patient. The third form is more serious, and usually leads to great impairment of the vision and loss of the eyeball. There is a single tubercular deposit at the bottom of the anterior chamber, involving the ciliary body, which is very painful, and as the tumor develops it presses on the cornea, which soon breaks down. Even this disease, however, may yield to treatment, and partial recovery from the disease be obtained. As regards treatment, he thinks hot water applications better than cold. Morphin may be required. Iridectomy may be suggested, but he does not think it promising as an operative measure, and if the disease appears resistant after the usual internal and local measures, very often a complete removal of the affected eye is advised. While this may not prevent the infection of the other organs, it removes the principal cause of the danger and relieves pain. A strong solution of atropin is advisable, and it counteracts to some extent the effects of the morphin given to relieve the suffering. Three cases are reported.

21.—See abstract in THE JOURNAL of May 18, p. 1415.

22. **Umbilical Hernia.**—After reviewing the various operations and the conditions which require them, the author remarks that slitting the sheath of the recti and union in several layers is the best for small hernia. Of the various methods of doing this, he thinks lapping the abdominal wall is the method particularly applicable in cases where there is stretching of the linea alba with separation of the recti. It consists of the division of the linea alba above and below the sac in the median line for the necessary distance, with or without incision of the ring and a portion of the linea alba. The entire wall on one side is then lapped in front of the other and there sutured, so that the ventral surface of one side is in contact with the dorsal surface of the other. This method has been tried by him in three cases since last September, and he credits the earliest record of this operation to Sapiejko, in December, 1898. Some of the more apparent advantages of the operation are: 1, the doubling of the abdominal wall at the hernial site; 2, the breaking of the lines of suture; 3, the broad surfaces for union; 4, the obliteration of the separation of the recti, and the reduction in the size of the abdomen. Its field is really not limited to herniæ proper, but also includes the treatment of pendulous abdomens, and of enteroptosis due to laxity of the abdominal wall.

23. **Borderland of Insanity.**—Coe's article is a general review of the early manifestations of mental derangement, when the condition has hardly developed into acute alienation. Under this head he classes insomnia, eccentricity, lack of control of emotions and passions, imperative conceptions when they go beyond the safe degree, obsessions, and sexual aberrations and excesses to which he gives considerable space.

25.—See abstract in THE JOURNAL, May 25, p. 1491.

26.—See extract in THE JOURNAL, May 25, p. 1490.

27. **Paralysis Agitans.**—The effect of commotio cerebri as a cause of definite organic changes in the neuron has been brought to Pearce's attention in a case of Friedreich's disease, and he has noticed also conditions of tremor in cases not otherwise hysterical recovering after rest and nutritional measures. He has been led to suspect, therefore, that disorganization of the glia and neurons arise from undue commotion in the nerve centers. He brings up paralysis agitans particularly as a disease of indefinite pathology, though interstitial plaques of sclerosis and hardening of the blood vessels are known to occur, and he says he has no doubt that not a few cases of this disease date their onset of actual tremor from the time of a fall or other concussion. He would say that the older the case, the more likely is trauma to be its cause, and even senile tremor may date from an injury. Thus excitation of the afferent axons may cause an increase of irritation of motor neurons, the reflex message being carried back accentuated, producing tremor of the muscles, and therefore of the extremity involved. Two cases are reported, which seem to him to illustrate his views, and he says: The conclusions which seem to be the more definite as regards trauma as an exciting cause of paralysis agitans, are that the later the origin of the disease, is trauma more apt to have been the exciting cause; in any event, it is more apt to produce an aberrant type of the malady, especially when the insult to the nervous system has been primarily in the periphery of the body rather than of the central neurons.

29.—See abstract in THE JOURNAL, Jan. 12, p. 128.

30. **Gaylord's Cancer Parasite.**—Fisch criticizes Gaylord's paper and work, declaring his methods faulty and his results inconclusive and unsatisfactory. He says he would advise him to search for the same body in young granulated tissue, and if he then uses the old safranin-gentian method or Fleming material, or one of the more recent methods of Benda, he thinks he will not hear again of the parasite.

32. **Gonorrhea in Women.**—Johnston reviews the facts showing the dangers of this disease, and calls attention to the

importance of educational methods in combating its extension.

33. **Cervical Lacerations.**—The dangers of lacerations of the cervix from hemorrhage, sepsis, etc., during or shortly after parturition, the delayed involution which is induced in these cases, the dangers of cicatricial tissue becoming malignant, are considered by Palmer. He advises a primary trachelorraphy operation, which he thinks is one of the most satisfactory operations in surgery. He suggests that it is possible that more deliberation in labor cases, and the avoidance of unnecessary interference with instruments, etc., may be effective in diminishing the frequency of these injuries. The importance of their early recognition at the time of their occurrence, and their correction at this time are dwelt upon, and he also calls attention to the frequency of imperfect results, like, for example, the want of restoration of normal symmetry in the operation, the production of artificial stenosis, and the leaving of unhealthy cicatricial tissue.

35. **Trimanual Abdominal Percussion.**—For the detection of blood in obscure cases, Clark has employed for two years past the trimanual method, which he here illustrates. On bimanual examination of the pelvic mass of questionable consistence, the intestines intervening between the anterior abdominal wall and tumor may dissipate the percussion impulse of the abdominal hand, and although fluid may be present, a wave of sufficient intensity to be felt by the vaginal touch is not induced. To overcome this difficulty the tumor mass should be confined as closely as possible between the two examining hands, while the percussion is made by an assistant. With light taps even small collections of fluids may be detected by the quick, responsive, pulsatile wave passing from the abdominal to the pelvic mass. He has systematically employed it in the differential diagnosis of abdominal tumors. He finds this method of singular value, and has looked in various text-books to see if it has been hitherto described, but finds no mention of it.

36. **Uterine Cancer.**—The statistics from various series of the results of hysterectomies for cancer of the uterus are studied by Clark, and he concludes that any operation, no matter how grave it is, which offers the highest percentage of cures is advisable. He does not think glandular metastases as frequent as he formerly considered them, and while he believes that the glands should be removed, he thinks the condition of the patient should be considered beforehand. His rule, therefore, is to complete the chief part of the operation, viz., hysterectomy, and then, if the patient's conditions justifies, the iliac glands may be dissected out. Even then he thinks the removal of prognostic rather than of curative value, for if they are involved he does not think the patient will escape a recurrence of the cancer, but if they are free a favorable opinion can be given. Suspicious cases of hemorrhage about the menopause should not be allowed to go longer than one month at the most without a thorough examination. If an early diagnosis is made and operation performed, we have a greater per centage of cures. It is only by careful microscopic examination of curettings that a definite decision can be made.

40. **Abdominal Surgery.**—The researches of various authors on the anatomy, physiology and pathology of the peritoneum are first noticed by Clark, who gives a rather full abstract of the comparatively recent article by Wallgren in regard to streptococcal infection of the peritoneum, and sums up the following as the most important practical points contained: 1. Great decrease in the number of micro-organisms within an hour, both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is, therefore, no possibility of limiting septic matter through gauze or glass drainage to any free surgical field within the abdomen. 2. Vigorous streptococci which remain behind develop within six hours a repellant or destructive quality for leukocytes, and the lethal fight is therefore inaugurated and well underway before drainage, as ordinarily employed, can possibly exercise any beneficial action. In many cases, therefore, where drainage is employed the patient recovers in spite of, and not because of it. Based upon practical experience in a large series of abdominal sections, and sustained by his own and the above detailed scientific investigations, he believes, therefore, that the thorough irrigation with normal solution of the peritoneal cavity after abdominal operations for the purpose of removing all possible débris of infectious matter, and then leaving behind large quantities of salt solution, is the most effective preventive measure we have against post-operative peritonitis.

41. **Gelatin as a Food-Stuff.**—Gelatin is recommended by Lusk as an accessory food-stuff in diseases where there is a high tissue waste, since it protects the body from too large a proportion of proteid waste. Small quantities are nearly as beneficial as larger ones. It can never be fully substituted for proteid food.

42. **Acids and Bases of Urine.**—The term balancing the acids and bases of the urine as used by Herter and Wakeman refers to determining the basic values of the chief known bases of the urine and comparing them with the corresponding basic values of the chief known acids of the urine, thus demonstrating the departure from the state of health as shown by failure of the known acids to balance the known bases, or the excessive bases, in case of acid intoxication. The method is described in detail with formulæ which can not be reproduced, and the reader is, therefore, referred to the original.

44. **Low Temperatures and Bacteria.**—Park has experimented with typhoid bacilli in ice at different periods, also in liquified air, and gives the results. The practical points appear to be that these and probably some other bacilli are capable of retaining their virulence and vitality for considerable time in a condition of extreme cold. The bacilli of typhoid patients thrown out with disinfection might easily be infectious until spring and typhoid bacilli after a thaw be carried in water for long distances. It is difficult to say just how long ice from infected water may remain dangerous, but the longer it remains frozen the less the danger. In spite of the rather rapid purification due to freezing, we should discourage the use of ice from infected water unless it remains frozen for at least five months. After mid-summer one could rule out ice infection from natural ice absolutely unless contaminated in shipping. Liquid air seems to diminish rapidly the living activities of typhoid, colon and hay bacilli and staphylococci, the last two, however, having greater resistance than the two first.

48. **Infant Feeding.**—Two questions to be answered are: 1. How can we get cow's milk which is clean? and 2. how can we modify it to have it resemble mother's milk? About 200 species of bacteria have been grown on milk and about 20 produce lactic fermentation. The accurate differentiation of all these bacteria is impossible, but they can be broadly divided into lactic acid forms and saprophytes. The pathogenic bacteria are introduced through water used in cleansing the vessels or through persons handling the milk. Lactic-acid bacteria come from the teat, and the first few streams of milk contain the largest number; it is best to throw these away. The putrefactive bacteria come from the manure on the udder or teats of the cow, which should be kept as clean and disinfected as they can be. Chapin remarks that there is a great amount of unnecessary fear about tuberculosis in milk. Tubercle bacilli, he says, do not grow well in milk, and while the disease may be attributed to it, the fear has been greatly exaggerated. When the milk has been collected with all the necessary precautions as to the washing of the cow and cleanliness of the milker and utensils, it should be rapidly cooled, as microbes do not grow readily in milk below 50 F. Last summer milk was collected in Illinois, New Jersey and New York, rapidly cooled, aerated and sent to Paris, and drank there during the Exposition as better than that produced near at hand. When we get a clean milk we are on the right way, but anything that masks the effect of the dirt in the milk is bad. The two principal chemicals are boric acid and formaldehyde. Pasteurization is not always a good practice, and the author never employs it excepting in very hot weather when he can not be sure of the milk. The approximate difference between human and cow's milk is stated and details given as to changes that are required. The milk should be put into the bottles in

the dairy, and not in the shop in town, and the less it is handled the better. If it is kept from 12 to 24 hours nine-tenths of the butter fat is on top, and this is an aid to dilution. He objects to the use of the siphon and believes in the use of the dipper. The different kinds of cows and the quality of their milk are discussed. The Guernseys and Jerseys give 5 per cent. butter fat, the average-grade 4 per cent. butter fat, and the Holsteins and common stock 3 per cent. It is better to get the average from twenty or thirty cows rather than the milk from one, and he is just as willing to use the 3 per cent. milk as the 5 per cent., as it is more uniform. The details of making up the proper dilution are given and tables to aid in the estimation. He thinks the less we manipulate the milk for the baby the better, and objects to centrifuging to get thick cream; the use of gravity cream and the dipper is better. There are two types of milk, the hard-curdling and the soft-curdling milk. Cow's milk is of the hard-curdling and woman's is of the soft-curdling type. This is the great difference to be borne in mind. Decoctions of cereals like barley water or wheat-flour gruel are effectual diluents, better than simple water. He generally orders his gruel to be made as follows: Two tablespoonfuls of wheat or barley flour, made into a paste with cold water and added to a quart of water, then boiled for fifteen minutes, and with a little salt we have ordinary gruel. Wheat is as good as barley, though barley may be better if the baby has diarrhea. For constipation use oatmeal gruel. He dextrinizes this gruel, preparing his own diastase by taking a tablespoonful of ordinary malt barley in a teacup with about two tablespoonsful of water and put in the refrigerator over night. In the morning one tablespoonful of thin fluid that looks like tea is taken off, and contains active diastase. After putting it into the gruel, in a few moments you can see it become thin. It should be put in after it is cool enough to taste. When it stands it separates into the clear, which is soluble starch, and the part underneath cellulose. In this method we have a sufficient aid to digestion of cassein of cow's milk, which makes the hard curd soft and flocculent, and the nutritive value is improved by the digestion of starch. But diastase can be bought if desired, and he has used a preparation, cereo, a glycerite of diastase, one teaspoonful of which will digest a pint of gruel or a saucer of oatmeal in five minutes. This does away with the objection of those who say a baby was not meant to digest starch: neither was a baby intended to digest cow's milk.

49. **Cancer of the Cervix.**—Baldy says this disease is universally conceded in its inception to be a local one and the hope of a cure rests in an early removal of the disease. In spite of the extravagant claims of surgeons, especially the Germans, the results have not been so good. Kelly's work in the Johns Hopkins Hospital, as reported by Cullen on cancer, bears out this conclusion. It is claimed by these statistics that about 20 per cent. of patients out of a total of 73 are cured. This means, of course, 20 per cent. of those operated upon. In studying the tables, however, it appears that 68 patients of cancer of the cervix have been refused operation. In other words the cases have been picked cases. The percentage then drops at once to about 10 per cent. Including in this every case of possible false diagnosis and doubtful or borderline cases, and so on, the 10 per cent. falls away. He thinks, therefore that the statistics of the Johns Hopkins Hospital show a cure of 5 per cent. or less, accepting them at their best. This is in accordance with Baldy's own experience.

50.—This article was abstracted in THE JOURNAL, XXXV, p. 1426.

58. **Prolapse of the Uterus and Bladder.**—This condition is, according to Stone, often ignored as regards its treatment, which he thinks is a great mistake and due to the want of appreciation of existing pathologic conditions and the necessary utilization of changed structures in the tissue for their relief. Our first aim should be to prevent the descent of the uterus and bladder. The recto-vaginal fascia and that between the uterus and bladder, and bladder and vagina, is always permanently over-stretched in bladder prolapse. He compares this pelvic outlet with the inguinal ring and divides it into two planes, corresponding to the external and internal abdominal ring. The upper contains the anterior surface of the broad ligament and the lower what is called the pelvic floor. The operation proposed by the author is described as follows: After the patient has been prepared for the operation and placed in the lithotomy position he incises along the median line at the crest of the cystocele through the thickness of the vaginal wall. This incision, if about 2 inches in length, gives ample room, and can be enlarged if desired. The thickness of the wall can be easily estimated and can be divided with the scissors without fear of cutting into the bladder. The sides of the incision are caught with forceps and pulled apart, when the white cellular tissue shows, and the separation may be continued. With a gauze sponge we can rapidly separate the flaps from the bladder as far on each side as may be required. In prolapse of that portion of the vaginal wall under the urethra, a free hemorrhage can be avoided if we do not separate them too far laterally. There is a most satisfactory use of this method in loss of control of the neck of the bladder. The operation in such cases is merely removing the urethrocele, and results excellent as far as his experience extends. The incision extends the entire distance from the meatus to the cervix uteri when we operate for prolapse of the bladder. When the bladder is pushed away from the vaginal wall through a short incision first made, the opening may be extended at will with the scissors and the bladder pushed beyond danger of injury. With two pairs of forceps he holds the edge taut and can see how much tissue can be removed. In a case prolapsed sufficiently to allow the uterus to reach the floor of the pelvis or the cervix to nearly reach the uterus, we may expect excellent results after this operation without opening of the abdomen or resorting to utero-suspension or fixation. He gives diagrams showing the relative position before and after operation of the vagina and bladder, the latter being folded over on itself to a certain extent.

66. **Primary Abdominal Pregnancy.**—In the case reported, Pickard claims to have found the child fully developed, weighing 8½ pounds in the abdominal cavity with normal uterus, the ovaries and the Fallopian tubes normal and intact and no signs that the ovum had ever entered the Fallopian tubes or that the pregnancy had ever been tubal. He concludes that he had in the case reported a primary abdominal pregnancy.

73.—This article appeared in THE JOURNAL of April 6, p. 940.

74. **Rabies.**—Ravenel gives the history of rabies and also the discovery of the lesions in the ganglia by Van Gehuchten and Nelis, which he thinks is one of the most important facts in the history of the disease. He ends his paper with the following conclusions which he thinks are justified: 1. When present, the capsular and cellular changes in the intervertebral ganglia, taken in connection with the clinical manifestations, afford a rapid and trustworthy means of diagnosis of rabies. 2. That when these changes are not present it does not necessarily imply that rabies is not present. The lesions afford contributory evidence more or less valuable, depending on the duration of the clinical manifestations. 3. That in certain cases when the capsular changes are slight, such as in animals dying or killed in the early stages of the disease, the changes are more marked in the disto-peripheral end of the ganglion. 4. That the rabic tubercle of Babes is present sufficiently often to furnish valuable assistance in cases where only the central nervous system is obtainable without any of the ganglia, but in cases where the ganglia can be had they offer a simpler and easier method of diagnosis than do the brain or cord themselves.

81.—See abstract in THE JOURNAL of April 16, p. 982.

88. **Pregnancy and Tuberculosis.**—Bernheim finds that the influence of pregnancy is the more serious as it supervenes at the more advanced stage of the disease. In case of cured or improved tuberculosis the influence of pregnancy is the more serious as the tuberculosis is the less distant and the cure more recent. As regards advice as to marriage for tuberculosis patients, it is exceedingly difficult to establish a rule, as the disease is very capricious in its course and one is in doubt

even after the absence of all bacilli whether the cure is so thoroughly established as not to be annulled by some disease like la grippe or conditions of physical fatigue like pregnancy. It is proper to advise that pregnancy may awaken the old tuberculosis and that it may possibly reopen the whole past illness. In fact he would systematically prohibit maternity in all tuberculous patients, even those recovered.

90. **Nausea and Vomiting During Pregnancy.**—The chief causes of this complication, according to Taylor are: 1. Deficient excretion due to carelessness in regard to the condition of the bowels and kidneys. 2. Mechanical reasons, the pressure on the rectum by malpositions of the uterus, or tumors, with or without adhesions, causing reflex disturbance. 3. Nervous irritability. In all cases careful physical examination should be made to determine the pathologic facts, and the cause, whatever it may be, removed. In cases of nervous irritability the exciting cause should also be looked after and possibly malaria or other toxins. Rest in bed, avoidance of excitement, the use of potassium bromid, valerian fluid extract, dilute hydrocyanic acid or other nerve sedatives are mentioned. The pernicious vomiting of pregnancy described by some textbooks is simply the intensification of ordinary conditions, usually due to prolonged neglect or ignorance. There is danger in the suggested remedies of dilatation of the cervix or emptying the uterus, since there are many women whose statements are unreliable in this regard and whose neglect of treatment is the direct outcome of their desire to have a miscarriage at any price.

97. **Our Daily Bread.**—Homan reviews the methods of bread making and claims that there is no special difference as regards wholesomeness between alum and cream of tartar baking powders, and says that the prejudice against alum dates from the time when it was used to whiten flour. Much of the nutritive value of the flour is dissipated in the common everyday methods of baking bread, and the method of bread-making has not yet reached perfection. Serious dyspeptic difficulties may follow the use of yeast-made bread, as well as baking-powder bread.

98. **Myxoma of Larynx.**—After noticing the previous literature, Gibb reports his case and calls attention to the lack of characteristic symptoms and the need of careful examination. In this case the growth was only visible by the laryngoscope during forced attempts at phonation. He thinks it safer in laryngeal cases to withhold a positive diagnosis until a number of examinations have been made and on different days, and after exhausting all the resources at our command to obtain a quiet larynx.

101. **Laryngeal Tuberculosis.**—Coulter finds guaiacol one of the most reliable therapeutic agents, using a rather stronger solution than that recommended by Donnellan, rarely having trouble with a beginning of 20 per cent. solution and gradually increasing its strength so that at the end of ten days or two weeks we can use an 80 per cent. or full strength solution. Previous to the use of guaiacol he cleanses the mucous surface with a warm alkaline, sterilizing spray, not too vigorously applied and then applies the anesthetic of holocain and antipyrin, 1 per cent. of the former and 1.5 per cent. of the latter before using the guaiacol. He has found no remedy so frequently or generally satisfactory in its results. Where he can use the injection method this is specially valuable, as the speedy relief it gives to the dysphagia is most gratifying to the patient.

103. **Camphoroxol and Menthoxol in Ear Diseases.**—From a suggestion of Prof. Stetter, of Koenigsberg, Hotz was lead to use these oxols in ear troubles, swabbing the attic region in one case with the undiluted drug. While his experience is limited, he thinks he owes considerable to these remedies. Being non-irritating they can be used at the early stage of infectious otitis and may perhaps arrest the disease so as to prevent serious complications. While their main field for usefulness is in the tympanic cavity they may also be quite serviceable in the after-treatment of mastoid operations and in certain affections of the external meatus.

108.—This article was abstracted in THE JOURNAL, XXXV, p. 1424.

109. **Uretero-Vesical Implantation.**—Baldwin reports three cases in which he implanted the ureters into the bladder from which they had been severed after excision of malignant growths, by passing a forceps into the bladder through the urethra and selecting a point on the bladder wall which could be most easily approximated to the proximal end of the ureter. This point was opened, the forceps pushed through, and the end of the ureter caught and drawn into the bladder, to the opening in which it was then carefully united with fine catgut. When tension was too great to render implantation safe, the bladder wall was fastened with adhesion to other tissues to relieve the tension. He thinks that by artificial dislocation of the bladder in this way the range of attachment can be so increased as to take in all or nearly all cases in which injury to the ureters occurs during hysterectomy. It is a much simpler operation than uretero-ureteral anastomosis. In all three of these cases the result was good, without any leakage.

110. **The Streptococcus in Gynecology.**—After reporting cases, Hunner concludes that: "1. The gynecologist should make a probable diagnosis of streptococcus infection from the history alone. 2. The characteristic post-puerperal streptococcus lesion is the dense cellulitic mass usually situated in the subperitoneal tissues, and localized on one side or in one region. Palpation as an aid in diagnosis, is second in importance only to the history. Case 2 demonstrated that there are exceptions to this rule. 3. Having made a diagnosis of probable streptococcus infection, consider well the method of operating. As you have seen from this brief series, many cases can be reached without entering the peritoneal cavity. Where it is absolutely necessary to do celiotomy, use great care in guarding the general cavity, and if contamination of the pelvis occurs, leave a free supply of gauze, not so much for drainage as for the purpose of keeping the intestines away from the infected area, until there is formation of protective granulations."

113. **Pneumonia of Influenza.**—Moorehouse points out the following as the more important differentiations between influenza and other forms of pneumonia. The lobar pneumonia of influenza is most certainly atypical. The onset lacks the distinct rigor, the severe chest pain and dyspnea are not usual, and the general symptoms of influenza are present. The consolidation is less complete, the crepitant râles are less numerous and bronchitis is apt to be a complication. The pulse tends to be rapid, weak and irregular. The temperature is usually lower and shows remissions when they would not occur ordinarily in croupous pneumonia and the termination of fever is usually by lysis, though this is not invariable. In some cases the febrile movement may terminate quite rapidly after a shorter course than is common in true pneumonia, the consolidation persisting for some time after normal temperature. The sputum is rarely rusty, though it may be either blood-streaked or bright-red from the copious capillary hemorrhages. It is apt to resemble bronchitis sputum and especially likely to be purulent. The lobular pneumonia of this type is often more insidious than usual. Sometimes localized consolidation may be found in one place one day and in another the next. This, however, is more characteristic of congestion than consolidation. Not infrequently the consolidation becomes widely spread and closely resembles lobar pneumonia, and certain complications may occur. The serous cavities are specially subject to inflammation; there may be dry or serous pleurisy or purulent effusion and empyema or pericarditis. In the lungs the tuberculous process seems often to start from this, or gangrene or abscess may occur. Some of these complications are doubtless due to mixed infection. The diagnosis would rest ultimately on the demonstration of the Pfeiffer bacillus, but not all the pneumonias occurring during the progress of influenza can be charged to this.

118. **Renal Calculus.**—The principal points in the treatment of renal calculus mentioned by Kerr, are the relief of pain for which he advises heat and the free imbibition of hot drinks before the use of narcotics. Of these last the best is morphin injected into the back over the offending organ. The dose should be reasonably large. He has never had any occasion to use chloroform between the attacks. The alkaline constitu-

tional treatment is the only one which has yielded satisfactory results, but its scope is very limited. His experience has led him to prefer citrate of potassium or lithia or a combination of these. The benefit derived from the use of mineral waters is largely due to the imbibition between meals of large quantities of water, and patients should therefore be advised to drink freely, especially before retiring for the night, as then the urine is more liable to become concentrated and precipitation take place. If the calculus be of the uric acid variety the diet should be regulated according to the condition. If of the oxalate variety suitable measures are also indicated.

119. **Surgical Treatment of Renal Calculus.**—The indications for the surgical treatment of renal calculus as stated by Rixford are: 1. Cases with history of sudden pain in the region of the kidney or with hematuria, with or without vesical irritability, and those which develop uremic symptoms should be operated upon at once. 2. Cases of calculus shown by the *x*-ray to be incurable by medical means, should also be operated upon at once. 3. Cases in which small stone located by the *x*-ray remains unmoved for a long period require operation. 4. Cases where symptoms of stone persist and show no improvement are properly surgical cases. The danger of the morphin habit and of irreparable damage to the kidney should be considered. 5. Cases where the calculus has led to pyonephrosis, pyonephritis, etc., should be operated upon and cases of pyelitis if the diagnosis shows no evidence of subsidence, should not be trifled with, but operation should be done in time.

130. **Lichen Planus.**—Lusk uses bichlorid of mercury in doses of 1/16 to 1/12 t. i. d. or biniodid in dose of 1/6 gr. following up the treatment after the disappearance of the lesion with smaller doses. Mercury in doses of 1/12 gr. of bichlorid, 1/2 gr. of protoiodid, and 1/6 gr. of biniodid, is not merely a tonic, but a decided alterative, and few can stand such doses except syphilitics. Lichen planus, he holds, is a syphilide, acquired or hereditary, and the excellent results from this use of mercury is corroborative of this opinion.

131. **Condylomata Acuminata Linguae.**—Heidingsfeld concludes: "1. Extra-genital condylomata acuminata conform not only in clinical character, but also in histologic structure, to condylomata acuminata of genital location. 2. The chief pathologic change is an akanthosis. 3. Though there is no relative increase of connective tissue, there is an absolute one, and hypertrophy of the papillæ is active, not passive, in character. 4. The so-called epithelial fibrillation is a normal process, consisting of spinous processes accentuated by hypertrophy and over-staining."

136.—See abstract in THE JOURNAL of April 6, p. 981.

138.—This article has appeared elsewhere. See THE JOURNAL of January 26, 1146, p. 290.

## FOREIGN.

British Medical Journal, May 18.

**Some Remarks upon Analysis of 5000 Cases of Death from Malignant Disease.** E. N. NASON.—The opportunity of analysing more than 5000 cases of death from various forms of cancer was utilized by Nason while preparing the report of the committee appointed by his branch of the British Medical Association to inquire into the subject. In these 5000 cases 1837 were males and 3018 females, and in 145 the sex was not stated. This at first sight seems to show a marked tendency of females to the disease in a proportion of about 62 to 38 per cent. of males. This preponderance, however, is shown on examination to be due to the great frequency of uterine and mammary cancer. In all the female cases it was found that in 40 per cent. it was one of these two organs that was affected, hence this liability is due to the possession of these two organs and not to a greater tendency to malignant disease. In fact if cancer in organs peculiar to sex be excluded, the male is found to be most subject to this affection, in a proportion of about 53 to 47 per cent. Nason accounts for this by assuming that the predisposing causes of cancer are more frequently in operation in the males than in females. Among these he mentions trauma and syphilis. It is interesting to note that while a steady and remarkable increase in cancer mortality has occurred during the last thirty years, it is far more noticeable in males than in females. The last decennial report of the Registrar-General shows that the increase in mortality between the years 1861 and 1870 was as great as 78 per cent. among males and only 42 per cent. among females. It is no doubt true that the statistical increase is not altogether genuine, but is partly due to increased skill in diagnosis. This would especially apply to malignant disease occurring in the region of the stomach, pylorus and other internal organs where it is liable to occur. In the following situations cancer is far more likely to occur in the male than in the female; namely, tongue, bladder, esophagus, jaws, face, neck, limbs, lips and stomach, and a very large proportion of deaths from cancer in the male are due to cancer of the stomach and pylorus. The author gives two interesting diagrams showing the proportionate liability at various ages, from which it appears that while cancer of the uterus and breast reach their maximum frequency about the menopause, or a little later, cancer of the rectum and stomach occur most frequently in the seventh decade, and that there is a more or less abrupt drop after the maximum. This fact teaches us that although up to a certain age with probable decreasing cell vitality, the liability to cancer increases, after that age the reverse is the case, thus making it appear that the diminution of vitality beyond a certain point fails to give the stimulus required by malignant growths. The conclusions of the committee are repeated, and the following may be mentioned as some of the more certain predisposing causes: 1. Prolonged local irritation, due to various causes, setting up local inflammatory changes in the irritated tissue. 2. The immediate or after-effects of direct and sudden injury, whether mechanical, thermal, or chemical. 3. Syphilis and possibly other constitutional diseases which are associated with local tissue changes. 4. The tissue degenerations of advancing years varying with the age. 5. Individual proclivity. 6. The presence of fetal remnants or "cell rests." 7. (According to the committee's report) the residence in the neighborhood of a sodden and sewage-soaked soil. Now all these predisposing causes, except possibly the last, resolve themselves into conditions in which the resisting power of the individual cells have most probably been reduced. At any rate the vitality of the cells or their power of specialization has been interfered with. This decreased vitality affords just the conditions, Nason believes, in which a parasitic organism may have the most chance of success.

The Lancet, May 18.

**The Pathology and Diseases of the Thyroid Gland.** WALTER EDMUNDS.—In his second lecture Edmunds reviews the symptoms produced by the operation of parathyroidectomy, which in his hands were not so bad as those of total excision in dogs, though other authors, Vassale and Generali, have found them worse. The changes which occur in the thyroids after this operation are the diminution or disappearance of the colloid, which is replaced by watery secretion, with changes in the vesicles and secreting cells identical with those described compensatory hypertrophy: but the thyroid lobes do not become enlarged but apparently diminish. This coincides with the view that the parathyroid glands furnish the secretion and the thyroids store it. The symptoms following the operation were the usual ones following athyroidea, namely, tremor, unstable gait passing into paralyses of the hind limbs, emaciation and weakness. In two of the dogs marked narrowing of the palpebral fissures was noticed. On rabbits, in experiments to test the effect of parathyroidectomy, the eyes became wider for a time, but have since become normal. The conclusion is that the excision of the thyroid glands and the parathyroids produces enophthalmos and narrowing of the palpebral fissures, while parathyroidectomy does the same. These are the results of experiments with the nervous system intact, but experiments of cutting out or excising the laryngeal and vago-sympathetic nerves leads to the inference that the secretion of the thyroids is under the central nervous system, and the results of deprivation of the thyroid secretions by the removal of the glands in whole or in part are probably due to defective in-

nervation to a certain extent. The effect of excess of thyroid, as observed after giving large doses of thyroids are noted, and those produced on the eyes, Edwards concludes, are caused by action through the cervical sympathetics, and they correspond to the effect of their stimulation. He excised a length of the cervical sympathetic on one side in two monkeys and then fed them on large doses of thyroids. In twelve days it was noticed that there was exophthalmos and dilatation of the pupil on the operated side while on the other the reverse condition was noticed.

**Flies and the Science of Scavenging.** G. V. POORE.—Considering the multiplication of flies which is such that the female fly might readily have 25,000,000 descendants in a hot summer, and the experience in the South African War with typhoid dissemination, Poore calls attention to the necessity of the early removal beyond their reach of all decomposing matter. Instead of having deep trenches for the burial of offal and excretions, which should be removed at once, he would have shallow ones which can be quickly dug and quickly filled. The immediate removal of all organic refuse and its instant covering with earth is in his opinion the solution of the important health questions involved in diseases disseminated through flies and otherwise.

Annales de l'Institut Pasteur (Paris), March,

**Anticoagulating Serum.** J. BORDET and O. GENGOU.—The fibrin-ferments derived from various animals have a specific, anticoagulating action on the serum of other animals. They neutralize the fibrin-ferment and precipitate the plasm, modifying the fibrinogen and thus preventing coagulation.

**To Isolate the Typhoid Bacillus.** L. REMY.—Inoculation of a guinea-pig is the best means of determining the typhoid nature of a micro-organism suggesting the typhoid bacillus. The inoculation fails, however, if the microbes have been agglutinated. Remy recommends the direct process for making cultures of the typhoid bacillus and the coli associated: one loop of the mixture in 10 c.c. of sterilized water. One loop of this dilution in 10 c.c. of sterilized water and two loops of the latter dilution in gelatin containing .25 per 1000 of phenic acid, and three loops in gelatin containing 5 per 1000 of phenic acid. The indirect process consists of three passages through acid bouillon, containing .5 per 1000 of $H_2SO_4$ with 5 per 1000 phenic acid. The tubes should be kept at 25 to 30 C.

**Variability of the Typhoid Bacillus.** E. SACQUÉPÉE.—The tendency of the typhoid bacillus to become agglutinated varies under different conditions. When long in contact with an immunized or immune subject, it loses the power to become agglutinated, but spontaneously regains this faculty in a plugged tube. The modifications are merely due to its becoming accustomed to its environment, and show that the "Eberthiform" is also a true typhoid bacillus.

Archives Generales de Medecine (Paris), April.

**The Urinary Secretion in Syphilis.** J. PATOIR.—All the old and new diagnostic measures applied to the study of the urinary function in forty-six syphilitics showed that in 50 per cent. the general nutrition was disturbed during the period of the eruptive manifestations of the disease, and also the functions of the kidneys and liver, except in the very mild cases. In the young, the disturbances are a hyperactivity of nutritional processes and of the eliminating function of the kidney. In the elderly and debilitated, this reaction on the part of the organism does not occur, and existing insufficiency of the kidneys is aggravated. Specific treatment restores the general nutrition to normal and there is also a spontaneous tendency in this direction during the intermissions of the disease.

**Gastric Toxins.** R. CASSAET.—The assumption that certain pathologic conditions of varying gravity originate in abnormal changes in certain food-materials in the stomach is corroborated by Cassaet's comprehensive researches. These abnormal transformations of the food may be due to a superabundant or too powerful gastric juice, or to disturbance of the motor functions of the stomach. The pathologic conditions are dependent upon these digestive disturbances, cease and recur with them, and are consequently closely connected with them. The reproduction in animals of the entire series of pathologic conditions is a convincing argument in favor of the generation of toxins in the stomach. The symptoms include vasoconstriction, mydriasis, myosis, partial or complete anesthesia, spasms in the extremities, general convulsions, somnolence after eating and coma. It may be possible before long to determine the nature of the toxin from the character of the symptoms observed, and by appropriate measures to nullify its action. It may even be possible to prevent its entering the circulation by modifying the composition of the blood or the osmotivity of the stomach contents. The future may even suggest a means of neutralizing the toxin after it has passed into the circulation, by administering some definite chemical antidote or antitoxin.

Bulletin d'Electrotherapie (Paris), April.

**Chemical Electrolysis in Hypertrichosis.** E. A. WEIL.—Instead of the tedious intrafollicular electrolysis, Weil applies the electricity all over the surface, first pulling out the hairs and moistening the surface with a solution of nitrate of silver or of chromic acid. Under the influence of the electricity, the cathions, the silver and chromin, pass into the follicles and, combining with the chlorin of the tissues, evidently form an insoluble silver chlorid which prevents further growth of the hairs. Experiments on himself showed that the destruction of the hairs on the spots treated was complete.

Nord Medical (Lille), May 15.

**Electric Treatment of Mucomembranous Enterocolitis.** E. DOUMER.—The writer of this communication has been very successful with the application of the continuous current in the treatment of mucomembranous enterocolitis. The obstinate constipation was conquered at first, and this was followed by the gradual healing of the anatomic lesions and subsidence of all symptoms. The current was applied commencing with 30 to 40 ma. and increasing to 50, during eight or ten minutes, reversing the current each minute. Even when the current was increased to 150 ma. the patient bore it without the slightest injury or production of an eschar. Until the stools become normal, which occurs in ten or twelve days, he repeats the treatment every day, but after this at longer intervals, and discontinues it the twentieth to the twenty-fifth day. The electrodes are covered with several thicknesses of chamois skin, moistened with water or gelatin, and placed at the lowest point of the iliac fossæ. The results in all his seven cases were completely successful.

Presse Medicale (Paris), May 11.

**Extradural Spinal Cocainization.** SICARD.—The new method of spinal cocainization proposed by Sicard has proved its usefulness for medical analgesia, but is inefficient as a measure for surgical anesthesia. It is completely harmless and enables the cocain to be introduced without fail into the extra-dural or epidural space. He calls it "the method of extra-dural injections by the sacrococcygeal route."

Revue de Chirurgie (Paris), May.

**Remote Results of Forced Instrumental Massage in Treatment of Club-Foot.** E. VINCENT.—During the last twenty years Vincent has operated on about 500 club-footed patients by tarsotomy or osteoclasis. The osteoclast he uses for the purpose, illustrated in the cut, is a modification of the Robin osteoclast. All his patients walk well, but none have come to the dissecting table, even from an intercurrent disease, consequently he is not able to offer proof of the anatomic conditions. Radiographs are useless, as the ossification is too incomplete in the young for the parts to cast a shadow. He has never known of any inflammatory lesions after the tarsotomy. It produces a traumatism resembling a sprain. The parts are held immovable by the osteoclast, and the operator manipulates them with his hand or the lever, or both. The portions of the bones in which the ligaments are inserted are sometimes torn out when the ligaments refuse to stretch or break, but this traumatism soon heals and aids

in holding the parts in normal position. An actual fracture occurred in only one case. Investigation of cases operated on ten to twenty years ago shows that the tarsotomy was never followed by osteitis or arthritis of the foot in a single instance, while the benefits of the operation have persisted unaltered for eight to twelve years and more. Except in very mild cases, it is better to wait until the child is 1½ to 2 years old before operating. Post-operative massage is indispensable and the wearing of a well-fitting apparatus for years.

**Perihepatic and Pleural Complications of Appendicitis.** L. LAPEYRE.—There are two varieties of pleurisy due to appendicitis, the pyohemic, from embolic infarcts, which may be either on the right or left side, and the pleurisy from propagation, which is always on the right side. The latter is usually purulent, but serous pleurisy has been observed as also chronic pleurisy of the base without effusion. Both forms of pleurisy are consecutive to a subphrenic abscess, and the pleurisy is merely the final termination of a suphrahepatic or subhepatic abscess, passing through the diaphragm or transmitted by the lymphatics. The route of propagation is always by way of the peritoneum and the right parieto-colic sinus. The first retrocecal abscess may be at a distance from the appendix, but from this primary focus there is always an uninterrupted continuity of the lesions to the diaphragm. The dry, incessant cough and stitch in the side indicate that the inflammation has reached the diaphragm, and may appear even when the pleura is still intact. The termination is generally fatal, death occurring between the fifteenth and the thirtieth day. The only effective treatment is anticipatory, removing the appendix at once before these complications have time to develop. Cases are on record in which appendicectomy 48 hours after the first indication of appendicitis failed to arrest the ascending inflammation.

Semaine Medicale (Paris), May 15.

**Fifteen Grams of Fowler's Solution Ingested Without Intoxication.** R. LÉPINE.—A man 40 years of age had suffered for several months from gastric disturbances of an alcoholic origin, when he took by mistake 15 gm. of Fowler's solution in a glass of sweetened water, just as he was retiring, and went to sleep at once. He was awakened two and a half hours later by intense pain in the stomach and thirst. He vomited constantly for several hours, but when seen by the physician, twelve hours later, there were no serious symptoms and the recovery was rapid without active medication. He had ingested 15 cg. of arsenious acid in the solution. Lépine ascribes the absence of intoxication to the constriction of the pylorus from the preceding gastric disturbances and the irritation of the poison. The stomach walls evidently did not absorb the arsenic. The contraction of the pylorus in this case—which has also been noted by Lépine in experiments with animals—shows that the pylorus in intoxications may play the part of a protective sphincter. When summoned to attend a person who has taken poison, if it is impossible to induce vomiting or practice lavage of the stomach, contraction of the pylorus should be promoted. A subcutaneous injection of 5 mg. of apomorphin, for instance, would not induce collapse, and if it did not produce vomiting, would at least cause the pylorus to contract. When this protecting mechanism is working, then the lavage can be done with less urgent haste.

Centralblatt f. d. Grenzgebiete d. Med. und Chir. (Jena), iv, 1 to 9.

**Treatment of Diabetic Gangrene.** H. WOLF.—In this review of 172 communications on diabetic gangrene, Wolf states that writers agree in waiting for demarcation, on antidiabetic diet, in cases of non-inflammatory gangrene, but with the inflammatory form, expectant treatment is only allowable under close supervision, and is dangerous even in these conditions. Investigation of the arteries, especially of the four arteries of the foot, is of great importance in all cases of gangrene in diabetics. Whenever the pulse is weak or imperceptible in the four arteries of the foot, operations below the malleolus are usually inadequate. If the pulse in the popliteal artery is likewise imperceptible, the operation should be at the point where the pulse is felt again. If during the operation the severed vessels do not bleed enough, the limb should be amputated at a higher point during the same narcosis. Operations on the thigh have no special advantage over those of the leg or knee. Local anesthesia—but not infiltration anesthesia—is preferable to general narcosis. The latter, with the operation, favor the onset of coma. A comatose condition, however, is no indication against operating. Five to ten grams of natrium carbonate beforehand is recommended as a preventive measure. Irritating antiseptics and tightly drawn sutures should be avoided. Lindner lost none of six patients on whom he operated, and Bunge none in four, but the general statistics collected show that 50 out of 110 patients died, and 28 out of 75 that were operated on, a proportion of 37.3 per cent. The possibility of the development of gangrene should always be borne in mind in examining elderly diabetics. In Wolf's 118 collected cases none of the patients were under 40, and almost all were approaching the 60th year. Violent pains in the lower limbs should not be diagnosed gout or rheumatism, as they may be due to the affection of the vessels of the nerves which frequent precedes the development of gangrene. There is often a history of pains, paresthesia, and especially formication in these cases, and careful attention should be devoted to these symptoms. Diabetics should observe great care in cutting the nails or corns, and extreme cleanliness and comfortable footgear are indispensable. Even a slight injury requires immediate surgical treatment. Erb and Bunge recommend in case of symptoms of alterations in the arteries, hot foot-baths with galvanization of the feet and potassium iodid. Massage of the lower limbs is also extremely beneficial, both in preventing or treating arteriosclerosis in these cases, or even incipient gangrene. The question of prophylaxis deserves more attention than hitherto accorded. All writers agree that operative measures must be preceded by antiseptic bandages and antidiabetic diet. Powders are applied by some to transform the gangrene into a dry lesion, and thus hasten demarcation. The most important factor in treatment is the close supervision of the patient. Bunge warns against allowing the most favorable moment for surgical intervention to slip past. The inflammation is liable to spread suddenly. Tuffier will not operate unless he is able to reduce the amount of sugar in the urine. Godlee distinguishes between the deep, vascular, and the superficial, neurogenic gangrene, stating that the former is rapidly progressive and requires prompt amputation, while the latter form is chronic, and expectant treatment is indicated. Wolf, however, rejects this classification, as it does not include the gangrene in which bacteria are the chief agents.

**Pigmentation of the Skin in Case of Affections of the Pancreas.** W. MAGER.—Study of the literature on this subject demonstrates that pigmentation of the skin is not the direct result of an affection of the pancreas, but is merely one manifestation of the general hemochromatosis in consequence of the cachexia. Some of the affections of the pancreas, such as pigment-cirrhosis, are of a secondary nature caused by the hemochromatosis, which is the result of the profound alteration in the blood such as is caused by a malignant neoplasm or diabetes. Bronzed diabetes is therefore not a special affection, but is rather merely a severe form of diabetes, accompanied by general hemochromatosis and its consequences.

**Hysterical Scoliosis.** G. MUSKAT.—Three of the fourteen cases of hysteric scoliosis on record are dubious. The age varied from 8 to 35 years, but the majority of the patients were approaching or just past puberty. A fall or violent emotion was the direct cause in a few instances, on a predisposed soil. The muscles of the concave side are usually contracted, rigid, tense and painful. The spine is not painful nor twisted, and there is no indication of a hump. Treatment should be addressed to the hysteria. A supporting corset is recommended by several, but Dolega relates one case in which it proved injurious. The prognosis is not absolutely favorable. Some cases recover without treatment, others after a few days

of appropriate measures, while some resist all kinds of treatment for months, and one case was dismissed uncured. In general the cure is complete in a few weeks, but recurrences may be observed after a longer or shorter intermission.

**Thyroid Treatment.** L. HASKOVEC.—Fifty-eight important publications on the treatment of myxedema are reviewed in this communication. Haskovec in conclusion quotes Lanz to the effect that most of the symptoms of intoxication observed during thyroid treatment are caused by toxic substances generated by putrefaction of the gland or its extracts. These symptoms as a whole are called thyroidism, and Buschan distinguishes between a physiologic and pathologic thyroidism. The physiologic symptoms are headache, slight dizziness, pains in limbs, accelerated pulse in persons who eat much meat, increased diuresis and elimination of nitrogen, and loss of flesh. Pathologic thyroidism includes nausea, vertigo, tremor, high temperature, albuminuria, glycosuria, fainting, collapse, angina pectoris, epileptic and uremic attacks, and even possibly, sudden death. Haskovec does not accept this classification of symptoms, observing that the reaction to the treatment differs in different individuals, and as the essential element of the thyroid gland is still unknown, we are unable to dose or foretell its effect in every case. Persons with defective thyroid development are most susceptible. Further research and reports of experiences are urgently needed in this line of physiologic and pathologic thyroidism.

**Movable Liver.** L. TELEKY.—Only 70 or 80 cases are on record in which the liver was actually movable, that is, detached from the diaphragm. Of these patients, 90 per cent. were women. The abdomen was pendulous in 16 out of 21 cases, and only 4 were nulliparæ. The removal of a tumor favors the detachment of the liver, and there are usually predisposing congenital conditions, such as the slackness or absence of the suspensory or coronary ligaments. Lesions that render the liver heavier also favor its dislocation, but some unusual exertion or trauma is usually the direct cause. Twenty-three operations on account of movable liver have been reported. It is remarkable that cardiac affections are so rarely complicated with movable liver, as they affect the suspending apparatus injuriously in several ways, by diminishing the aspirating capacity of the thorax, by relaxing and enlarging the vena cava, by the development of ascites and by the increased absolute and specific gravity of the congested liver. This immunity is possibly due to the fact that persons with severe cardiac affections are usually confined to their bed, and are consequently not exposed to the conditions that produce dislocation of the liver in the predisposed. Among the 185 communications quoted, a number of writers consider the corset a protection against dislocation of the liver rather than a factor in its production, but tight skirt bands are considered injurious in this respect. Tight lacing may twist the liver on its axis forward or backward and the subjective disturbances may be severe, but it can not cause downward dislocation of the liver. Einhorn classifies cases of movable liver as, 1, without symptoms; 2, with symptoms of dyspepsia; 3, hepatalgia; 4, colic pains in the liver, and 5, symptoms of asthma. Other symptoms may indicate occlusion of the biliary passages or interference with the ureter or bladder, but disturbances of the circulation are slight and rare. Hematemesis was noted in one case, a liver-cough in another, ceasing as the patient reclined, fever in a few others and pains extending to the neck. The diagnosis was correct in only four of Boetticher's 23 collected cases operated on. The epigastrium was sunken in a few. The patient should be examined standing. The relaxed ligaments and abdominal wall should be strengthened by tonic measures, supplemented by orthopedic appliances in pronounced cases, but if these fail, the organ must be restored to its proper position and fastened in place. Almost all the patients treated by hepatopexy have been relieved of their disturbances and restored to their former working capacity. The freshening of the surface of the liver is the most important factor in operating, as wounds of the liver display a marked tendency to the formation of solid, fibrinous adhesions. Protracted after-treatment is also important, the patient on his back, the pelvis elevated. Among the various methods of hepatopexy described, Depage combined laparectomy with the shortening and fastening of the ligamentum teres. He excised a large portion of the pendulous abdominal wall and of the linea alba to the margin of the rectus muscles, and sutured the ligamentum teres in the upper corner of the wound. This restored the liver to its normal position, in which it was supported by the shortened abdominal wall.

**Spinal Cocainization.** F. HAHN.—In this review of the 1708 published cases of anesthesia by means of spinal cocainization, it is stated that in 110 the analgesia was a failure. Severe, threatening symptoms were observed in 25 per cent of all cases, and 8 deaths have been reported consecutive to spinal cocainization. Forty-one authors in the United States have reported 586 operations under this method of analgesia, while only one has been reported in England. This was a strumectomy—the only operation above the thorax that has yet been recorded.

Centralblatt f. Chirurgie (Leipsic), May.

**Arrested Ether Narcosis.** KRONACHER.—It is unnecessary to use as much ether as generally employed in minor and medium operations. Kronacher for three years has been individualizing the amount to each case and found a very small amount sufficient to abolish pain, although deep narcosis was not obtained. In extracting twenty teeth from one patient, for instance, she screamed as each tooth was drawn, but afterwards stated that she felt no pain. This minimum narcosis is not followed by any after-effects and the patients retain their consciousness, but later have no remembrance of what occurred during the narcosis. His technique is as follows: 5 to 10 c.c. ether are poured on an ordinary mask, allowing considerable access of air, then 10 to 20 c.c. until agitation is noticed, then a few more inhalations, when the mask can be removed and the operation commenced. Possibly further inhalation of 10 to 20 c.c. may be found necessary. The anesthesia thus obtained lasts ten minutes. Even in major operations the ether employed can be restricted to the bare amount sufficient to abolish pain.

**Apparatus for Infiltration Anesthesia.** L. MOSZKOWICZ.—By means of the simple apparatus described, the syringe is dispensed with and the fluid is automatically injected. A jar is filled half full of the anesthetic fluid. Two tubes with faucets pass through the stopper into the jar, and a rubber tube is attached to each. The right-hand rubber tube terminates in a needle tip for the injection, and a piston syringe is attached to the left-hand tube. A few strokes of the piston compress the air in the jar; the faucet is turned to prevent the escape of the air and the syringe is removed. Opening the faucet in the right tube sends the fluid in a jet under the influence of the compressed air. This tube and tip can be removed and boiled with the other instruments. The jar can be kept warm by standing it in a basin of warm sublimate solution and the needle tip can be placed with the instruments on the table. Gersuny has been using this apparatus extensively and is much pleased with it.

Deutsche Med. Wochenschrift (Leipsic), May 9.

**Successful Serum Diagnosis of Tuberculosis.** E. ROMBERG.—Von Behring makes an emulsion of tubercle bacilli which is conveniently handled and has proved successful in the serum diagnosis of tuberculosis. Romberg announces that this emulsion is agglutinated by the serum of tuberculous subjects the same as Arloing and Courmont have succeeded in agglutinating homogeneous cultures of living bacilli. He also states that blood taken from the placental portion of the umbilical cord of newly-born infants, who in all probability were free from tuberculous taint or infection, failed to produce agglutination. On the other hand, he found that the serum of 56.4 per cent. of persons who showed no clinical evidence of tuberculosis possessed the agglutinating property. All the patients with clinically evident tuberculosis, agglutinated except a few in the most advanced stages, and those in whom the lesions had apparently healed. These facts indicate that the serum reaction is no assistance for the early diagnosis of an already manifest tubercular infection—it is

positive in persons with no clinical symptoms of tuberculosis and fails in a certain number of clinically certain cases. The proportion of the former, however, corroborates Naegeli's assertion in regard to the frequency of tubercular lesions in persons over 18. The positive result of the test is considered by Romberg certain evidence of the existence of a progressive or at least not yet inactive tubercular process. He also believes that the negative result testifies either to actual freedom from tuberculosis or to the healing up of an existing tubercular process or to a very advanced stage of the disease. He considers this serum diagnosis a most valuable means of detecting still latent tubercular processes. His material is too small—only 95 cases—for him to proclaim his convictions with certainty.

**Work of Cancer Investigating Committee.** The committee has held four meetings since its organization in February at Berlin. In the various addresses and reports we note that von Leyden is in favor of the parasitic theory of malignant neoplasms, and thinks that a parasitic origin offers a much better outlook for successful prophylaxis. The statistics presented show that "cancer" has increased by 50 per cent. in Prussia since 1888. There are 10,000 patients with "cancer" among the 500,000 inmates of the various hospitals and sanatoriums throughout the country. The records of the life and sickness insurance companies are a valuable mine of information for such investigations. They seem to reveal a decrease in the number of cancers among the poorer classes and an increase among the well-to-do. Pfeiffer urged that every case of carcinoma reported should be accompanied by the pathologico-anatomic proof, and this could easily be accomplished if the pathologic institutes would investigate the material sent in by members of the committee and others interested, and if some uniform definition of the term carcinoma could be decided upon. The experience of the Gotha Life Insurance Bank has been that the residences of the Roman clergy in south Germany are frequently actual "cancer houses." Behla stated that cancer is endemic in Luckau, but confined to certain localities and houses. Examining these houses, he found that each one was damp and mouldy, especially in the cellars. He also noticed that persons most frequently affected were those whose business took them into cellars, dealers in fruits, wine merchants, farmers, etc., or else brought them in contact with wood, such as carpenters, cabinet makers, masons, woodsmen etc. Villages that have many cases of cancer have always a damp subsoil while others on a dry foundation seem to be almost immune to cancer. The fungus growth, merulius lacrymans, or "Hauschwamm," is constantly spreading in the houses of central Europe. It is estimated that every tenth recently constructed building in Berlin is invaded by the merulius. Whether it is pathogenic for man or not is not yet decided, but in animals it induces a proliferation of epithelium and connective tissue. It develops with yeast-like features, and its spores may alight on food, vessels, water, etc. He urges that the connection between the presence of this mould and the prevalence of cancer be borne in mind in collecting statistics in future. A subcommittee was appointed to collect and report all cases of malignant neoplasms published in the medical literature. The government has awarded 3000 marks for the expenses of the committee and the congress of internal medicine and a sickness insurance society have each given 500 marks.

May 16.

**Occult Gastric Hemorrhages.** I. Boas.—By the term "occult hemorrhage" Boas means an oozing of blood too insignificant to be detected by the naked eye in the stomach contents and yet by its persistence, a serious menace to the health. Repeated investigation of the stomach contents of 83 individuals showed that these occult hemorrhages never occurred in the course of gastric neuroses, acid or subacid gastritis, hyperacidity, hypersecretion or moderate ectasia. Traces of blood were found occasionally in cases of gastric ulcer, and consecutive stenosis of the pylorus, also in a patient with stenosis of the duodenum, in syphilis of the stomach and in a case of probably carcinomatous stenosis of the large intestine. On the other hand, the blood was found constantly in a third group of cases which included all of carcinoma of the stomach—a total of twenty. Independently of the chemical composition of the stomach contents or of the motor functions of the organ, blood was found invariably in the stomach contents in these cases, although the closest examination failed to reveal the presence of blood by ordinary tests. Blood was also found in the stools at the same time, but was not macroscopically apparent. The traces of blood were rendered evident by Weber's guaiacum test, described in the *Berlin Klinische Wochenschrift*, 1893, No. 19. It is more reliable and sensitive than any other chemical, spectroscopic or microchemical reaction. This "occult hemorrhage" is not a very important diagnostic point in itself, but combined with others, it affords a valuable corroboration of other diagnostic measures for the determination of carcinoma or ulcer of the stomach, differentiating them from a gastric neurosis. Traces of blood in the feces are equally significant. Boas has noted macroscopically evident hemorrhage in 36 per cent. of 100 cases of certain carcinoma of the stomach. The discovery of these occult hemorrhages suggests that perhaps they are the most important cause of the marasmus accompanying carcinoma. Such patients are bleeding to death by droplets, and it may be possible by appropriate medication to arrest this tendency and thus prevent this waste of the vital fluid.

[Simon describes the guaiacum test for blood in urine as a mixture of equal parts of tincture of guaiacum and oil of turpentine, which has been ozonized by exposure to the air. It is allowed to flow carefully along the side of a test tube upon the urine to be examined, in such a manner as to form a distinct layer above the urine. In the presence of blood pigment a white ring, which gradually turns to blue, will be seen to form at the surface of contact.—Ed.]

Therapie der Gegenwart (Berlin), May.

**Treatment of Hammer Toe.** F. Karewski.—This annoying condition can be cured without danger of recurrence, by exposing the contracted flexor tendon through a longitudinal plantar incision, and opening the joint, severing the tendon. The phalanges are then made to protrude from the wound by hyperextension, and the articulating surfaces are trimmed with bone-cutting forceps until they are in easy contact with each other without tension of the soft parts. There is no recurrence of the deformity with this technique, which Karewski has been following for ten years.

Therapeutische Monatshefte (Berlin), May.

**Influence of Certain Substances on the Gastric Secretions.** A. Herzen.—The writer's experiments demonstrate that ordinary dextrin and Liebig's extract of beef have a powerful action in stimulating the secretion of gastric juice and in the production of pepsin, if administered in the amount of 25 to 50 gm. at a time. The dextrin increases the production of pepsin while the beef extract affects pre-eminently the secretion of gastric juice. Alcohol has also a powerful effect in promoting the secretion of the gastric glands, but has no peptogenic power. Even introduced by the rectum, this elective influence on the gastric glands is strikingly apparent. Chemically pure, white dextrin does not affect the gastric secretions, but the allied carbohydrates, inulin and liver-glycogen, seem to possess marked peptogenic power, but even with as much as 25 to 59 gm. there is no stimulation of the gastric secretion. If after their ingestion, however, 5 c.c. of alcohol are administered by the mouth or rectum, a gastric juice extremely rich in pepsin is secreted in abundance. The physician by these means is enabled to control the gastric secretions at will. The detailed report of the experiments and tests was published in a recent issue of *Pflueger's Archiv*.

**Treatment of Puerperal Fever.** Aufrecht.—The success obtained by Aufrecht in the treatment of croupous pneumonia with the subcutaneous injection of quinin, and the fact observed that pneumonia occurring in the lying-in period is frequently accompanied or followed by puerperal fever, suggested that the injections of quinin might prove as effective in the latter affection as in the former. Three years of experience have confirmed the truth of these premises and demonstrated the great value of this method of treating puerperal fever, which Aufrecht now urgently recommends to the profession. All cases

of puerperal endometritis in his service are treated by intrauterine injection of a 2.5 per cent. solution of carbolic acid, whenever the temperature reaches 39 C., repeated two or three times in the twenty-four hours. The fluid must be warm and the injecting catheter be provided with a deep groove on the outside for the escape of the fluid, which is caught and measured as it emerges from the vagina. The quinin is injected in the proportion of .5 gm. quinin hydrochlorate in 17 gm. of warm water in the side of the abdomen, into the subcutaneous connective tissue, the needle held perpendicularly as the patient reclines.

**Necessity of Isotonic Solutions for Local Anesthesia.**—The disturbances noted after the injection of cocain or eucain are due to the fact that the fluids are not isotonic with the blood serum. They can be entirely obviated if the solution is rendered isotonic by adding salt. Braun and Heinze in recent works have recommended the formula: Eucain B .1: sodium chlorid .8 and distilled water 100, at body temperature.

Zeitschrift f. Orthopaedische Chirurgie (Stuttgart), ix, 1,

**Treatment of Severe Scoliosis.** C. DEUTSCHLAENDER.—Scoliosis is not merely a lateral curvature of the spine but is frequently also a horizontal, frontal or sagittal torsion. Since this fact has been understood the results of treatment have been better. Correction of the deformity can be accomplished in most cases unless there are irreparable lesions. The indifference and scepticism of many physicians in regard to the curability of severe scoliosis have driven many patients to charlatans. A trained eye and clear understanding of the pathologic conditions are necessary to individualize treatment to the case. The prognosis is of course better during the periods of rapid growth, but even in adults the results justify treatment, although one and a half to two years may be required or even more. The spinous processes are no indication of the extent of the distortion. Specimens are illustrated showing that the processes may be almost on a straight line, while the rest of the spine is extremely distorted. The shape and position of the ribs are dependent on the spine and, therefore, the condition of the latter can best be estimated by the arcs of the ribs and their oblique diameters. The contracted and rigid muscles are first restored to normal by gymnastic exercises and the spine mobilized. In the mobilizing exercises efforts must be directed to transform the irregular, slanting ellipsoid formed by the deformed arcs of the ribs, with its unequal diameters, into a regular oval as in normal conditions, with both diameters equal. The Schulthess pendulum apparatus is the most effective for this functional correction, but good results are obtained with less expensive appliances, especially the sloping plane and the Hoffa-Barwell sitting frame. The plaster cast is applied in the latter, an assistant pressing the thorax into the correct shape. The cast holds the entire spine in extension, fitting close under the lower jaw and ears, but allowing considerable motion of the arms. It should not be taken off for eight to twelve weeks and then only with extreme care, the patient reclining at first all day, not even bathing. The fifth day the patient can get up for an hour and after a week he need not stay in bed, but gradually return to the mobilizing and strengthening exercises. The physician should see the patient two or three times a year thereafter and the latter should take a month's course of gymnastics and massage every year if possible.

## Books Received

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hematology. By James Ewing, A.M., M.D., Professor of Pathology in Cornell University Medical College, New York City. Illustrated with 30 Engravings, and 14 Colored Plates drawn by the Author. Cloth. Pp. 432. Price, $3.50. Philadelphia and New York: Lea Brothers & Co. 1901.

INDUCTION COILS. How to make, use and repair them, including Ruhmkorff, Tesla, and Medical Coils, Roentgen Radiography, Wireless Telegraphy, and Practical Information on Primary and Secondary Battery. By H. S. Norrie, Second Edition, Revised and Much Enlarged. Cloth. Pp. 269. Price, $1.00. New York: Spon and Chamberlain. 1901.

ORAL SURGERY. A Text-Book on General Medicine and Surgery as Applied to Dentistry. By Stewart Le Roy McCurdy, A.M., M.D., Professor of Anatomy and Surgery, Pittsburg Dental College. Cloth. Pp. 368. Price, $3.00 net. Pittsburg, Pa.: The Calumet Publishing Co. 1891.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Twelfth Session, Held at Washington, D. C., May 1, 2 and 3, 1900. Edited by Walter Lester Carr, M.D. Volume XII. Cloth. Pp. 249. Reprinted from *Archives of Pediatrics*. 1900.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY, 1900. One Hundred and Eighth Annual Convention, held at New Haven, May 23 and 24. Cloth. Pp. 394. Published by the Society. 1900.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS. Transactions of the Tenth Annual Meeting, held at Atlantic City, N. J., June 4, 1900. Paper. Pp. 71. Easton, Pa.: Chemical Publishing Co. 1901.

HEALTH AND HYGIENE FOR THE HOUSEHOLD. By John Joseph Nutt, B.L., M.D., Member of the American Medical Association. Cloth. Pp. 69. Price, $0.50. New York: The Abbey Press.

MUNICIPAL SANITATION IN THE UNITED STATES. By Charles V. Chapin, M.D., Superintendent of Health of the City of Providence. Cloth. Pp. 970. Price, $5.00. Providence, R. I.: Snow and Farnham. 1901.

## The Public Service

### Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 16 to 22, 1901, inclusive:

Aristides Agramonte, contract surgeon, is relieved from further duty on the board investigating infectious diseases prevalent in the Island of Cuba, and will report to the commanding general of the Department of Cuba for assignment.

Dallas Bache, colonel and asst. surgeon-general, U. S. A., sick leave of absence extended; relieved from further duty in the office of the Surgeon-General of the Army.

Charles N. Barney, contract surgeon, member of board at Fort Monroe, Va., to determine the fitness of officers of the Army for promotion.

Louis Brechemin, major and surgeon, U. S. A., relieved from duty on examining board at Denver, Colo.

George E. Bushnell, major and surgeon, U. S. A., member of an examining board at Denver, Colo., vice Major Louis Brechemin, surgeon, U. S. A., relieved.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., member of a board at Fort Myer, Va., to examine officers of the Army for promotion.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., to examine officers of the Army for promotion.

Joseph J. Curry, captain and asst.-surgeon, Vols., from the Army and Navy General Hospital, Hot Springs, Ark., to Manila, P. I., via San Francisco, Cal., for duty as a member of the board to investigate tropical diseases.

William B. Davis, major and surgeon, U. S. A., member of a board at Fort Meyer, Va., to examine officers of the Army for promotion.

William H. Forwood, colonel, asst. surgeon-general, U. S. A., on being relieved from duty as chief surgeon, Department of California, to report in person to the Surgeon-General for duty in his office.

Charles M. Gandy, captain and asst.-surgeon, U. S. A., former orders amended so as to direct him to proceed from Fort Slocum, N. Y., on the transport *Ingalls*, via the Suez canal, to Manila, P. I., for duty in the Division of the Philippines.

Luther B. Grandy, major and surgeon, Vols., leave of absence extended.

Frederick N. C. Jerrauld, contract surgeon, from Buffalo, N. Y., via Seattle, Wash., to Fort St. Michael, Alaska, for duty in the Department of Alaska.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in San Francisco, Cal., to examine officers of the Army for promotion.

John A. Metzger, major and surgeon, Vols., leave of absence extended.

R. M. O'Reilly, lieut.-col. and deputy surgeon-general, U. S. A., member of a board at Fort Monroe, Va., to determine fitness of officers of the Army for promotion.

George P. Peed, captain and asst.-surgeon, Vols., leave of absence extended.

Ira A. Shimer, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

Edward D. Sinks, captain and asst.-surgeon, Vols., recently appointed, and now at Batavia, Ohio, to proceed to Manila, P. I., via San Francisco, Cal., for assignment in the Division of the Philippines.

Richard P. Strong, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Eugene L. Swift, captain and asst.-surgeon, U. S. A., to report in person to the president of the examining board in Washington, D. C., for examination for promotion.

Frederick A. Washburn, Jr., major and surgeon, Vols., recently appointed, and now on leave, to proceed to Manila, P. I., via San Francisco, Cal., for duty in the Division of the Philippines.

Jean C. Whitney, contract dental surgeon, from Washington, D. C., to Manila, P. I., via San Francisco, Cal., for duty in the Division of the Philippines.

Allie W. Williams, lieutenant and asst.-surgeon, U. S. A., from Fort Columbus, N. Y., to duty at Fort Logan, Colo.

Francis A. Winter, captain and asst.-surgeon, U. S. A., from San Francisco, Cal., to Fort Sheridan, Ill., for post duty.

Appointments, promotions and other changes in the regular and volunteer medical forces of the Army, reported from the Adjutant-General's Office, April 15 to May 15, 1901:

During the month ending May 15, 1901, the following promotions and other changes in the status of medical officers of the regular and volunteer forces were reported from the office of the Adjutant-General of the Army. Previous changes of this character were published in THE JOURNAL of May 11, 1901:

*Appointments, Regular Army.*—None.

*Promotions, Regular Army.*—Lieutenant-Colonels Henry Lippincott and Calvin DeWitt, deputy surgeons general, to be colonels and assistant surgeons general, the former to date from April 13, the latter from May 7, 1901; Majors Charles K. Winne and Timothy E. Wilcox, surgeons, to be lieutenant-colonels and deputy surgeons general, the former to date from April 13, the latter from May 7, 1901; Captain Charles E. Woodruff, asst.-surgeon, to be surgeon, with the rank of major, to date from April 13, 1901.

*Retirements, Regular Army.*—Colonel Charles C. Byrne, assistant surgeon-general, May 7, 1901, be having attained the age of 64 years.

*Appointments, Volunteers.*—To be surgeons with the rank of major: Ernest K. Johnstone, of California, April 11, 1901; Captain Charles Lynch, asst.-surgeon, U. S. A., April 22, 1901; Samuel C. de Krafft, of Maryland, April 26, 1901; Captain Isaac W. Brewer, asst.-surgeon, U. S. Vols., May 7, 1901; Captain George P. Peed, asst.-surgeon, U. S. Vols., May 7, 1901; William L. Whittington, of Missouri, May 7, 1901; William D. Bell, of New York, May 7, 1901, and Lawrence C. Carr, of Ohio, May 7, 1901. To be assistant-surgeons, with the rank of captain: Edward D. Sinks, of Ohio, and Abraham D. Williams, of Florida, May 7, 1901; Luther P. Howell, of Ohio, and Leonard K. Graves, of New York, April 15, 1901; A. A. Surgeon Joseph C. Garlington, March 13, 1901; Roger P. Ames, of Louisiana, April 18, 1901; Howard A. Grube, of Michigan, April 16, 1901; Samuel T. Weirick, of Missouri, April 20, 1901; Michael E. Hughes, of Massachusetts, April 27, 1901; Percy L. Jones, of Tennessee, April 22, 1901; Fred. W. Palmer, of Michigan, and H. Brookman Wilkinson, of Alabama, May 4, 1901. Hospital Steward, to be assistant surgeon with the rank of first lieutenant, 34th Regiment of Infantry: Eliphlet C. Baldwin, April 13, 1901.

*Promotions, Volunteers.*—Captain Abram L. Haines, asst.-surgeon 31sts Infantry, to be surgeon with the rank of major, April 5, 1901; Captain Harold L. Coffin, asst.-surgeon 39th Infantry, to be surgeon with the rank of major, March 22, 1901; Captain William D. Bell, asst.-surgeon, 42d Infantry, to be surgeon with the rank of major, February 2, 1901; Captain Charles L. Furbush, asst.-surgeon, 44th Infantry, to be surgeon with the rank of major, April 2, 1901; First Lieutenant Richard S. Griswold, asst.-surgeon, 26th Infantry, to be asst.-surgeon, with the rank of captain, April 24, 1901; First Lieutenant Joseph L. Sanford, asst.-surgeon, 29th Infantry, to be asst.-surgeon, with the rank of captain, March 21, 1901; First Lieutenant Charles M. Galbraith, asst.-surgeon, 47th Infantry, to be asst.-surgeon, with the rank of captain, March 23, 1901, and First Lieutenant William W. Purnell, asst.-surgeon, 48th Infantry, to be asst.-surgeon, with the rank of captain, April 23, 1901.

*Honorably Discharged, Volunteers.*—Major George H. Penrose, surgeon, April 19, 1901.

*Commissions Vacated by New Appointments, Volunteers.*—By promotion to major and surgeon, U. S. A., Major Walter D. McCaw, surgeon, 42d Infantry, February 2, 1901. By appointment as major and surgeon, U. S. Volunteers: Major Franklin A. Meacham, surgeon, March 22, 1901; Major William F. Lippitt, Jr., surgeon, 44th Infantry, April 2, 1901; Major Charles M. Drake, surgeon, March 23, 1901; Major Henry F. Hoyt, surgeon, March 24, 1901; Major Samuel T. Armstrong, surgeon, March 22, 1901; Major William F. de Needeman, surgeon, March 22, 1901; Major Ira C. Brown, surgeon, March 27, 1901; Major Frederick J. Combe, surgeon, April 17, 1901; and Captain Frederick A. Washburn, Jr., asst.-surgeon, 26th Infantry, April 24, 1901. By promotion to captain and asst.-surgeon, U. S. Volunteers: Captain Howard A. Grube, asst.-surgeon, 48th Infantry, April 23, 1901; First Lieutenant Thomas T. Jackson, asst.-surgeon, 44th Infantry, April 13, 1901; and First Lieutenant Laurel B. Sandall, asst.-surgeon, 42d Infantry, March 25, 1901.

*Mustered Out of Service, Volunteers.*—Captain Albert II. Eber, asst.-surgeon, 30th Infantry, April 3, 1901, and Major James E. Shellenberger, surgeon; Captain H. Brookman Wilkinson, asst.-surgeon, and First Lieutenant Eliphlet C. Baldwin, asst.-surgeon, all of the 34th Infantry, April 17, 1901.

*Appointments Declined, Volunteers.*—By Major Herbert W. Cardwell, surgeon, U. S. Volunteers, the appointment of major, surgeon, March 22, 1901; Major Charles F. Mason, surgeon, 26th Infantry, the appointment of major, surgeon, April 24, 1901; Capt. Charles L. Furbush, asst.-surgeon, 44th Infantry, the appointment to major, surgeon, March 31, 1901; First Lieutenant Loren B. T. Johnson, assistant surgeon, 36th Infantry, the appointment of captain, asst.-surgeon, April 10, 1901; A. A. Surgeon Thomas C. Stunkard, U. S. A., the appointment of captain, asst.-surgeon, April 11, 1901; A. A. Surgeon Harry S. Moore, U. S. A., the appointment of captain, asst.-surgeon, March 20, 1901; A. A. Surgeon Verdo B. Gregory, U. S. A., the appointment of captain, asst.-surgeon, April 15, 1901; A. A. Surgeon Thomas W. Bath, U. S. A., the appointment of captain, asst.-surgeon, March 28, 1901; A. A. Surgeon Joseph C. Garlington, the appointment of captain, asst.-surgeon, March 21, 1901; A. A. Surgeon James B. Pascoe, U. S. A., the appointment of captain, asst.-surgeon, March 25, 1901; Nelson Miles Black, of Wisconsin, the appointment of captain, asst.-surgeon, April 29, 1901.

## Navy Changes.

Changes in the Medical Corps of the Navy for week ended May 25:

P. A. Surgeon R. M. Kennedy, ordered home from the *Bennington*, via public conveyance.

Asst.-Surgeon M. V. Stone, detached from the *Buffalo*, and ordered home to wait orders.

Asst. Surgeon C. H. DeLancy, detached from the *Bancroft*, when put out of commission, and ordered to the *Buffalo*.

Asst.-Surgeon F. M. Furlong, ordered home via public conveyance.

Asst.-Surgeon D. B. Kerr, ordered home, via public conveyance.

Asst.-Surgeon E. J. Grow, ordered home via public conveyance.

Asst.-Surgeon D. G. Beebe, ordered home via public conveyance.

Asst.-Surgeon C. D. Langhorne, ordered home, via public conveyance.

Asst.-Surgeon J. Stepp detached from the *Castine* and ordered to the *Isla de Luzon*.

Asst.-Surgeon E. J. Grow, detached from the *Isla de Luzon* and ordered to the *Castine*.

Asst.-Surgeon E. Thompson, detached from the *Solace* and ordered to the *Petrel*.

Asst.-Surgeon R. W. Plummer, detached from the *Petrel* and ordered to the *Nashville*.

Asst.-Surgeon F. M. Furlong, order detaching from *Brutus* and ordered to Guam, L. I.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 23, 1901:

Surgeon C. T. Peckham, granted leave of absence for thirty days from April 19, on account of sickness. Granted thirty days' extension of leave of absence, on account of sickness from May 20.

Surgeon A. H. Glennan, to rejoin station at Habana.

P. A. Surgeon C. P. Wertenbaker, to proceed to Meridian, Miss., for special temporary duty.

P. A. Surgeon J. B. Greene, granted five days' extension of leave of absence.

Asst.-Surgeon C. E. Decker, granted leave of absence for ten days from May 11, on account of sickness.

Asst.-Surgeon Taliaferro Clark, granted leave of absence for thirty days from May 22.

Asst.-Surgeon G. M. Corput, to proceed to South Atlantic quarantine. Granted leave of absence for one month.

A. A. Surgeon J. C. Rodman, granted leave of absence for four days.

A. A. Surgeon A. W. Slaughter, granted leave of absence for four days from June 4.

BOARD CONVENED.

Board convened to meet at Washington, D. C., May 20, 1901, for the purpose of making physical examination of applicants for cadetship in the Revenue-Cutter Service. Detail for the board; Surgeon L. L. Williams, chairman; Asst.-Surgeon B. S. Warren, recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 24, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Alaska: May 11, Hoonah, 15 deaths; Killisnoo, 4 cases.
California: Los Angeles, April 27-May 11, 12 cases; San Francisco, May 4-11, 6 cases.
Illinois: Chicago, May 11-18, 6 cases.
Indian Territory: Coalgate, May 11, 65 cases.
Kansas: Wichita, May 4-18, 37 cases.
Kentucky: Lexington, May 11-18, 4 cases.
Louisiana: Baton Rouge, May 5-12, 2 cases, 1 death; New Orleans, May 11-18, 9 cases, 2 deaths.
Massachusetts: Boston, May 11-18, 10 cases; New Bedford, May 16-18, 5 cases.
Michigan: Detroit, May 11-18, 58 cases.
Minnesota: Minneapolis, May 4-11, 23 cases.
Nebraska: Nebraska City, March 30-April 6, 2 cases; April 20-27, 3 cases; South Omaha, April 23-May 21, 36 cases.
New Hampshire: Manchester, May 11-18, 4 cases.
New Jersey: Jersey City, May 5-19, 15 cases; Newark, May 11-18, 4 cases, 1 death.
New York: New York, May 11-18, 105 cases, 13 deaths.
Ohio: Cincinnati, May 10-17, 9 cases, 1 death; Cleveland, May 11-18, 54 cases; Youngstown, May 4-18, 2 cases.
Pennsylvania: May 11-18, Lebanon, 4 cases; Philadelphia, 3 cases, 1 death; Pittsburg, 2 cases; Steelton, 2 cases; Williamsport, 1 case.
Tennessee: May 11-18, Memphis, 12 cases; Nashville, 3 cases.
Utah: Salt Lake City, May 4-11, 7 cases.
Washington: Tacoma, May 1, 1 case from Vashon Island.
West Virginia: Wheeling, May 11-18, 8 cases.
Wisconsin: Fond du Lac, May 11-18, 1 case.
Hawaii: Kauai, Lihue, April 23, 1 case; Waimea, May 6, 1 case.
Porto Rico: Ponce, May 6-13, 3 cases; San Juan, May 4, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, April 20-27, 4 cases.
Belgium: Antwerp, April 20-27, 5 cases.
France: Rheims, April 8-15, 2 cases.
India: Bombay, April 16-23, 6 deaths; Calcutta, April 13-20, 93 deaths; Karnchi, April 14-21, 4 cases, 3 deaths; Madras, April 13-19, 11 deaths.
Malta: April 14-20, 1 case.
Russia: Moscow, April 14-21, 6 cases, 2 deaths.
Odessa, April 20-27, 5 cases, 3 deaths; Warsaw, April 13-20, 4 deaths.
Spain: Malaga, April 16-20, 1 death.

YELLOW FEVER.

Cuba: Havana, May 6-11, 2 cases.

CHOLERA.

India: Bombay, April 16-23, 4 deaths; Calcutta, April 13-20, 96 deaths; Madras, April 13-19, 1 death.

PLAGUE.

Africa: Cape Town, to April 14, 201 cases, 118 deaths.
China: Hongkong, March 23-April 6, 31 cases, 28 deaths.
India: Bombay, April 16-23, 459 deaths; Calcutta, April 13-20, 389 deaths; Karachi, April 14-21, 270 cases, 238 deaths.
Japan: Nagasaki, April 17, 1 death.

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## Address.

### THE NATURAL METHOD OF TEACHING THE SUBJECT OF MEDICINE.*

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There are three great groups of studies in the medical school. The first includes the mechanism of the normal body; the second, a knowledge of the abnormal; the third, a knowledge whereby deviations from the normal may be prevented and rectified.

To become acquainted with the structure and functions of the normal body, the student spends two or more years in the laboratories, and this part of his work has, within the past quarter of a century, not only increased enormously, but a complete revolution has been effected in the methods of instruction. Much more difficult is it to give to the student a thorough training in the other great groups of studies, and I think among teachers there is a feeling that the work along these lines has not progressed quite so satisfactorily as it has in the subjects embraced in the first group. I wish to tell a plain tale of the method of teaching medicine at the Johns Hopkins University. There is nothing very novel about it, except that in the third and fourth years the hospital is made the equivalent of the laboratories of the first and second; and in it the student learns the practical art of medicine. This may be called the natural mode of teaching the subject.

Ask a practitioner of twenty years standing how he has become proficient in his art, he will reply, by constant contact with disease; and he will add that the medicine he learned in the school was totally different from the medicine he learned at the bedside. The graduate of a quarter of a century ago went out with little practical knowledge, which increased only as his practice increased. In the natural method of teaching the student begins with the patient, continues with the patient, and ends his studies with the patient, using books and lectures as tools, as means to an end. The student starts, in fact, as a practitioner, as an observer and repairer of disordered machines, with the structure and orderly functions of which he is perfectly familiar. A mechanism of astounding perplexity, the human body is subject to so many accidents and derangements that no worker, however skilful, can deal with all, and the apprentices can only know well a few of them, but he can learn principles of action, and can be taught how to repair the more important of the disorders to which the machine is liable.

Novel conditions confronted us in planning the work of the Johns Hopkins Medical School. The physiological and pathological laboratories had been organized for many years, and the hospital had been open for four years before the school proper was established. The students were carefully selected, having had a previous training in the sciences. Most helpful of all, there were no traditions to consider in arranging the curriculum, which as laid down by the University, embraces a three years' preliminary course (in which the sciences and modern languages are the main subjects), followed by a four years' medical course, the first two of which are devoted to anatomy, physiology, pharmacology, physiological chemistry and pathology, and the third and fourth to the subjects of medicine, surgery, obstetrics and the specialties.

A word first as to the general arrangement of the department of medicine. The personnel consists of a professor, who is ex-officio in charge of the medical department of the hospital, an associate professor, and a corps of instructors and assistants. The number of beds in the medical wards ranges from 100 to 125, and there is a large out-patient department. There are eight resident physicians on the medical staff, four appointed annually from the graduating class as internes, and four seniors, more or less permanent; the first assistant (the associate in medicine), upon whom devolves the main responsibility of the service in the absence of the professor; the second assistant, who has charge of the private patients and helps in the ward teaching; the third assistant, who has charge of the clinical laboratory and takes the class in clinical microscopy; while the fourth assistant is bacteriologist to the service and has charge of the isolation ward. These senior assistants are encouraged to remain as long as possible, and they are most essential factors in the scientific work and in the teaching. The out-patient medical department is in charge of the associate professor, with a corps of instructors and assistants.

The work of teaching is conducted in the following manner:

I. PRELIMINARY INSTRUCTION IN NORMAL DIAGNOSIS.

As a teacher can take nothing for granted in a medical student, there is given in the last term of the second year a brief preliminary course, dealing with the application of anatomy and physiology to practical medicine, more particularly with reference to the heart and lungs. The student is instructed how to study the sounds of the heart in health, and the characters of the respiratory murmur, and the anatomical relations of the organs to the surface markings are carefully considered. While instruction of this sort really belongs to anatomy and physiology, there are advantages in having it taught with clinical application, so that the associate professor of medicine, Dr. Thayer, holds these demonstrations and practical exercises.

II. THE WORK OF THE THIRD YEAR.

We take as our motto the old maxim: "The whole art

* The Annual Address delivered before the Society of Internal Medicine, Chicago, May 15, 1901.

of medicine is in observation." The work consists in, first, the training of the senses in the observation of disease; secondly, courses in physical diagnosis and clinical microscopy; and, thirdly, practical work in history taking, fourthly, the general medical clinic in the amphitheater.

*(a) The Observation Class.*—The student must first be taught to observe and can not do better than begin his acquaintance with disease among out-patients. A man with typhoid fever in bed, scoured and cleaned, looks very different from the poor fellow who totters into the dispensary. Connected with the examining rooms of the out-patient department is a large room, in which a class of seventy-five can be easily accommodated. Here at 12 o'clock on three days of the week is held what we call an observation class. Three or four cases are examined in the hour by students taken in rotation. The student asks the questions, repeats the answers and makes the examination. He is taught to use his senses in a simple and orderly manner. The seeing eye and the feeling finger are products of long training. How to see and what to see, how to touch and what to touch constitute the main lesson of the hour. Locke well remarks: "Nicely to observe the history of diseases in all their changes and circumstances is a work of time,

Figure 1.

accurateness, attention and judgment." A diagnosis is not always reached, and the treatment is not necessarily discussed. The important point is a study of the objective features of the case. Fig. 1 illustrates this class in session. Fig. 2 is from a photograph of the class-book giving the work during part of the month of January. To teach the student to follow the natural history of disease is most essential; a case is not shown to-day and dismissed finally, but I insist that the student shall follow it to the finish. For this purpose each day I begin with a routine question: What have you to report on your cases? Usually four or five minutes are taken in statements relating to patients who have been before the class. A good number of the cases, as you see by one of the columns on the chart, go to the wards, where the students have the privilege of visiting and watching the progress. In cases which return to their homes, the student is encouraged to make a visit at least once a week, or when, as often happens, the patient lives out of town, a correspondence is begun. At the end of each month there is a clinical "round-up." The student whose turn comes, analyzes the material of the month, arranging it systematically. At the end of the session the eight students who have given the monthly "round-ups" meet and make a general report, which is read on the last day of the class. I pass around the book of the last session, which will give you a very good idea of the work, and I give here the following summary:

Cases, 230; deaths, 15; mortality, 6.5 per cent.

| | Cases. | Deaths. |
|---|---|---|
| 1. Specific infectious diseases | 61 | 6 |
| 2. Diseases of the digestive system | 35 | 7 |
| 3. Diseases of the respiratory system | 21 | 0 |
| 4. Diseases of the circulatory system | 32 | 1 |
| 5. Constitutional diseases | 17 | 0 |
| 6. Diseases of blood and ductless glands | 20 | 0 |
| 7. Diseases of kidney | 5 | 1 |
| 8. Diseases of nervous system | 22 | 0 |
| 9. Diseases due to animal and vegetable parasites | 4 | 0 |
| 10. Diseases due to Intoxications | 6 | 0 |
| 11. Pregnancy | 1 | 0 |
| 12. Anatomical and pathological curiosities | 6 | 0 |

Figure 2.

Figure 3.

To get the student into the habit of following the cases is most important, and it adds very much to his interest in the work. In connection with this observation class we unite a certain amount of elementary training. For example, there is a dictionary on the table, and if the meaning of a word is doubtful, if the derivation is needed, or if the pronunciation is wrong the student is asked to look it up for himself. He is also made to help considerably in the teaching by reporting upon certain subjects. Fig. 3 illustrates some of the questions which have been set this session. In the report lucidity and brevity are regarded as the essentials. In looking up the literature of a subject I refer the student either to the "Index Catalogue" or to "Neale's Digest," or very often I give him specific references to the literature. If a book is not in the Library of the Medical School, or in that of the Medical

and Chirurgical Faculty, the librarian sends for it from the Surgeon-General's Library. Two purposes are served: 1, the student is taught how to study a problem in the literature, and he has a chance, if he wishes, to show what he can do with his tongue or pen in presenting the subject; and, 2, both students and teachers often get most useful information. For example, I had never seen nor read the original description of either Basedow or Graves on exophthalmic goiter until a third-year student presented the question before the class. I like to have the original descriptions of diseases presented in this way; Sydenham's account of chorea, Huntington's account of the progressive chorea of adults, Gull's description of myxedema, Addison's paper on the adrenals and his description of pernicious anemia, Bell's account of facial palsy, Colles' law, Corrigan and his cardiovascular relations. For example, not long ago, in prescribing Fowler's solution, I asked a student, who was Fowler? Of course he did not know, nobody else knew, I did not know myself, but last week we had an opportunity of hearing all about him. Then again some of our most interesting reports have related to the use of drugs, as, for example, the history of the introduction of iron into practice; who was Blaud? the composition of the pill that bears his name; the introduction of iodid of potassium into practice. The historical method used in this way has a very valuable place in the class room. I can not too strongly commend to teachers the observation out-patient class for junior students. Not only is the material of the very best sort, but in the long run it is a decided advantage to the patients in a dispensary to be made the subject of instruction for medical students, and, moreover, in an ambulatory clinic the student sees close at hand the unwashed maladies, not the distant prepared and altered picture of the amphitheater. In a class of this sort the patient and the student do the most of the teaching. You will see by the list of diseases that I am not particular; anything will do, so long as it has an educational value. Occasionally a patient comes in whose malady demands a short explanation, but the primary importance of the class is to give the student a practical, objective, first-hand acquaintance with disease.

*(b) Physical Diagnosis and Clinical Microscopy.*—To train students in the use of instruments of precision is a slow and difficult matter. A large portion of the time of the third year is occupied with the class work in physical diagnosis and clinical microscopy. During the first two terms the associate professor of medicine, Dr. Thayer, with a staff of assistants, drills the class systematically in the use of the stethoscope and the methods of examining the heart, lungs and abdominal organs. Here again the out-patients are used in the large teaching room adjacent to the Dispensary. Special cases are also taken from the wards. Plenty of time, oft-repeated opportunities and intelligent supervision of patient and student are the essentials in teaching physical diagnosis. A valuable addition to this teaching is a course in medical anatomy, given by one of the instructors in the anatomical laboratory.

A necessary adjunct to a modern hospital is the clinical laboratory, in which students can work, and in which they study systematically the methods of investigation of the blood, sputa, urine and secretions. Twice a week from two to four in the afternoon, the third-year class is drilled in these methods by Dr. Emerson, the resident physician in charge of the clinical laboratory. Familiarized thoroughly with the use of the microscope by prolonged laboratory courses in histology and pathology in the previous years, the student is ready to appreciate the modern clinical methods for investigating disease which are so essential in diagnosis. Fig. 4 shows the class at work. I may remark that the clinical laboratory is in immediate proximity to the wards, and has accommodation for about 110 students. As each student has his own place throughout the session and his own microscope, the laboratory becomes in reality what its name indicates, and to it the student goes at his leisure to work at his specimens, or for private research. Conducted properly, with a protracted course and ample material, this class becomes one of the most popular, as it certainly is one of the most useful, in the curriculum.

*(c) History-taking.*—To take a good history, to take one in a methodical manner, and last, but by no means the least, to put it down in a legible, attractive manner, takes careful training and much practice. In the observation class opportunities are offered which familiarize the student to a certain extent with the methods of procedure, but during the last term of the course groups of students in rotation take the histories of the out-patients, and these are supervised by the corps of instructors. During the summer small groups of the students are assigned for work in the out-patient rooms, and they in this way are able to get additional practice in this all-important art.

*(d) The General Medical Clinic.*—This part of the work I will describe more fully in a few moments in relation to the work of the fourth year. I may here say that the third-year students participate actively in it. From them the committees on pneumonia and on typhoid fever are selected, and they are sometimes asked to report on special subjects before the class.

In addition to this work in general medicine, we have thought it advisable to place the subject of clinical neurology in the third year. The student comes to it fresh from a very thorough training in its anatomical and physiological aspects and there is no department of medicine in which the practical application of these two scientific branches is more immediate than in diseases of the nervous system. In the neurological dispensary, under Professor Thomas, a very similar method is followed, so that in seeing the work of the clinic twice a week and taking histories they get a very fair knowledge of the more common diseases. Altogether our experience of the past five or six years warrants the conclusion that by this method the junior student is given a good start in the right direction, which, as Plato somewhere remarks, is the chief value of education. The special advantage of the method is that throughout the entire session the student is brought into intimate contact with the patients, and is enabled to familiarize himself quietly, and without any rush or hurry, with the use of the instruments of precision in clinical work. Of course we direct the reading in a certain measure. I encourage them to begin at once to read one of the medical weeklies, and to keep up their French and German by glancing, at any rate, at the *Berliner* or the *Deutsche Medicinische Wochenschrift* and also *La Semaine Médicale* or the *Progrès Médicale*. Sometimes I refer them specifically to a journal article, more frequently to some article in "Allbutt's System," or in "Nothnagel's Handbuch."

III. THE WORK OF THE FOURTH YEAR.

This consists of three distinct parts.

*(a) The Clinical Clerks and Ward Work.*—The group of fourth-year students, which numbers usually between fifty and sixty, is divided into four sections, each one of which serves for two months in rotation in the medical, surgical, gynecological and obstetrical departments of the hospital, either as clinical clerks or as surgical dressers. Six beds are assigned to each clerk, who is responsible for the history of the case, the daily records, and who personally does all the blood and urine work, or any minor operations that are required in connection with the cases. On three mornings of the week, from

Figure 4.

nine to eleven, I make the visit in the wards with the clinical clerks. The histories of the new cases are read, the patient examined, questions asked, and in general a Socratic method of instruction is followed. On the alternate days the associate in medicine and first assistant, Dr. Futcher, takes the group of clinical clerks at the same hour, so that they have routine instruction daily in the wards from nine to eleven. It is in the ward, after all, that the student must learn to recognize and to treat disease. The work of the third year is but preliminary and introductory to a routine daily systematic instruction at the bedside. He has an opportunity of watching the cases day by day, of which indeed, under the supervision of the house physician, he practically has charge. The house physician in each ward is also a teacher, superintending the records, helping the clinical clerks in the conducting of examinations, who receive from him in all directions friendly advice and assistance. Cases of typhoid fever or of pneumonia, studied in this way day by day, give to the student that practical acquaintance with disease, in which the very essence of the teaching of medicine consists. Then he has an opportunity, too, of learning all the minutiæ in practice that are so important—the supervision of the tub-bath, the preparation and giving of enemata, the mode of giving medicines, and the study of their action, all these he sees as a part of the routine work.

I have only one criticism to make. The period of time occupied in medicine is only half as long as it should be, and each senior student should serve in the wards for at least three months, or, better still, for six months. One point has to be taken into consideration. We have adopted the concentration plan, and the group of clinical clerks in medicine when on duty in my wards have that as their major subject, and are not specially pressed by other work, but I feel it would be very much better to extend the length of service.

I meet my clinical clerks one evening in the week

for an hour and a half or two hours and discuss in a friendly, social way the events of the week. This, too, gives me an opportunity to talk for a quarter of an hour or twenty minutes upon some subject of general interest relating to the history of medicine, or to some special disease in which they are interested. Once a week, also, Dr. Futcher, my first assistant, has a general meeting of the house-staff, in which matters relating to the teaching and general work come up for discussion.

We lay much stress and emphasis on the character of the work done in the wards. It counts in the final estimate, and the house physicians and my first and second assistants are consulted with reference to its quality.

*(b) The General Clinic in the Amphitheater.*—At twelve o'clock on Wednesday I hold a clinic at which the general experience of the week is discussed. The clerks are grouped in the arena and the cases of interest are presented. The clinical clerk reads the history and, if it is a fever case puts the chart on the blackboard. Fig. 6 gives a view of the clinic, with the professor and student discussing the problems of a case. I like the clinical clerk and the patient to do the teaching, adding comments here and there, or asking the former questions; sometimes giving ten or fifteen minutes talk on some special feature or on a group of cases. The fatalities of the week are discussed, and the specimens shown, in which way the clinical pathology of the diseases is considered. the mistakes in diagnosis acknowledged and corrected and many valuable lessons learned. Cases are reported which may not have been before the clinic, though many of the third and fourth year classes may have seen them in the Dispensary or in the wards.

As I mentioned, junior and senior students attend this class, and as far as possible we try in it to discuss the great diseases as they come with the seasons. During the first term we discuss malaria and typhoid fever, and at every clinic cases are shown and the features of the diseases discussed. From November 1 to April 1 there is one monotonous bill-of-fare, pneumonia; while in the spring the clinical diet is more diversified. I often tell the members of the observation class that they need to know but one disease well—syphilis—as in mastering it they will grasp a greater range in general and special pathology than in any other affection. In the Wednesday clinic I try to present during the session all the clinical phases, complications and sequelæ of the two great acute infections. typhoid fever and pneumonia. The entire experience of the hospital is presented to them without, so far as is possible, the omission of a single detail of importance. Early in the session committees are appointed to report on certain diseases, particularly those just mentioned. During the months of October, November and December the first question asked at the clinic is: How are the typhoid fever patients? and so far as possible every case presenting features of interest is, if not shown at the clinic, reported upon on or after the lecture. Dr. Futcher takes a group to the ward to see the patient, should he be too ill to bring down. On a blackboard, as shown in Fig. 6, the Typhoid Committee puts, in order of occurrence, the complications and sequelæ of the disease, so that we can refer to them, and that the students may copy them for reference. As we have between 80 and 90 cases of typhoid fever during the session, a student in the two years gets a very extensive knowledge of the disease at first hand. Even greater emphasis is laid upon the teaching of pneumonia—the great acute disease, the present "captain of the men of death," to use a phrase of John Bunyan. After December 1 the cases begin to come in, and, week by week, until April, or even until the middle of May, there is the recurring question, How are the pneumonia cases? Week by week the record is placed on the blackboard, as shown in Fig. 7, and the clerks report on the new cases, on the progress of the old, and the lesions of the fatal cases are discussed. Questions of diagnosis, prognosis and treatment constantly arise, and by the end of the session a large amount of concrete, first hand information has been laid before the class. Reference is frequently made to valuable papers in the literature, and I am glad again, and before this Society, of which he is the honored Secretary, to bear witness to the great usefulness of the series of exhaustive papers on pneumonia by Dr. Wells. The table gives the main facts of each case; the arrow indicates a death. As the number increases the mortality is given every week. A final report is made by the Committee at the end of the session, and the cases are arranged in five groups.

1. Croupous pneumonia proper.
2. Ether and surgical pneumonia.
3. Terminal pneumonia.

Figure 5.

4. Cases admitted as pneumonia, or diagnosed as such, but which turn out to be something else.
5. Cases admitted with the complications or sequelæ of pneumonia.

As on an average about 60 cases occur during the session, the student during his third and fourth years gets a fairly comprehensive picture of the disease. And here let me make a brief digression. I would rather teach medicine from pneumonia and typhoid fever cases than from all other diseases put together. They remain the two great acute infections, always with us, and of perennial interest. It would do good if every teacher in the country would devote half the time of his clinic for the next few years to them alone. That we have not done our duty in the matter of typhoid fever, the experience of the Spanish-American War plainly showed. The culpable ignorance on the part of practitioners of well recognized facts about the disease is to be laid at our doors. Half a dozen lectures on the subject, and the demonstration of a few cases in the amphitheater will not give men a working knowledge of the disease, which can only be had by personal contact with patients in the wards. Think of the thous-

ands of cases of typhoid fever in the hospitals of our large medical centers—how small a number are watched from beginning to end by our senior medical students; and yet it is in the wards alone that a saving knowledge of the disease can be obtained. Of the natural history of no other disease is it so vital for the student to have a clear conception. It is a malady, moreover, of such surpassing interest and of such infinite variety; one, too, for which we can do so much, that the better it is known the more successful will the practitioner be in his warfare against it. Of equal importance is it that the student shall know pneumonia thoroughly. I spoke of it a few minutes ago as the captain of the men of death, a term which John Bunyan applied to consumption. In the recent March *Bulletin of the Department of Health,* of Chicago, Dr. Reynolds, the commissioner, shows that here, at least (and I believe the same holds good throughout the country), pneumonia now heads the list as a cause of death. There were more than 25,000 deaths from it during the past decade in this city! Think, too, of the enormous advantages offered by the large hospitals for the study of this

Figure 6.

scourge, and yet here again I know that the student and patient have not always that intimate association which is so essential in successful clinical teaching.

*(c) The Recitation Class.*—Not all diseases can be studied by students practically. Some, as typhus fever, cholera and yellow fever, are rarely seen now-a-days in this country. Others, common enough, as the eruptive fevers of children, are not easy to teach. In the absence of a proper hospital for infectious diseases, we have to take our chances in Dispensary cases and the few admitted to the Isolation Ward. As a rule, students need a supervision of their reading, and for this purpose a recitation class is held for the fourth year, in which every week a specific subject is considered and the students examined by Dr. McCrae, one of the instructors.

This, in brief, is the story of our work in medicine.[1]

1. As I stated, there is nothing new in the method, by which in fact rational medicine was introduced by the Greeks. In a remarkable chapter in his work on "Greek Thinkers," Vol. 1 (Scribners, 1901), Professor Gomperz pays a splendid tribute to the influence of Hippocrates and his colleagues in fostering the growth of positive or rational science. He writes: "It is the undying glory of the medical school of Cos that it introduced this innovation (the habit of careful observation) in the domain of its art, and thus exercised the most beneficial influence on the whole intellectual life of mankind. 'Fiction to the right! Reality to the left' was the battle-cry of this school in the war they were first to wage against the excesses and defects of the nature-philosophy. Nor could it have found any more suitable champions, for the serious and noble calling of the physician, which brings him every day and every hour in close communion with nature, in the exercise of which mistakes in theory engender the most fatal practical consequences, has served in all ages as a nursery of the most genuine and incorruptible sense of truth. The best physicians must be the best observers, but the man who sees keenly, who hears clearly, and whose senses, powerful at the start, are sharpened and refined by constant exercise, will only in exceptional instances be a visionary or a dreamer."

In his advice to students Erasmus urges them to read, first, the best books, and I am firmly convinced that the best book in medicine is the book of Nature, as writ large in the bodies of men. You remember the answer of the immortal Hunter, when asked what books the student should read in anatomy—he opened the door of the dissecting-room and pointed to the tables. Erasmus further adds that the important thing is not how much you know, but the quality of what you know, and in the natural method of teaching medicine the quality is certainly of the best, since it is the knowledge grounded in personal experience, and out of which wisdom may arise. That was a keen comment of Tennyson's when he said, "Knowledge comes, but wisdom lingers," indicating the difference between the two, a difference never better expressed than in the well-known lines of Cowper:

> "Knowledge and wisdom, far from being one,
> Have ofttimes no connection. Knowledge dwells
> In heads replete with thoughts of other men;
> Wisdom in minds attentive to their own.
> Knowledge is proud that he has learned so much;
> Wisdom is humble that he knows no more."

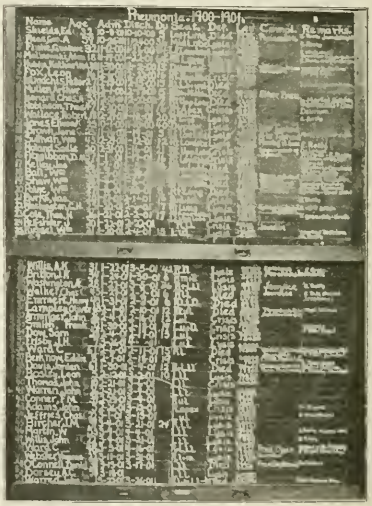


Figure 7.

Here, I believe, is the overwhelming advantage of the plan I have briefly sketched. It starts the student with the avowed object of getting wisdom—the principal thing—the wisdom gained from experience, not simply knowledge gained from books, and a clinical sagacity which may make him a helpful, sensible Doctor. Of this I am assured, that he will be the best

practitioner who begins his life work as a student among patients, learning for himself under guidance how to observe, how to think, learning what disease is and how it is to be treated. Years ago, my preceptor, Dr. Bovell, placed in my hands Latham's "Clinical Medicine," and he marked a passage which contains the alpha and omega of clinical teaching, and with it I will conclude: "In entering this place," speaking of the wards of St. Bartholomew's Hospital, "even this vast hospital, where there is many a significant and many a wonderful thing, you shall take me along with you, and I will be your guide. But it is by your own eyes, and your ears and your own minds and (I may add) your own hearts that you must observe and learn and profit. I can only point to the objects and say little else than 'see here and see there.'"

## RELATION OF THE MEDICAL PROFESSION IN THE TWENTIETH CENTURY TO THE TUBERCULOSIS PROBLEM.*

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At no epoch in medical history has the tuberculosis problem been treated by the medical profession with more energy, more enthusiasm, and more success than at the present time. This awakening to the danger of tuberculosis, particularly in its pulmonary form, consumption, is primarily the result of the labors of four great men, Villemin[1], Koch,[2] Cornet,[3] and Fränkel.[4] It was Villemin who first showed beyond a shadow of doubt the transmissibility of tuberculosis and its infectious character. To Koch we are indebted for the proof of the microbic origin of tuberculosis; to Cornet and his pupils for the demonstration of the infectiousness of tuberculous dust, and to B. Fränkel for the very interesting experiments in drop infection.

From the works of the men whose names we have just mentioned we learned not only the true etiologic character of tuberculosis, but also how to prevent infection. The prophylaxis of tuberculosis has become an exact science and is now practiced in all civilized countries with more or less rigor. Wherever it is practiced with the greatest rigor the mortality from consumption has correspondingly decreased.[5] Thus we have in Paris 4.9 deaths from phthisis pulmonalis for every 1000 inhabitants, in Vienna 3.81, in New York 2.26, in Berlin 2.19, and in London only 1.87 deaths from consumption in every 1000 inhabitants.

The curability of tuberculosis was pathologically demonstrated as early as 1838, when Carswell[6] wrote "pathological anatomy has, perhaps, never given more decisive proofs of the curability of a disease than it has given for pulmonary consumption." Clinical evidence goes as far back as to the Arabian school. Avicenna,[7] who lived from 980 to 1037, and his pupils recorded the first authentic cures of the disease. It seems, however, in spite of the teachings of the masters of old, that up to the middle of last century the medical men as well as the laity gradually came to consider consumption a divine visitation, in the face of which all they could do was to fold their hands and await the fatal termination.

Through the genius of Hermann Brehmer this nightmare of the incurability of consumption was at last dispelled. His thesis for the final degree of Doctor of Medicine, "Tuberculosis primis in stadiis semper curabilis," is characteristic of the man's life work.[8] He not only cured himself of consumption, but during the thirty years of his directorship of the Goerbersdorf sanatorium he cured thousands of patients suffering from pulmonary tuberculosis, and made happy men and women of them and useful members of society. The service which his most celebrated pupil, Dr. Dettweiler, rendered to modern phthisiotherapy by inaugurating the rest-cure in the open air, is certainly equally great.[9] The Brehmer-Dettweiler method, which represents the open air and hygienic and dietetic treatment of consumptives under constant medical supervision, must really be considered up to this date the only rational treatment, the one which has given thus far the best and most satisfactory results.

To our own country belongs the honor of first having given the benefit of this most rational treatment of consumption, not only to the well-to-do but also to the unfortunate sufferers of limited or no means. We may well be proud that we can say, the first people's sanatorium for consumptives was begun, seventeen years ago, in the Adirondack Mountains, under the directorship of Dr. E. L. Trudeau,[10] the American pioneer in modern phthisiotherapy. Of the great and good work this man has done we all know. His example has been the incentive to many similar noble enterprises.

The tuberculosis problem in our own country is nevertheless far from being solved. Tuberculosis is and must always be considered not only in a purely medical but also in a social aspect. Without statesmen, without the municipality, without philanthropy, this great tuberculosis problem will never even approach its solution. The bulk of the work, however, must be done by the medical profession, and I may perhaps say right here, not by the specialist, nor the sanitarian or health officer, but by the general practitioner. It is the family physician who sees the early cases of pulmonary tuberculosis, which are the most hopeful ones. By his periodic examinations of all the members of the family he will not only often discover the very earliest signs and symptoms of the disease and institute immediate treatment, but by his familiarity with the constitutions of every one of the family he will inaugurate such preventive measures and treatment as will build up and fortify the only as yet predisposed individual to such a degree that it will make the invasion of the bacilli practically impossible.

It seems as if the tuberculosis problem, viewed in its modern aspect, will help to hasten the time when the physician's calling shall have attained its highest ideal —namely, the prevention of disease. The physician must not only be a healer but also a doctor, that is to say, a teacher. Let us, however, not forget that physicians are men, husbands and fathers, and they want to live and support their families. The true family physician should be paid and well paid for preventing disease. The family who engages him should realize that the timely word of advice concerning the proper mode of living, hygiene and care, is worth a good consultation fee.

I go still further in my views on this subject by saying that even the poorest family should have a family physician whose duty it would be to care for them in case of sickness, but who should also pay them regular visits at any other time as an advisor and teacher of home-hygiene and the proper mode of living. Since the poor family will not be able to pay the doctor for his services, he should be remunerated decently from the public funds.

* Address delivered, by invitation, before the Buffalo Academy of Medicine, Buffalo, N. Y., May 14, 1901.

I know I will be told that this would be Utopian and altogether too expensive to the community. I will refute this statement and prove by figures that it would be cheaper for the community to engage well-trained physicians for families that are not able to pay their own doctor than to wait until they get sick and have to be nursed and cared for at public expense. Since we are speaking of the tuberculosis problem only we will confine ourselves to this one disease. Supposing a large community is obliged to take care of a thousand consumptive poor who come to its institutions in the incurable state of the disease to be nursed and taken care of until they die. The average daily cost of a patient in the hospitals of our American cities is not less than one dollar and a half. The average stay of a poor consumptive when he seeks the public hospital is, as a rule, nine months. From the day of his entrance to his demise he costs the community at the very least $400. For a thousand patients this would make $400,000. It is well known that 75 per cent. of early cases can be cured under proper hygienic and dietetic care in about six to eight months, at a cost of from $1 to $1.25 a day as inmates in a properly conducted sanatorium.

Statistics show that the death-rate from consumption is highest between the ages of 17 and 35, that is to say, at a time when the individual should be a most useful member of the community, self-supporting if not supporting a family. Those familiar with the life of the average American workman will know how he and his family often shrink from the thought of entering a hospital. These men will make all possible sacrifices in order to keep the sick member of the family at home, and provide such medical attendance for him as they are able to procure. But timely and regular medical attendance is rather the exception than the rule among poor families where there is a consumptive invalid. They will first try all kinds of quack remedies, ask their druggist for advice, or, attracted by some glaring advertisement of a sure cure of consumption, fall into the hands of some unscrupulous charlatan.

It is evident that there would not only be a direct benefit to the families of the laboring classes from timely and judicious treatment of any of their consumptive members, either at home or in a sanatorium, but the community at large would be a direct and indirect gainer. By providing medical attendance to families unable to pay a regular physician, or by placing the consumptive patient in time in a sanatorium, the pulmonary invalid has 75 per cent. of chances of cure and is prevented from infecting his own kin and neighbors. Seventy-five out of one hundred consumptive patients will be prevented from becoming burdens to the community. All this would be direct gain to the respective municipality; but the indirect gain to the commonwealth by curing and making strong and useful citizens of seventy-five out of every hundred tuberculous persons who were otherwise doomed to death in the prime of life is well nigh beyond calculation.

There is no doubt in my mind that tuberculosis as a disease of the masses can and should disappear in civilized countries, and it devolves upon us as medical men of the twentieth century to devise means and propose measures to our municipal authorities, state legislatures and philanthropists that will best accomplish this much-desired end. The old Scotch proverb, "an ounce of prevention is worth a pound of cure," is perhaps not more applicable to any disease than to tuberculosis, and particularly to phthisis pulmonalis. We all acknowledge Koch's bacillus as the true etiologic factor in tuberculosis, but we also know that in health the accidental inhalation of a few bacilli, the swallowing of some tuberculous milk, or even a scratch infected with tuberculous matter, are rarely of any consequence. The healthy nasal secretion is bactericidal; the ciliated epithelium of the upper respiratory tract is a physical hindrance to the bacilli. The gastric secretions, too, are, in a large measure, bactericidal, and the phagocytic power of the white blood-corpuscles is, in the healthy individual, the best safeguard against the invasion of the bacilli.

It is the badly-housed, underfed, overworked people, weakened by disease, intemperance and excesses, who soonest fall a prey to the tuberculosis bacillus. We as physicians must insist that the dark, dreary, badly-ventilated tenement home and lodging house should disappear. By giving to the laboring classes better tenements, where sunshine, light and air are plentiful, with at least 600 cubic feet of space allotted to every individual, we will save many a one from becoming tuberculous.

The underfeeding of the poor is perhaps more often caused by ignorance than want. It may be a surprise to some if I say that because of ignorance there is more waste in the families of the poor in cooking and housekeeping than in the families of the well-to-do. To combat this evil it will be necessary to introduce lessons in proper cooking and economic housekeeping into the curriculum of our girls' schools. What is saddest of all is that the underfeeding of the poorer classes extends to the children, especially during their school age, when the organism is growing rapidly and the desire for good and abundant food is most pronounced. The child of poor parents gets up in the morning, takes a hasty breakfast of mush and milk, and then runs off to school with a few crackers in his pocket or a penny or two with which to buy a roll. It is evident that such a child can not resist the invasion of any serious disease, and certainly not that of tuberculosis. The need of giving to children of the poor, while attending school, a substantial meal at lunch time has been realized in some German cities, and in our country in the city of Boston. In the latter city, with the sagacity characteristic of Boston people when dealing with philanthropic problems, these lunches are, however, not entirely free. They feared, and justly so, that to give these lunches away might have a tendency to pauperize. In German cities they give meat sandwiches and a glass of milk; in Boston the lunches furnished to children are mainly nutritious soups, milk or cocoa and crackers, or plain buttered sandwiches. The prices for school lunches, furnished by the New England Kitchen, of Boston, vary from 5 to 10 cents. In German cities where this experiment has been tried, careful statistics have been kept which showed that nearly every one of the children increased in weight from one to two pounds within a very few weeks, and their capacity for intellectual work had increased correspondingly. I have said before that the cause of the malnutrition of the poor is often to be found in ignorance. In a wealthy family, if a child or grown person grows thin in spite of plenty of food, the family physician would be consulted, and not infrequently would discover the cause of malnutrition to be the fact that the food given to the patient was not the proper kind, and with a change in the right direction the patient improves. The poor alone have no one to turn to for advice; they only go to the dispensary when they are really sick; they have neither time nor are they

observant enough to discover slight ailments such as an impaired digestion or lack of assimilation, conditions which are the true forerunners of consumption. I say again, give to every family, too poor to pay for a family physician, the right to select such a one and have the municipality pay for his services, and the commonwealth will be the gainer at the end financially as well as in the saving of life.

Whatever has been accomplished in some of our states in the direction of prohibiting child labor and in the regulation of working hours for adults has been accomplished through sanitary authorities, that is to say, physicians. They solicited the aid of wise statesmen, and thus we enjoy, at least in some communities, humane laws in this respect. We all know, however, how much more is to be done in this direction by taking children under 14 years and child-bearing women from the mines and factories.

Phthisiogenetic diseases, such as smallpox, scarletina, measles, la grippe, are all diseases which the earlier they are discovered the more chance there is of their taking a favorable course. The one who discovers them first among the well-to-do is the family physician. He may discover the early symptoms of these diseases on his regular visit before the sufferer himself has an idea of being a patient. In the family of the poor the disease must be far enough advanced for a layman to discover it before medical aid can be expected. Let me here show the great good which is accomplished by school physicians in communities which are wise enough to inaugurate such truly efficacious methods of preventing disease. I can not plead strongly enough for the employment in every community of a sufficient number of skillful and competent practitioners as school physicians and a reasonable remuneration for their services. The school physician, during his daily inspection of the children, will not only detect acute contagious disease, such as variola, diphtheria, scarlatina, measles, etc., but he will also detect chronic diseases, such, for example, as tuberculosis, and through its early recognition and timely and judicious treatment save the life of many a child. Of course, a regular periodic examination of the chest of all the children would have to be a part of the work of the school physician.

Venereal diseases, excesses and intemperance may be classed under one heading, and may be called a trinity of evils resulting from ignorance. While the social reformer and clergyman may do their grand work in helping to combat them, I claim that here again the family physician has to do the bulk of the work. The latter, who should be, and I am glad to say often is, the confidential friend of every one of the family, old and young, will, more than anybody else, be able to warn the young man of the danger which besets him when starting out in life. If a member of the family has been unfortunate enough to contract a venereal disease, the family physician will see that proper treatment is instituted and all precautions taken to prevent further infection. Again it is the family physician, friend and advisor, who may exert the most beneficent influence on old and young by pointing out to them the danger of excesses of any kind, and particularly intemperance, for let us not forget that alcoholism is one of the most important phthisiogenetic diseases. In European sanatoria for tuberculous and scrofulous children statistics show that more than 25 per cent. of the little inmates are of alcoholic parentage.

The physician acquainted with the tendencies of the individuals entrusted to his care will know when to sound the note of warning. He will be able to combat the idea which, alas! is still very prevalent among the laity, namely, that alcohol is a good remedy for consumption. He will exert all his influence to show that alcohol is not a food, but, when taken in excess, a dangerous, powerful poison, destroying body and soul, undermining the strongest constitution, causing untold misery and want in many once happy and prosperous families. With such a medical advisor given to him by a wise and beneficent government, the honest but poor laborer will be protected from tuberculosis and other diseases, and the moral influence which a true physician can exert in these environments must be of incalculable value to any community.

Now, however, comes the question, what are we to do with the countless individuals with whom prevention is no longer possible because they are already tuberculous? First, we must decide whether or not it is wise to favor compulsory notification or registration of tuberculous cases. If compulsory registration of a tuberculous patient who comes under the observation of a physician should mean additional hardship to the sufferer or his family, I would certainly protest against such procedure. If through such a notification the health officers would have a right to interfere with the hygienic and therapeutic management inaugurated by the attending physician, I would also consider compulsory registration ill advised. On the other hand, I think it most advisable that every physician should be requested, in the interest of statistical as well as demographic science, to report to the respective health authorities the age, profession and residence of every tuberculous individual under his observation. Many of the underlying and not yet quite comprehended causes of some of the predisposing agencies to consumption may thus be discovered and the remedies found. But as I have said, no hardship to the tuberculous patient or his family should arise from this procedure. As long as the patient and his friends obey the instructions given by the physician, so long should they remain unmolested. I think the custom of the New York City Health Board, which furnishes physicians with postal cards for reporting cases, is a most admirable one. These cards read as follows:

REPORT OF CASE OF TUBERCULOSIS.

New York,.. ..... ..190..

Name of Patient ..... Age.....

Sex ..... Occupation .....

Residence .....

Previous cases in family, and relation to patient .....

.....

Do you wish an inspector to visit the premises and instruct the family regarding prophylaxis? Answer yes or no.....

.....M.D.

Residence.....

NOTE.—Cases of tuberculosis will NOT be visited by an inspector from the Department of Health except upon the request of the attending physician.

No reasonable objection can be made to such a procedure. Every conscientious physician will see that his directions are carefully carried out. The Board of Health might, however, aid him if it chose, by sending to the physician reporting cases of tuberculosis leaflets giving needed information to consumptives and those living with them; additional verbal explanation on the part of the attending physician will enhance the value of such instruction leaflets. In case of demise or removal a disinfection of the consumptive's apartments should become obligatory. It may also be necessary, if

the patient or his family wantonly disregards the hygienic precautions necessary to prevent communicating the disease to others, that the attending physician seek the aid of the health officer to enforce a proper hygiene. However, I repeat, let us not exaggerate the contagious nature of tuberculosis by adding unnecessary hardships to the sufferings of the consumptive, his relatives or friends, for pulmonary consumption is, after all, not a contagious but only a highly communicable disease. The contact *per se* of a clean consumptive is not dangerous, nor is there any danger for those who live with such a one. Treat the consumptive who is conscientious and does his very best to protect his fellowmen from infection with the utmost kindness, and do not let him feel as if he was an outcast from society. Let us, as physicians of this enlightened age, be intelligent workers in the antituberculosis crusade, but, I pray, let us not become phthisiophobic, nor encourage phthisiophobia.

Let us educate the whole community to the true nature of consumption. There should not be a city of any size in the Union without a society for the prevention of tuberculosis, and these societies should be in contact with a great national society. It is a sad fact that our great country is still without a national antituberculosis organization. England has its "National Association for the Prevention of Tuberculosis"; France has its "Oeuvre anti-tuberculeuse"; Germany has its "Central Committee for Antituberculosis Work," and even Russia has a "Pirogoff Society for the Study of Tuberculosis." Within your immediate neighborhood, across your beautiful Niagara Falls, you will find an excellent organization under the name of "The Canadian Organization for the Prevention of Tuberculosis," with His Excellency the Earl of Minto, the governor-general, as honorary president, and as president, Sir James A. Grant, M.D., K.C.M.G.

I am delighted to learn that you have such an association in your midst under the name of "The Erie County Anti-Tuberculosis Society," and it seems to me that the Pan-American Exposition would offer a good opportunity to appeal to all existing anti-tuberculosis societies of this continent, or at least of the United States, to combine into the formation of a great American association for the prevention of tuberculosis. It is evident that a great power for good would be exerted through such a national association. The excellent results accomplished by similar societies in other countries should be a great incentive to us for emulation. I trust that from the distinguished president of the Erie County Antituberculosis Society such an appeal for a union will go out, and I am sure it will meet with universal success and appreciation.

You know the aims of these societies are to educate the general public in the prevention of tuberculosis by lectures and the distribution of suitable literature, and to encourage the erection of sanatoria available to all affected. Our Canadian brothers have, however, added to the scope of their work by seeking the coöperation of life insurance companies, benefit societies, railroad companies, factory owners, and other organizations whose material interests would be benefited directly by the work of the association.

Largely through the efforts of one of your own townsmen, my distinguished friend, Dr. John F. Prior, we will soon have in the State of New York, in the Adirondack Mountains, a sanatorium for the consumptive poor. This will, I believe, offer accommodations for from 200 to 300 patients. Buffalo, as the second largest city of the state, will be entitled to the proportional number of fifteen to twenty beds. To use the pictorial language of that great physician, the late Professor Dacosta, of Philadelphia, this must seem like "a drop of relief in an ocean of woe." You should have your own sanatorium, created by your city government and with the help of the philanthropists of your own city. This sanatorium, belonging to Buffalo, should be situated at not too great a distance from the city, but preferably in a well-drained locality where the air is pure and good water abundant. Furthermore, you should have a city hospital for consumptives situated in or near the city, in a healthy spot where there is as little traffic as possible. This institution should serve as a reception hospital for all cases of tuberculosis; the more advanced should be retained here, and those having a fairly certain chance of cure or marked improvement should be sent to the sanatorium. A special city dispensary should be established for the treatment of ambulant tuberculous patients or for the control of such as have left the sanatorium cured or improved. To guard the improved consumptive against relapse, to guide him even after having left the institution, is a very important portion of the solution of the tuberculosis problem.

Besides this there should be a special institution, in a particularly healthy spot, for the treatment of tuberculous and scrofulous children. Let us bear in mind that the cure of a scrofulous or tuberculous child may mean saving the life of a man or woman, for had they not been treated during childhood they might have succumbed to tuberculosis at maturity, or a few years later.

As to the need of such institutions in your city, it would hardly seem necessary to say anything. Every one is acquainted with the situation. You have any number of tuberculous poor in your midst, for whom there is neither hospital nor sanatorium. Many of them live in badly constructed buildings, and being without medical supervision infect their own kin and neighbors besides reinfecting themselves. If they move they leave infected rooms behind them. Dr. Delancy Rochester, Dr. John F. Prior, and a number of others, more familiar with your local situation than I am, have repeatedly urged the establishment of such institutions, and I can only repeat here the forcible words of Dr. Prior, as correctly as I can remember them, when he said: "Let us treat the tuberculous patient at the right place and at the right time when there is still hope for their recovery, and not at the wrong place and the wrong time until they die."

That there is no danger to either nurses or help or to the neighborhood from a well conducted sanatorium or special hospital for consumptives, all those familiar with the institution work know very well. Those who doubt these statements I must refer to the reports of the Adirondack Cottage Sanatorium, where not one case of contagion among the nurses has taken place in the seventeen years of its existence. In localities where German institutions are situated, statistics show that the mortality from tuberculosis has actually decreased in the surrounding villages since the establishment of the sanatoria.[11] The clean habits of the inmates of the institutions, which the villagers imitated, have doubtless been the cause of the improved sanitary condition of the respective villages.

Supposing, then, you would have in your city the institutions enumerated above; if every family, poor or rich, would have its physician, the selection of the

proper cases for the respective institutions would not be difficult. The family physician could coöperate with the institution physician, and the most harmonious work could be accomplished. I have pleaded in the first portion of my paper for the just remuneration of the family physician of the poor by municipal funds, and have shown by figures that the commonwealth would be the gainer by employing and paying competent physicians for this work. It would be unjust should we expect the physicians of tuberculosis sanatoria, hospitals or dispensaries, who labor for the same noble work and also indirectly save thousands of dollars to the public treasury, to do this work for nothing. The Massachusetts State Sanatorium for Consumptives, the only institution of that kind now in operation, pays its visiting and house staff well for their services. This progressive state has learned that it is wise, best and just to do so. Let other states follow this example.

In assuming the state or municipal care of consumptives we must prevent pauperizing. There should be in every community a tuberculosis commission, composed of people skilled in dealing with charity problems. The duty of this commission, which should be in the employ of the city or state, must be to investigate every case applying for free treatment in an institution. It is my belief that if a patient is able to pay the entire or a portion of the expense of his maintenance in a sanatorium, he should be made to do so, providing that the other members of the family remaining at home are thereby not exposed to privation or want.

The scheme whereby the Germans are gradually coming nearer and nearer to the solution of the tuberculosis problem is, I fear, not practicable in this country. There the state invalidity insurance companies, which are under government control, have been the means of reducing the mortality from, and morbidity of, tuberculosis in a most remarkable degree. In Germany, the moment an individual enters upon the career of an ordinary laborer or servant he is obliged to be insured against sickness, accidents and old age. If he develops tuberculosis he is immediately sent to one of the many sanatoria of that country.[12] The government authorities, who are at the head of these state insurance companies, have long since learned that through a timely treatment in a sanatorium the tuberculous individual is most speedily and lastingly cured, and consequently with the least expense.

The insurance companies have erected several sanatoria, but they are not sufficient to accommodate the large number of individuals who avail themselves of the privilege to enter these institutions for treatment. Therefore the insurance companies have made arrangements with no less than seventy-eight German people's and private sanatoria and now have 5000 beds in all at their disposal to which to send their tuberculous invalids.[13] In the United States not even our rich and powerful private insurance companies will insure a member of a tuberculous family, much less a person suffering from incipient phthisis.

In my humble opinion the tuberculosis problem can not be solved in any other way in this country at the present time than by methods I have endeavored to outline. We must consider our social conditions and customs and treat the cause and the effect at the same time. The American general practitioner of the twentieth century must be a physician, sanitarian and teacher of hygiene. His services in preventing disease should be considered as valuable, and more so, than his services in curing disease. The state must compensate him for whatever he does in the promotion of the health and wealth of the community. To the American physician of the twentieth century will then belong the honor of having solved one of the most difficult medical and social problems of our time. High as the ideal of the physician has always been, from the time of Æsculapius to the present, an intelligent American public will, through just and wise legislation, enable the physician of the twentieth century to rise still higher. To be a true doctor, to attain the highest ideal of all, he must not only be a healer but a teacher as well.

16 West Ninety-fifth Street.

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# Original Articles.

## GUMMA OF THE SPERMATIC CORD, WITH REPORT OF A CASE.

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My reason for presenting this short paper is twofold: 1, on account of the interest involved in the study of syphilis *per se*, and 2, on account of the rarity of its manifestations in this particular location, namely, the spermatic cord. Cases have, however, been observed in which a syphilitic enlargement of the cord has been diagnosed. Thus Verneuil[1] has recorded a case of gummatous swelling of the cord in a patient who had also a gumma in the heart. The specimen in this case was presented to the Society of Anatomy of Paris, in 1856. The morbid growth was found, after death, to be the size of two fists; it occupied the scrotum and ascended along the cord as far as the iliac fossa. The growth had been mistaken for a carcinoma during life.

Lancereaux[2] gives details of a case in which, in connection with syphilitic disease of the testis and epididymis, the cord was enlarged and swollen in several places, one of the swellings being as large as a chestnut. Recovery took place under iodid of potassium. Fournier[3] again mentions a case of syphilitic testes where the cord was involved. In inherited syphilis also the cord may be affected. A child under the care of Obedenare,[4] with enlargement of the testis, had also enlargement of the spermatic cord. However, late syphilis seems very rarely to attack the cord independently of the neighboring or connecting structures.

Morrow[5] says, that on one occasion, in the case of a gentleman who had contracted syphilis some years previously, he observed the appearance of a painless, quite

firm tumor which attained the size of an almond, in connection with the cord of the left side, just outside of the external ring. Under mixed treatment this soon disappeared.

Bert[6] reports a case in which both spermatic cords were affected. On one side absorption of the nodules took place under specific treatment, while the nodules on the other side broke down and discharged a gummatous material, the remaining scrotal structures being apparently free from disease.

Heliot[7] reports two cases, the correct diagnosis of which is open to question.

Kocher[8] observed two gummata in the spermatic cord of a patient, one of which was as large as a goose egg.

M. Von Zeissl[9] observed a suppurating tumor of the right side of the scrotum involving the vas deferens. The tumor was irregular, elastic, and of the size of a pigeon egg. The patient presented a relapsing syphilide.

Mauriac[10] describes a case of a solid tumor of the right spermatic cord appearing ten years after the first manifestations of syphilis, and draws attention to the extreme rarity of specific affections of the cord alone.

Reclus[11] reports two cases of syphilitic inflammation of the spermatic cord, with stiffening and rigidity of the vas deferens.

Goldenberg[12] reports an interesting case with microscopic findings of a round, sharply circumscribed, hard mass, apparently cystic to the touch, about 2 cm. in diameter, situated on the left posterior surface of the scrotum, about one-quarter of an inch from the raphé. The testicle and epididymis were perfectly normal.

Brossard[13] says syphilitic gummata are present in the form of small nodules, which are painless, intimately connected with the spermatic cord, surrounded by its tissues, and entirely distinct from the testes. They seem to be smooth and elastic to the touch. In the two cases which came under his observation, they did not show any tendency to soften or to ulcerate; nevertheless, we should not from this conclude that such a course or termination is impossible, or even improbable. His first case died from an intercurrent affection, and in the second case the gumma had been removed by a surgeon a short time after its development.

I report the following case: C. S. presented himself for treatment in 1897, with a history as follows: In the fall of 1890 a sore appeared on the right side and about the middle of the shaft of the penis four weeks after intercourse, followed by enlarged glands, chain-like in character, affecting only the right inguinal region. There was no pain nor tenderness on pressure, and this was followed by a roscola eruption. Early in 1891 mucous patches appeared in the mouth and on the fauces. In 1897, when the patient came under my care, he complained of pain and tenderness along the left tibia from the knee down to the ankle, the pain becoming intensified at night. On the right forelcg five ulcerating gummata presented, kidney-shaped, with undermined edges, and emitting considerable serous discharge. The ulcers had existed for about nine months, and promptly healed under the potassium iodid treatment, but as is usual in these cases the patient then disappeared. In August, 1899, he again presented himself with a firm, painless tumor, about the size of an almond, presenting just outside the external ring, in connection with the cord of the right side. This promptly disappeared under the iodid treatment and inunctions of vasogen mercury, 33 per cent., since which time no further syphilitic manifestations have been noted.

It has already been stated that the spermatic cord in syphilitic affections of the testes and epididymis is very seldom involved. It occurs less frequently as an independent manifestation.

Neumann[14] says: "Usually one finds on palpation that the cord inside the scrotum is decidedly thickened, so that the individual parts can not be differentiated, the consistency is decidedly increased, at times it is even of cartilaginous hardness. In most cases this thickening extends from the epididymis to the cord; occasionally, however, there is an intervening normal portion between the epididymis and cord. The surface is sometimes smooth, sometimes uneven or tumor-like. The tumor, as a rule, is sharply defined, solitary and unilateral; at times there are two, separated one from the other, sometimes touching each other. They are generally round or oval, varying in size from that of a cherry to that of a goose egg. With the large gummata, they extend into the inguinal region, or may involve the inguinal canal. A certain amount of pain, either spontaneous or due to pressure, may be present. When the tumors attain the size of the testicle the skin will be stretched, the folds of the scrotal skin will be more or less obliterated, slightly reddened, without any marked symptoms of inflammation. At the external ring can be felt a constriction, sometimes superficial, sometimes deep. In large gummata which extend into the inguinal tract the coverings of the cord are changed, just as they are in gummatous orchitis.

"The diseases of the testicle and epididymis come chiefly into consideration in the differential diagnosis. In those extremely rare cases of independent syphilitic diseases of the cord the presence of other symptoms of syphilis and evidence of previous syphilitic diseases are to be considered. In some cases the diagnosis can only be made by the result attained by antisyphilitic treatment."

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## SURGICAL SHOCK.*

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Shock is a condition of sudden depression of the whole of the functions of the body, due to powerful impressions upon the system by physical injury or mental emotion. Its more obvious manifestations are lowered activity of the cardiac, respiratory and sensory functions. The symptoms of shock may present all degrees of gravity, from profound collapse quickly succeeded by death to a mere temporary impairment of mental vigor, with transient diminution of muscular energy and a

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slight irregularity of the heart's action, signs which it is very hard to distinguish from syncope, if, indeed, it is possible.

As shock is a disordered function and due to no structural change, its pathology is obscure and difficult to determine. The term "shock" has been employed indiscriminately to describe all cases of sudden death following injury without hemorrhage, and in which post-mortem examination failed to reveal any visible or adequate cause. As accuracy of diagnosis has increased, many cases formerly classed as shock have been eliminated, and opinions as to the pathology of true shock have crystallized into two leading theories, based on certain functional disturbances in the vascular and nervous systems, respectively. One of these theories is that the phenomena of shock are produced by the suspension of the nervous power, manifesting itself through the circulation, resulting in paralysis of the heart and abdominal vessels, and of the whole vasomotor system. The great mass of blood stagnates in the abdominal arteries and veins and the heart muscles are insufficiently supplied with oxygen and are unable to force the small amount of blood through the empty vessels.

The other and better theory, which seems more fully to account for all the phenomena of shock, is that it is due to irritation of the peripheral ends of the sensory and sympathetic nerves and a general functional paralysis of the nerve centers, both spinal and cerebral, which causes arrest or enfeeblement of the cardiac action and disturbed respiratory action. Death from shock may be immediate and result from cardiac arrest. Post-mortem examination of these cases usually shows the right cavities of the heart and great venous trunks distended with blood.

The symptoms of shock are of two general kinds, those due to a stunning or blunting of the vital powers, and called torpid shock, and those attributable to mental terror or agitation, and called erethistic shock, or prostration with excitement. As types of these two classes I desire to present two cases strikingly similar as to character and extent of injury, and yet showing the most marked contrast in symptoms.

The first of these was a woman, 19 years old, injured in a gasoline explosion. The patient lay conscious, yet dazed, seeing with the eye, but apparently failing to perceive with the brain; hearing, but not heeding, or replying only to loud and persistent questions; the eyes dull, vacant, motionless; the face animated by no expression, but pale and bathed in cold, clammy sweat; the features contracted, the finger-nails blue, the body and limbs occasionally convulsed by a shiver, the pulse irregular and very rapid, the respiration slow and irregular, deep sighing inspirations, alternating with shallow and scarcely audible ones. Her temperature was 2 degrees below normal. Reaction could not be induced, and death occurred in five hours, the patient having merely "paused in the act of death."

The second case was a man, 21 years of age, scalded by steam from a locomotive in a railroad wreck. There were the same physical signs of shock as in the torpid case, so far as pulse, respiration, pallor and coldness of the surface were concerned. In addition there was the most extreme and unceasing restlessness and excitability. The patient tossed wildly from side to side, complaining of a fearful oppression and want of breath, shouting in the most piercing tones, and using the most profane and obscene epithets, with a countenance expressive of intense anxiety and the keenest agony. Consciousness seemed unclouded, but preoccupied by the mental and physical anguish, questions being answered, if at all, in a loud and angry tone, the intervals occupied with moaning exclamations. There was burning thirst and fluids were swallowed eagerly. In short, this case well illustrated the comprehensive description of Gross, who says that in shock "the machinery of life has been rudely unhinged." This condition persisted in slowly lessening intensity for twenty-four hours, when reaction was fully established.

From ordinary uncomplicated shock recovery is usually complete. Occasionally, however, a permanent impairment of health follows, as in a case coming under my care in which a man of 35 years was entangled in a coil of live electric wires. Shock was decided, but not profound, and recovery seemed perfect. The patient, however, soon began to show a change of disposition. Formerly cheerful, amiable and kindly, he became moody, sullen and uncertain of temper, and in an attack of pneumonia some ten months later developed homicidal tendencies, and died in acute mania. In this case, doubtless, organic change of the nerve centers had supervened.

A predisposition to shock may exist in persons of sensitive nervous disposition or in the subjects of organic disease, especially of the heart or kidneys.

In those cases of sudden death, formerly classed as secondary or delayed shock, cases in which an interval of hours or even days has elapsed after an injury or an operation without the appearance of any untoward complications, some other explanation must be sought. No theory of nerve injury remaining latent for days and then suddenly manifesting itself with such violence as to terminate life in a few hours, is sufficient. The explanation may be found in pulmonary edema, or in renal congestion, pre-existent or developed as a result of an anesthetic, in concealed hemorrhage or in septic collapse from the sudden absorption of poisonous matters by a large serous surface, such as the peritoneum. Or it may be found in fatty embolism, that is, embolism of small arteries of the lungs, and very commonly of other organs, due to minute drops of fluid fat, which, having been set free somewhere in the periphery—generally in connection with the medullary cavity of bones—are carried into the circulation and follow its ordinary course. It is not easy in all cases to account for the force which is necessary to cause the oil drops to enter the veins. Sometimes the nature of the accident itself will give a reason for it, in the crushing or laceration which includes bones, muscles, subcutaneous fat and vessels alike. In other cases it has been suggested that the liquid fat from the broken-down cells stagnating in a wound is suddenly caught up when the stage of syncope passes off and the heart recovers; or it may be that from the commencement of inflammation there is a sudden increase of pressure and local tension. In these cases the patient may after the accident experience primary or true shock, or may appear perfectly calm and unaffected, his pulse and respiration may be normal and there may seem to be nothing wrong, but after some hours or days the pulse becomes quicker and softer, the eye bright and restless, the respiration embarrassed, the extremities cold and exhaustion or coma and death may supervene. A brief history of a recent case will illustrate:

The patient was a man, 25 years old, five feet seven inches in height, weighing 180 pounds and presenting an appearance before the accident of perfect health. He fell, unnoticed, from the platform of a passenger train moving at the rate of about fifteen miles an hour; was

found within five minutes after the accident, and at once removed on a stretcher to his home, about one-third of a mile distant. A simple oblique fracture of the left femur, at about the middle of its shaft, was the only injury found. Shock was marked, though not extreme. Some rigors and vomiting occurred and the heart was weak. Heat was applied and a hypodermic of morphia and strychnia and a small amount of whisky were given. Reaction was soon established and the fracture was reduced and dressed. The patient passed a good night and seemed to be doing perfectly well in all respects. About fifteen hours after the injury he began to be drowsy, and a slight but persistent cough developed. Soon the pulse increased in frequency and the respiration showed slight embarrassment. These symptoms, except the cough, grew steadily worse. He roused with more and more difficulty, and less perfectly, until in four hours coma was complete. The pulse became very rapid and irregular, the respiration became stertorous and finally assumed a Cheyne-Stokes character; the surface of the body became cold and cyanotic and, twenty-three hours after the accident, the patient died.

At the autopsy fat was found in the heart, lungs, liver and kidneys. The lower lobe of the right lung was hepatized and the blood-vessels of the brain were filled with dark fluid.

As to treatment in this class of cases, the measures suitable to true shock are of most value, as heat, opium, strychnia, digitalis, alcoholic stimulants and intravenous infusion or hypodermoclysis of normal saline solution.

When fracture or crushing injury of large bones has occurred it is very important that the limb be immobilized as soon as possible, so that the freeing and absorption of fat cells may be prevented.

## NON-CONSTRICTIVE DRESSINGS FOR FRACTURES.*

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It should be our aim and object in the treatment of diseases and injuries to under no circumstances interfere with the beneficent effort of Nature. In the treatment of fractures with our cumbersome splints and dressings, with many and constrictive forms of bandages of myriad name and nature, with material in some cases so heavy as to make the patient weary with its ponderosity, is it not time to stop and review the whole subject of this form of treatment and study it in its simplicity, aiming to aid and not retard Nature in her effort at repair. We should remember that all indications are fulfilled if the broken fragments of bone are in apposition and at rest. This idea of rest applies to all injuries, but at this time I wish to limit the question to the treatment of fracture, although the principle is the same, in a large measure, to all.

We all know that an unimpeded circulation will give a more rapid healing process than if impeded in the slightest degree. And why should we disturb the circulation? Can we so apply our dressings as to meet all indications in the treatment and yet not interfere with the circulation? I think we can in nearly every instance.

I am well aware that this is contrary to ordinary teaching, and you may answer that it can be done in but few cases. It will surprise you, however, to find in how many cases, and what fine results you will have without constrictive dressings.

The old and well-tried fracture-box is one of the forms in which the principle is applied partially, but here we have lateral pressure and thus far defeat the plan of avoiding any interference with the circulation. There is for all fractures of the leg and thigh a plan of suspension that meets all requirements. By means of an iron rod properly bent, the so-called Hodgen's splint is a form that can be easily used and is almost always available. It can be made in a few minutes by an ordinary mechanic, or by the surgeon himself if he has the proper mechanical skill to practice his profession. Additional to the rod, a few safety-pins, a piece of cloth to make a suspension for the leg, a cord to suspend the leg when the splint is adjusted, and your dressing is complete. It can be used in all cases of leg and thigh fracture, and can be adjusted to any degree of flexion by merely bending the rod at the knee; extension can easily be applied by adjusting the bed to the point of attachment of the cord to the ceiling. Many surgeons will agree as to its usefulness in fractures of the leg, but if you will study recent reports you will find the best results in treatment of fractures of the femur by this means. There should be no constriction whatever. The patient can move about to a limited degree in his bed, and he can not displace the fragments if the ordinary mechanical principles are complied with.

Compound fractures can be as easily and comfortably dressed as if the fracture were uncomplicated. If a foot-piece is needed, it can be made by cutting in a piece of board at the proper angle, and by means of wedges this can be adjusted to completely support the foot, but in most instances the needed support to the foot is had by making a stirrup of a piece of bandage and attaching it to the splint higher up. I do not insist on this special form of splint, but insist that the principle should be applied, and mention this form only for its simplicity, availability and effectiveness.

A modified form of application of Hodgen's consists in supporting the leg by short strips of bandage fastened on either side, preferably by safety-pins, to admit of free inspection of all parts of the injured limb without disturbance.

For the arm the principle of non-constrictive dressings can be applied in a modified form, either by a trough or in some other simple manner. I use bent wire. In clavicle fractures, by requiring the patient to lie on his back on a firm smooth mattress, all indications are fulfilled and results are excellent.

I need not mention the trouble and anxiety with splints and ordinary dressings, but wish to say that all ready-made splints remind me of attempting to fit every man with one pair of boots. If you must use one, make it for the individual.

Remembering the principle of non-constriction of the limb, the splint applied with plenty of padding and tied on with a very few strips of bandage is much better and far safer than one applied with the ordinary roller with many turns. It is very easy to loosen or tighten the strips, but not easy to adjust the roller without cutting it entirely away.

Plaster-of-Paris splints or casts should never under any circumstances be used for a primary dressing. This may be very radical as a statement, but as a question of practical experience it is abundantly supported by many unfortunate results. Do we consider how rigid a plaster cast is—that it contracts after being applied? How difficult, if it is causing pain or the limb be painful,

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

to inspect the fracture or remove the dressing! Then you may ask when to use plaster—only when all swelling has subsided, absorption of extravasated blood taken place, and you wish to give your patient his freedom during convalescence. Practically then, use plaster-of-Paris dressing after the bone has united and you wish to protect the point of injury from possible results of attempting to move about. Another point is, under no circumstances use this dressing without plenty of cotton or other padding next the skin. It is never proper to use plaster-of-Paris without this plentiful layer of cotton.

There are many forms of retentive dressings which come and have a trial and are forgotten. Many of them, like wigan, silicate, starch, wire-cloth and others have advocates, and all are useful, but useful only when convenient. We have these things in mind only to be applied when they are easily reached. But under no circumstances can all fractures be dressed with one form of dressing or one kind of splint. You can find bark or a limb of a tree in the forest, that will make a splint to fit the case in hand, and I believe that every surgeon ought to be able to dress his case of fracture with what he can find on the spot. If he expects to manage such cases successfully, he should have mechanical ingenuity to adapt conditions to his needs and not be helpless because he may not have his favorite dressings with him. But these are all to be considered as temporary and applied to meet the needs of transportation, and in all cases when the patient reaches his home or a permanent residence he should have a non-constrictive dressing and be made comfortable.

I can give positive results from actual experience in many cases with this principle applied, but one of each kind will be more than enough.

Case 1.—A railroad brakeman had his leg broken by a derailment, a car crushing him. He received an immediate dressing of plaster-of-Paris, and within a short time, from constriction of the dressings, the pain became unbearable and, when first seen by me, the dressing had been cut, the leg was covered with large blisters, was very much swollen and still painful. This visit was at night, but by making a sketch and giving an ordinarily bright young man directions, he brought a splint—Hodgen's—ready for use in less than an hour. After suspending the leg and adjusting the short strips of bandage there was no further trouble, and healing was uneventful.

Case 2.—An impacted fracture of the neck of the femur was treated with a similar splint and sand-bags, with a good recovery, a useful limb, and no unpleasant symptoms. This patient was a woman, very much emaciated and neurasthenic. She now walks with scarcely a perceptible limp.

Case 3.—A crushing injury of the leg was caused by a heavy log striking it, in a man of 55, of phlegmatic temperament. He was dressed in a fracture-box at first, applied very loosely, but swelling occurred to such an extent that I was obliged to suspend the leg and remove every form of constriction. Enormously large blisters, filled with bloody serum, extended from the knee to the ankle, the foot was cold, and every appearance of gangrene occurred, yet by suspension and non-constriction I succeeded in getting a result which, being slow—about two months—was as perfect as if in a younger man with a better constitution. In this case there was no possibility of saving limb or life with any form of constriction.

Case 4.—This was similar to Case 3 in every way, as to constitution and conditions of the system. The injury was a fracture of the malleoli with dislocation. Four hours after the injury I found the patient as free from pain as if he had sustained no hurt; he had slept and was comfortable, and yet there was complete displacement with laceration of all structures at the ankle-joint, sharp fragments of bone pressing dangerously on the skin to such an extent that perforation was almost complete. There was no sensation on reduction. Blisters similar to those in Case 3 formed over the injured parts. Similar open treatment was given, with good recovery in a reasonable time.

Case 5.—This was a fracture of the middle third of the femur, with contusions of various parts of the body. The patient had been struck by an engine on a crossing. Suspension, non-constriction and healing without shortening was secured.

In some of these cases any form of constriction would have produced disaster, and if we get good results in our worst cases with such dressings, how much better must be the healing powers in the ordinary case. How much anxiety is saved by the ready inspection, ease and comfort and gain in time to the patient!

## ACUTE GLAUCOMA DEVELOPING IN A CATARACTOUS EYE, AFTER CATARACT EXTRACTION IN OTHER EYE. IRIDECTOMY AND CURE.

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Among the more serious affections of the eye, there is not one which demands such prompt and proper attention as that known as acute glaucoma, or the so-called green cataract of the early writers. And while it is the usual and every-day facts and phases of a subject which should demand our most considerate attention, yet it is likewise true that we should be cognizant of the unusual and atypical, in order that our mission may be best fulfilled. Such is the excuse for that which is to follow.

Glaucoma is said to be secondary when it occurs as a result of some previously existing disease of the eye; and complicating, when it occurs in the presence of another eye affection, but without apparent etiologic relation to the same. The case in point probably belongs to the latter class, though the distinction is largely a matter of individual opinion.

Exclusive of nationality, the factors which predispose are old age, with its accompanying changes, hypermetropia, and a small cornea. Of these, the first and last were present.

Various theories have been advanced as to the mechanism of the disease, most of which are no longer tenable since the demonstration of the nutrition processes and the path of the circulation of fluids in the normal eye.[1]

A general review of the late literature on the subject leads one to accept these facts: 1. That glaucoma is due to a disturbance of excretion rather than an increase of secretion. 2. That this excretory blockade is accomplished by an abnormally swollen ciliary body pressing the iris-base against the periphery of the cornea, to which it soon becomes adherent, and in this manner causing a retention of fluid by closing the filtration angle. 3. That the only reliable and safe method of treatment is broad peripheral iridectomy, done early and under general anesthesia.

1. De Schweinitz: p. 376.

Noyes[2] says that iridectomy performed in one eye for the relief of glaucoma may occasion the outbreak of acute glaucoma in the other and previously healthy eye, he having seen one instance of this. It is to be presumed that the simple cataract extraction, in a case without evidence of glaucoma, would exert a similar influence, even though the iris was not cut. This fact must be explained by reflex ciliary irritation.

Numerous cases have been reported in which glaucoma followed cataract extraction—either simple or with iridectomy—in the eye operated on, having usually been caused by peripheral adhesions of the iris. Pagenstecher[3] divides these cases into two groups: 1, those in which the process is a direct result of the cataract operation; and 2, those in which it appears after the eye has regained its function. He further says that it occurs more often after the simple than the combined operation, and that it may follow discission.

Dabney[4] reports a case in which the instillation of two drops of a 1 per cent. solution of atropia into the conjunctival sac of a man of 22 years, suffering from a purulent conjunctivitis, induced symptoms of acute glaucoma. In ten days vision had returned to normal. It is interesting to note that the patient's mother had glaucoma.

Treacher Collins[5] studied two cases of congenital and one of traumatic aniridia with glaucoma, in each of which the filtration angle was blocked—in the congenital cases by a stump of undeveloped iris, externally invisible; and in the traumatic case by a pulling forward of the ciliary processes. So much for these unusual traits of glaucoma; but as to the case in point, I have as yet seen no instance mentioned of acute glaucoma in a cataractous eye, following simple cataract extraction of the other eye. Such was the case under consideration. The clinical history is as follows:

Mrs. H. D., an American, 80 years of age, and housewife by occupation, was first seen on Aug. 8, 1900, when she was found to have binocular senile cataract. She gave a history of having lost all vision in the left eye twelve years before, and that in the right eye five months before. She had good light perception over the normal visual field in each eye. On August 13 I removed the lens from the left eye, making a 3 mm. flap, and no sooner was the corneal section completed than the lens appeared in the wound and had only to be lifted out. This occurred, as is sometimes the case, without any pressure being exerted and without capsulotomy, the lens escaping intact—due, no doubt, to the over-ripe and atrophied condition of the lens, and to lack of adhesion of the posterior capsule to the lenticular fossa. By this result we had no fear of cortical remnants, nor of capsular cataract. The usual after-treatment was adopted and recovery was uninterrupted.

On October 5, or fifty-three days after the cataract extraction in the left eye, acute glaucoma developed in the right, with premonitory symptoms for two weeks previously. Tension was increased to +2 or +3, pain severe, paroxysmal in character and worse at night. The cornea was hazy and anesthetic; the iris discolored, dilated to a mere ring, and fixed.

The object of treatment, from the beginning, was not necessarily to save vision, but to give relief in such a manner as to make our patient comfortable for her few remaining years.

After temporizing with instillations of eserin, alone and with cocain, warm boric acid solution as a collyrium, hot compresses, and repeated paracentesis of the anterior chamber through the base of a large central corneal ulcer which had formed, a broad peripheral iridectomy was made on November 11, under cocain anesthesia—which proved rather unsatisfactory, owing to hardness of the eyeball.

The patient complained of some indefinite pain for four or five days following, during which time the tension was slightly plus. Since then she has been entirely free from pain, with tension about normal. She is wearing a +11.00 sph. over the left eye, which gives a vision of 20/200.

2. Diseases of the Eye, p. 566.
3. Klin. Monatsbl. f. Augenh., May, 1895.
4. Am. Prac. and News, Feb. 16, 1889.
5. Ophthalmic Review, April, 1891.

## SITOPHOBIA OF ENTERIC ORIGIN.*

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Sitophobia, meaning fear of food, is a condition which may last a long period of time and, if not successfully treated, may endanger life. It is therefore natural that this subject should command the full attention of the practitioner.

When I first used the term sitophobia I was not aware that Guislain[1] had already employed the same word to designate the refusal of food which is so often encountered in cases of melancholia and in the insane. For this condition, however, the word introduced by Sollier[2], namely, "sitieirgy," meaning refusing food, seems to be more appropriate. For, in the insane, the patients do not want to eat, not because they are afraid of the food, but for different reasons; either they are in a state of depression, unwilling to do anything, even eating, or they have suicidal ideas, or they have illusions that the food may be poisoned, etc. I may be, therefore, permitted to reserve the term sitophobia for those conditions only in which there is distinct fear of taking food on account of resultant bad consequences. Sitophobia in this sense has nothing to do with the insane and is found in mentally perfectly sound people.

In my paper, "The Diet of Dyspeptics,"[3] I have already alluded to the importance of sitophobia and its management.

While, however, in the above article sitophobia is spoken of as occurring in cases of disorders of the stomach, principally those accompanied by pains, of late I had the opportunity to observe the same condition in persons who had no gastric symptoms whatever and in whom "the fear of food" was due to some intestinal difficulty. I shall, therefore, in this paper speak of the latter group of cases, or of "stophobia of enteric origin."

A good illustration of the importance of this condition will be found in the following case, which I beg to describe:

William H., 28 years old, bookkeeper, had always been well up to two and a quarter years ago. At that time he became constipated, which condition gradually grew worse, occasionally alternating with diarrhea. Off and on, mucus was observed in the stool. His appetite was good, but he suffered at times from headaches and disturbed sleep. Patient consulted me for the first time in March, 1900, and was given magnes. usta in conjunction with ferratin and olive oil enemas, after which he improved for awhile. He went to the country, where his condition again became worse. On his return to the city, in August, patient was given podophyllin pills, which, however, did him no good. He then went to another physician, who ordered some medicine and injections of water.

These remedies not proving of benefit, patient again resorted to the podophyllin pills and injections every day, using both these means from September, 1900, to March, 1901. Often he would go without a movement of the bowels for seven to ten days. During all this time he ate much less than he was previously accustomed to, because he was afraid "that he would get entanglement of the bowel." His weight steadily grew

* Read before the New York Academy of Medicine, May 16, 1901.

1. Guislain: Eulenberg's Realencyclopädie der Medicin, 1887, Bd. xii, p. 696.
2. Sollier: Revue de Medecine, aout, 1891.
3. Max Einhorn: Medical Record, Jan. 1, 1898.

less, and dropped from 138 to 101½ pounds. He became exceedingly nervous, irritable and hypochondriacal. Of late he felt so weak that he had to abandon his vocation. At this time (March, 1901) he again consulted me, looking very badly, and being hardly able to walk. After undressing he looked almost like a skeleton, every bone being visible, not unlike a Roentgen picture.

On examination, besides this extreme condition of emaciation, pronounced anemia was found. The thoracic organs did not present anything abnormal, while the abdominal cavity appeared somewhat caved in (almost trough-like) and showed an "apparent tumor," situated above the navel to the left of the spine. There were no areas painful to pressure. The urine contained neither sugar nor albumen. The knee reflex was present.

The diagnosis of emaciation due to inanition without any organic trouble was made and the patient treated accordingly. He was advised to eat six times a day; a rectal injection of a pint of warm olive-oil was ordered every night, and he was given internally calcined magnesia and ferratin. He was told to eat plain, wholesome food, plenty of fruit, bread, and at least a quarter of a pound of butter daily. He immediately improved; his bowels became regular, and hardly a month later he weighed 128½ pounds, having gained on an average almost a pound every day. He now looks the picture of health, has ruddy cheeks, feels strong, and is able to take long walks without any fatigue.

Another case not unlike the one just described is the following:

Joseph W., 23 years old, ladies' tailor, had been suffering for the last two years with digestive disturbances (fulness after eating and constipation). Six months ago he consulted me, complaining principally of severe constipation. He was given tincture of rhubarb, but his condition did not seem to improve much. The appetite was not especially good and the constipation became more obstinate. He was afraid to eat much, as he believed the more he ate the more he would be constipated and the sooner he would have to resort to a cathartic. He ate everything, but only in small quantities. He was also compelled to take a glassful of whisky in the morning on an empty stomach and two to three times during the day in order to be able to do his work. He gradually became weaker, and lately lost 15 pounds. His weight now is 110 pounds.

On examination, patient is found to be emaciated and pale. The thoracic as well as the abdominal organs do not reveal anything abnormal. The tongue is not coated. Urine contains neither albumin nor sugar. Patellar reflexes are present.

The diagnosis of habitual constipation with sitophobia was made and the patient treated accordingly.

In the two cases above detailed the sitophobia developed as a sequel to obstinate constipation. The patients were afraid to tax the intestinal tract with much food, as it was apparently unable to dispose of even small quantities of the most delicate aliments.

I have, however, seen instances in which chronic diarrhea also gave rise to sitophobia. Of the many cases I have observed I will report only one.

Mrs. N. O., about 33 years old, had been complaining for the last four or five years of great flatulency and diarrhea. She had four to six movements daily and one or two during the night—about 3 or 5 a. m.. The dejecta were either watery or mushy, and always contained a considerable amount of mucus. Before an evacuation took place there was always a great deal of rumbling in the bowels, accompanied by slight colicky pains and passing of flatus. Her appetite was fair and there was no discomfort after meals. Patient, however, was very careful in her diet, taking principally mutton broth, scraped beef and toasted bread, and of these very small quantities. She was afraid of aggravating her trouble by partaking of more food. Patient had constantly lost in flesh in the last two years, altogether about 40 pounds. She feels weak, complains a great deal of dizziness, a dry sensation in her mouth and restless sleep, and is unable to attend to her household duties.

The physical examination shows that a condition of enteroptosis prevails. The gastric contents do not reveal anything abnormal. The fecal matter contains some mucus and a considerable quantity of undigested food.

The diagnosis of enteroptosis and chronic enteritis is made. Patient is put on a liberal diet—salads, fruits and coarse vegetables excepted—she is permitted to eat everything. She is also instructed to partake of kumyss, and bread and butter between meals. Besides the diet, patient is given tannigen (seven and a half grains three times a day). Under this régime she has steadily improved, gained considerably in weight, and her bowel trouble has almost yielded to a great extent, although it has not entirely disappeared.

*Remarks.*—In the observations just narrated the sitophobia was marked and had its origin in the belief that the bowel trouble might become aggravated by partaking of nourishment to some extent. Nor are these cases rare. Sitophobia of a moderate degree is almost an every day occurrence in various intestinal disorders.

Having emphasized the fact that sitophobia is met with in enteric affections, it does not appear superfluous to describe its dangers and also its treatment.

While in conditions accompanied by diarrhea the avoidance of food may for a short while exert a beneficial influence upon the intestinal affection, it is quite different in most cases of habitual constipation. The latter condition becomes the more aggravated the less food is taken. The constipation growing more pronounced, the patient is still more afraid to partake even of the small quantities of food which he has hitherto managed to enjoy. Thus there is a circulus vitiosus: constipation causing sitophobia, which of itself aggravates the former affection.

But even in diarrhea, with sitophobia causing an insufficient quantity of food to be ingested, there is, after a short interval of apparent improvement, a relapse. The deficient nutrition leads ultimately to an undermining of the constitution. The natural resources for combating disease are weakened; nervous symptoms manifest themselves. Thus the diarrhea quite soon is again as bad as ever.

Moreover, sitophobia, no matter what be its cause, if left to itself is bound to endanger life. A person who habitually is taking an insufficient quantity of nourishment is slowly starving, and if there be no change in the mode of living, starving to death.

It is hardly necessary to dwell upon the symptoms which appear in this state of subnutrition. They are a host and hardly need any comment: general anemia, and then anemia of the brain, dizziness, dryness in the throat, extreme fatigue, insomnia, etc. Occasionally I have met with albuminuria, which promptly disappeared upon improving the nutrition.

Another important feature of sitophobia is the habit which the patient develops of eating minute portions.

The condition which has led to sitophobia may have been remedied and thus the sitophobia as such may not exist any longer, still the acquired habit of eating very little may persist. This certainly can produce the same dangers to life as the original sitophobia.

*Treatment.*—The patient must be made to eat sufficient quantities of food, no matter what is the underlying condition causing the sitophobia, and no matter how this is done. Sometimes persuasion alone is sufficient. Occasionally in very pronounced cases of subnutrition an ample diet can not be adopted at once, but must be arranged gradually, accustoming the patient to more nourishment step by step. In some instances various medicaments will be helpful in carrying out this plan, thus the bromids in nervous conditions, or codein in painful affections. Sufficient nutrition is the foundation upon which to build the structure of health. The former lacking, no matter what treatment may be instituted, the structure will sooner or later collapse. If a solid foundation is laid by a sufficient diet, it is often quite easy to achieve perfect recovery. For, the usual means of treatment will then prove successful in eradicating the primary disease.

## THE RELATION EXISTING BETWEEN DISEASES OF THE CONJUNCTIVA, NOSE AND THROAT.

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My purpose in selecting this subject is not that I have any thing especially new or original to offer, but rather because I feel certain that in our text-books and literature too little time and space are devoted to the intimate association which exists between the conjunctiva, nose and throat, and as a consequence, faulty results are sometimes obtained in their treatment. From an anatomic standpoint, we admit a close relation through the lachrymal channel, and accept this as a most intimate and direct means of communication between the nose and conjunctival cul-de-sac, and do not hesitate to ascribe to certain conditions found in the nasal cavity the cause of disease so frequently found in the lachrymal sac and canal. It is not, however, to this direct means of communication, and the generally accepted lachrymal diseases, which I desire to call attention, but rather to the class of cases more frequently met and to which less importance is placed upon this factor of association between the conjunctiva, nose and throat.

Relatively speaking, conjunctivitis in all that the term implies embodies as large and perhaps a larger variety of manifestations than any other disease in the domain of ophthalmology. Mere mention of the classification of conjunctivitis found in our text-books to-day is sufficient to emphasize the above.

And, then, as we turn to our text-books on diseases of the nose, nasopharynx and throat, we are again surprised at the varied manifestations of disease found here, admitting, therefore, that the conjunctival cul-de-sac and the nasal cavities are alike so frequently involved in inflammatory change, with the intimate means of communication existing between these two tissues (via the lachrymal channel), etc., why should we not expect an association of tissue change? Besides the continuity of membranous tissue existing between the nasal cavities and conjunctiva, we have also an equally intimate association existing through the nerve and blood supply, and it might not be out of place at this time to review for a moment the blood and nerve supply of these parts, that we may the more readily comprehend their association. Granting to the lachrymal canal a direct means of communication, we find that the mucous membranes of the nose and conjunctiva are supplied alike, by sensory nerves derived exclusively from the fifth or trifacial nerve. The upper half of the conjunctiva is supplied by the ophthalmic division of the trigeminus, and the lower half by the superior maxillary division, the nasal branch of the ophthalmic division of the fifth passing from the orbit by way of the anterior ethmoidal foramen, to the anterior nasal fossa, supplies this fossa and the anterior one-third of the superior turbinals (Sappey and Morris), while the entire remaining part of the Schneiderian membrane is supplied by the nasal branches of Meckel's ganglion, the sensory roots of this ganglion are derived exclusively from the second division of the fifth, while other nasal and descending branches of this ganglion supply the soft palate, uvula, nasopharynx, tonsils, orifices of the Eustachian tube, and Rosenmueller fossa. Thus we see there is established a most perfect ramification of one and the same nerve (or branches of the same), reaching from the upper conjunctival tissue to the base of the tonsil. Through the circulatory media we have also a more or less intimate association of the conjunctival cul-de-sac and nose, though not so intimate as the nerve supply. We find from the internal carotid artery the ophthalmic branch entering the orbit, giving off the lachrymal, frontal and palpebral arteries, which supplies blood to the major portion of the conjunctival cul-de-sac, while from the same ophthalmic branch we find the anterior and posterior ethmoidal arteries passing through their respective canals into the cranial cavities here, after supplying in part, the ethmoidal cells and dura, pass downward to the nasal cavity to supply the superior and middle sulcus of the anterior nasal fossa, as well as the anterior halves of the superior and middle turbinal bones. The remainder of the nasal mucous membrane is supplied by the spheno-palantine and descending branches of the internal maxillary (Zuckerkandel), with a possible communication existing between this and the angular artery, through the foramen of the nasal bone.

From the standpoint of the venous circulation, we likewise find fairly intimate association existing between the conjunctiva and nasal cavity. We find a circle of veins completely surrounding the orbit—a perfect network or reservoir, derived from the lachrymal, supra-orbital, frontal, nasal, angular and transverse facial, draining the upper and lower eyelids and their conjunctiva, and the angular vein lying upon the internal palpebral ligament, possibly receives a vein through the foramen of the nasal bone, from the anterior nasal fossa (Gray and Quain). In the nasal cavity the veins form a deep venous plexus, over the inferior turbinal and posterior portion of the middle and superior turbinals, as well as lower and posterior portion of the septum, almost the entire plexus, drained by the spheno-palatine vein. We find also a similar dense plexus extends around the nasal duct as far upward as the lachrymal sac, establishing a very intimate relationship between the mucous membranes of the nose and conjunctiva, through the lachrymal canal.

It has also been suggested that a more or less direct communication between the conjunctiva and nose exists through the lymphatic, but according to Gray, Morris,

Testute, Quain, Henley, Cunningham, Heath and Deaver, no evidence of either direct or indirect association exists, as we find the Schneiderian membrane discharges its lymphatics into those channels, following the internal maxillary artery, ending in the deep lymphatics of the neck (Gray).

Admitting, therefore, that the lymph channels play little, if any, part in common in the disturbances under discussion, we do admit a more intimate association by means of the arteries, and a still greater one through the venous association, while the nerve supply for each is practically one and the same, and added to this is the lachrymal canal so generally accepted. How, therefore, can we underestimate the importance of the association of disease in the nose and conjunctiva, and as a most plausible explanation for this association, in the greater number of instances we should and most naturally do look to the most intimate means of connection between them, which (excepting the lachrymal canal), we must admit to be, through the nerve supply, and excepting certain well-established disturbances, such, for instance, as lachrymal blenorrhea, etc., due to membranous continuity, it would seem that nerve reflex is our most plausible theory by which to explain the greater number of disturbances so frequently met, existing alike in the nose, throat, and conjunctiva, which theory I am forced to believe from my increasing daily experience. It is true that we must ascribe to venous stasis or impaired return flow of blood a prominent place in the production of many catarrhal manifestations in the conjunctiva, resulting directly from nasal hypertrophies and the circulatory disturbances arising therefrom, which can be readily understood when we recall especially the venous circulation as it exists in these parts. A very admirable reference of this circulatory disturbance in the nose is mentioned by Dr. Edwin Pynchon in an article on "Impaired Ventilation and Drainage of the Nose as the most common Causes of Nasal Catarrh." Granting the immediate cause in this class of cases to be circulatory, who can estimate the part played by the nerve reflex as well?

Cases illustrative of the purpose of this paper are too numerous to mention. How frequently, for instance, is the ophthalmologist baffled in his treatment of both acute and chronic conjunctivitis, marginal lid troubles, etc., until proper attention has been given to an existing rhinitis or pharyngitis? One of the most common illustrations of this is found in phlyctenular conjunctivitis. Here, no sooner is one attack of phlyctenules relieved, when the child is seized with a new cold and, the conjunctivitis is lighted up anew, with more phlyctenular ulcers perhaps. This goes on, spring and fall, despite the ophthalmologist's best efforts, until the adenoid vegetations, pharyngeal tonsils or nasal hypertrophies, one or all, have been relieved. Whether the association of these diseases in the conjunctiva and nasopharynx in circulatory (impeded circulation) or nervous, or both, is immaterial; the intimate association is plainly verified by the treatment, and to the physician who disputes it, let him refer to his records of cases cured, without due attention, not only to the conjunctival disease, but to that as well in the nose or nasopharynx.

Another condition which is equally illustrative of this intimate association is chronic conjunctivitis. Here our patient suffers with lid trouble for months, and perhaps longer, benefited temporarily, to be sure, by careful treatment to the conjunctivitis, to be harassed by an exacerbation of the conjunctivitis on the slightest exposure, when upon examination of the nose we find more or less complete nasal obstruction from hypertrophies, due, perhaps, to septal ridges, spurs or deflection, or on examination of the throat a chronic pharyngitis with tonsillar hypertrophy.

It is my daily experience, and I am sure it is that of others, to have these cases to deal with, and no permanent relief is obtained until due attention is given to the nose and throat, as well as to the conjunctiva. I have in mind a case which is very illustrative of the conditions under discussion: A. W., 18 years of age, consulted me in April, 1899, suffering from conjunctivitis, from which he stated he had been a sufferer several times yearly for about four years, and which always returned when he suffered from a cold. The conjunctivitis was general, involving both eyes, confined to the bulbar as well as the tarsal conjunctivæ, with decided swelling of the membrane—a perfect picture of acute conjunctivitis. On examination of the nose I found complete stenosis of right nostril from turbinal hypertrophy and extreme displacement of septum to right, with marked hypertrophy of lower and middle turbinals and entire mucous membrane of left nostril. Upon questioning I found that before receiving a broken nose in a game of football four years previous, he had never been troubled with sore eyes. Since correcting the nasal defect, as completely as possible, which I did a month later of the same year, the young man has only sufferred one attack of sore eyes (conjunctivitis), which was in March of the present year.

I speak of this case especially, because it is one in which the eye trouble dates distinctly from time of injury to the nose, and a practical cessation of attacks of conjunctivitis followed the correction of the injury to nose; and, further, because it is quite evident that the considerably increased blood supply to nose accompanying a cold, and the impairment in its free circulation from swelling, and mechanical misplacement, precipitated his attacks of conjunctivitis. But it is not always true that marked stenosis of the nasal fossæ is necessary in order to excite conjunctival irritation; nor that all nasal stenoses of greater or less degree do excite conjunctivitis. We sometimes find apparently insignificant disturbances in the throat and nose closely associated with, if not a causal factor in, conjunctival irritation, i. e., how frequently when suffering from an apparently mild post-nasal pharyngeal irritation are we annoyed by a similar mild but annoying conjunctivitis? Especially aggravated is this in the morning, after a night's sleep, which latter symptom is undoubtedly due to faulty circulation (more or less sluggishness or impairment in circulation), favored by the horizontal position of the body from the night's sleep. Another evidence of this association is the picture, familiar to all, seen in hay fever. No less is the irritation or inflammation found in the nose than that found in the conjunctiva, but it may be said that this is a constitutional condition, affecting both membranous expanses alike, or that it extends, by continuity of membranous tissue, from the nose to the eye, or that it is reflex, but it matters not, the inseparable association of the two serves to emphasize this subject.

But we are more ready to ascribe to septal deflections, inferior turbinal hypertrophies, ordinary colds, hay fever, etc., an association with conjunctivitis than we would be to concede to the middle turbinated body a cause for the production of conjunctivitis, because the middle turbinal is less commonly considered a disturbing factor in the nose, and for this reason I desire to mention a case, which I treated for conjunctivitis in

1899: M. S., aged 24, referred to me by a rhinologist, who had the lady under treatment at that time for hypertrophy of the left middle turbinal, which was in intimate contact with the septum. She consulted me for the relief of a more or less constant redness and irritation of left eye, and to avoid an erroneous conclusion in the mind of the reader, that the operative interference in the nose might possibly be the exciting cause of the eye irritation—let me say that the eye trouble had existed for a long period previous to consulting her rhinologist. The suggestion at the time of examination that the conjunctival disturbance might entirely disappear upon the relief of the nasal disorder was fully verified, for as the encroachment or pressure of the turbinal against the septum was relieved her eye trouble became less, until now, for the past year, she has had practically no conjunctival irritation whatever—illustrating to me very clearly that it is not necessary to have nasal stenosis or a general hypertrophic condition in the nose in order to produce a conjunctival disturbance, but rather, as in this case, only one comparatively small focus of irritation may excite, purely by nerve reflex, a very marked disturbance in the conjunctiva.

I might go on indefinitely and mention cases to illustrate the purpose of this paper, but it is unnecessary. Personally, I have always been impressed with the importance of the association of diseases of the Schneiderian and conjunctival membranes, and when one stops for a moment to consider their intimate anatomical relations, which I trust the reader will pardon me for recalling so in detail. I am quite certain my reasons for being so impressed will appear well founded, and when the ophthalmologist, in treating conjunctivitis, will constantly bear in mind that he is not treating an isolated tissue, but rather one which is by continuity, blood and nerve supply, inseparably related to other structures—equally and even more exposed to disease—the problem becomes a more simple one and the results of treatment more satisfactory.

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## ROUND LIGAMENT VENTROSUSPENSION OF THE UTERUS.*

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ARGUMENT.

1. All suspensions of the uterus, of whatever kind, are makeshifts. 2. Anchorage of the uterus by means of the round ligaments is the nearest approach to the ideal. 3. As a choice between evils the round ligament suspension is superior to all others, both from a physiological and utilitarian standpoint. 4. The author's method and its advantages.

There is not, and never will be, an ideal suspension of the uterus in the sense that it meets all the requirements of a mobile organ, untrammelled in its functions and held within physiological limits. The nearest approximation to this condition as applied to the retroposed organ is found in the shortening of the round ligaments as devised by Alexander, and the nearest approach to an ideal operation for effecting this shortening is the modification of the Alexander operation as devised and practiced by Kellogg. But this is not a suspension in the common acceptation of the term—it is rather an anchorage. The Kellogg operation, while beautiful, safe, efficient, and in the hands of its author, easy of execution, requires skill and training for its execution and will never become popular on account of the difficulty in finding the ligaments. It is not applicable to the majority of cases demanding operative interference, in that it makes no provision for liberating the adherent uterus. Supplemented by abdominal section, whereby the adhesions may be overcome, it leaves nothing to be desired. The intraperitoneal shortening of the round ligaments by doubling them upon themselves is fundamentally defective in that the slender and weak distal extremity of the ligament is relied on to sustain the uterus, which the stronger ligament in its primitive form was incapable of doing. None recognizes this fact better than he who has practiced the Alexander operation and has oftentimes found this part of the ligament not larger than a violin string. The Kelly ventrosuspension operation has much in its favor in that it is easy of execution and usually stable in its effects. But it is open to the objection of rendering the uterus practically immobile if it is to be of permanent advantage, or failing this the uterus gradually draws away and finally sinks unrestrained into its former abnormal position. The Kelly operation, as is now well known, often leads to serious embarrassment in pregnancy and occasionally offers insuperable obstacles to parturition. My experience with the operation has been quite extensive and has embraced a period of years. I have found it in the main effective in keeping the uterus anteposed, and have seen less evil resulting from parturition and pregnancy than is generally credited to it. Very recently I found a woman in the hospital on whom I had performed the operation some four years ago, and who in the mean time had borne three children. She stated, in answer to my queries, that she had experienced no bad effects in her pregnancies or in labor. I found, on examination, the uterus firmly attached to the anterior abdominal wall, and that it was in perfect involution—her babe being five months old—but that she was suffering from one of the most extensive cervical lacerations that I had ever witnessed. The Kelly operation is beautifully adapted to the postclimacteric woman and to women who have been rendered sterile by removal of the uterine appendages.

The various operations for fixation of the uterus—vaginal and abdominal—are open to the same objections as the Kelly operation, and most of them have fallen into disuse. The need of the hour is an operation that will utilize the natural supports of the uterus, that will insure a certain amount of mobility, that will adapt itself to the various functions of the uterus—pregnancy and parturition—and that will be lasting in its results and withal easy of execution. We know that the round ligament grows *parra passu* with the development of the uterus in pregnancy, and that it returns to its primitive condition after parturition. I have recently had to remove a uterus in the fifth month of pregnancy, and in that case the round ligaments were developed to the size of the little finger and were long enough to be lax with the fundus at the umbilicus. We have all seen such things repeatedly, but having the subject in mind at the time I took special note of the condition of the round ligaments in this case. Theoretically the same changes should occur in the ligament which had been implanted in the abdominal wall. It is but just to say that the idea of implanting the round ligaments in the abdominal wall originated with Ferguson, and it was from him that I received my first hint. I had.

* Read before the American Association of Obstetricians and Gynecologists, at Louisville, Ky., Sept. 18, 1900.

however, on one occasion previous to this, sutured the round ligament to the peritoneum in the same relative position, but as I was not able to follow the case up I am unable to say with what result. There are, however, to my mind some objections to the Ferguson operation in that he cuts the ligament and thus destroys its continuity. He also makes two lateral incisions in the deeper structures of the abdominal wall, which have to be sewed up. Furthermore, he uses a sound in the uterus to support it while operating.

This latter requires a trained assistant and is not devoid of possible injurious effects.

STAGES OF OPERATION.

The steps of the operation as modified by me are as follows:

1. *A median abdominal section.* This section is from three to four inches long and at the usual site between the umbilicus and pubis.

2. *Break up the adhesions and bring the fundus forward.* After which the patient may be placed in the Trendelenburg position.

3. *Seize the round ligament on one side and bring it to the opening.* The ligament may be picked up between

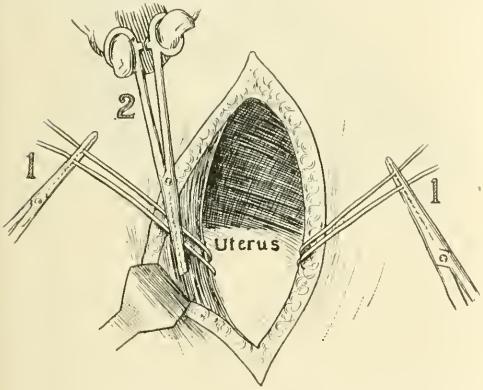


Fig. 1.—1. A thread has been thrown around the round ligament on either side and the ends secured by clamp forceps. 2. The overlying tissues are retracted and the perforating forceps applied to the surface of the rectus muscle, through which it is thrust into the cavity.

the thumb and finger, or by the aid of a bullet or blunt forceps. At the onset of my work in this line I had forceps specially constructed for the purpose, known as the button forceps, but which of late I have practically discarded as being unnecessary.

4. *Carry a silk thread under the ligament at a distance of about one and one-half inches from the uterus.* This can be most conveniently done with an aneurysm needle, though an ordinary needle answers the purpose very nicely. This forms a loop under the ligament, which is not to be tied, but after withdrawing the needle the two ends are brought out of the abdomen and secured in the bite of a snap forceps.

5. *The other round ligament is secured in the same way and the ends of the thread brought out of the abdomen and held in the bite of another snap forceps.*

6. *Catch up with a volsellum the fascia, muscle and peritoneum at the margin of the incision and an inch or so from the lower angle of the same and make traction.* This pins the layers together, prevents retraction of the muscle and facilitates the next step.

7. *Thrust the perforating forceps* (specially devised for the purpose) *through into the peritoneal cavity and seize the thread which holds the round ligament.* The perforation is made slantingly, the forceps entering the fascia one-half inch from the edge and emerging on the peritoneal surface from one-half to three-fourths of an inch farther from the edge. The handle of the forceps is next tilted outward, which everts the lip of the incision and brings into view that end of the forceps which is in the cavity. The jaws are opened and the thread placed between them.

8. *Remove the clamp forceps from the thread and withdraw the perforating forceps.* This brings with it the thread and the thread in turn brings the ligament through the perforated wound in the abdominal wall.

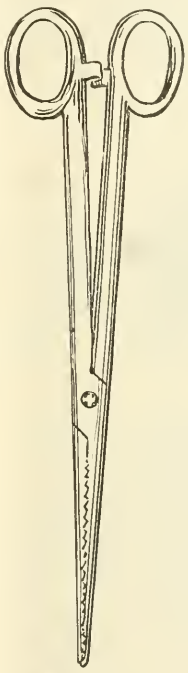

Fig. 2. Perforating forceps.

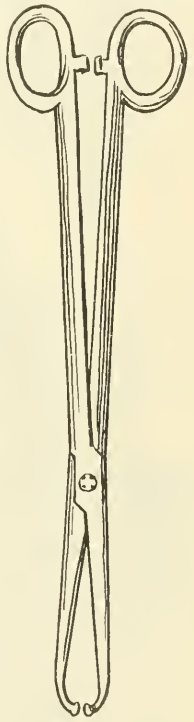

Fig. 3. Button Forceps.

9. *While the ligament is held taut fasten it into the wound.* This is done by a catgut suture which is passed through its base including the tissues on either side, then back again where it is tied. The thread which held the ligament is cut close to the ligament on one side and withdrawn. This, to prevent infection by pulling through the ligament that portion of the thread which had been exposed.

10. *Treat the opposite side in the same manner and close the median abdominal incision.* The projecting free ends of the ligaments are gathered up en route by the running catgut suture which closes the fascia and drawn to the middle line.

A defect in my operation as originally devised was in gathering up all the slack of the distal extremity of the ligament. This in some cases gave rise to a tensive, drawing feeling that was quite uncomfortable. I now merely

take up a small loop of the ligament, or just sufficient to project above the surface of the rectus muscle. Formerly I had rather an elaborate technique in the way of suturing the ligament so that it might not retract into the abdomen. Experience has taught me that such precaution is unnecessary. I now merely pass a catgut suture through the ligament in one direction and back in the other and tie the two ends. I have recently had to curette a case on which I had performed the operation in the early part of May last, and in doing so drew down the uterus so that the cervix protruded from the vulva. On removing the forceps the uterus crawled back into the pelvis and in a few moments had resumed its normal position. As to the possibility of incarceration of the bowel between the uterus, round ligament, and anterior abdominal wall I regard the chances as exceedingly remote. Strangulation I regard as utterly impossible. In a demonstration of the operation before the members of the Ohio Medical Society, in May last, I passed the four fingers of my right hand into this opening after completing the operation. In a recent contribution by

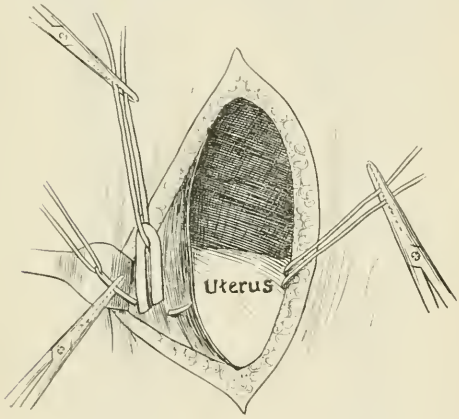


Fig. 4.—The perforating forceps is withdrawn, bringing after it the round ligament, through the base of which a suture is being passed.

M. Richelot, he recommends that the round ligaments be drawn up over the fundus and stitched into the lower angle of the abdominal incision. Here I should fear strangulation, as the space between the uterus and ligaments is so limited. That the bowel may insinuate itself in front of the uterus is a fact well attested, although it must be admitted that such an occurrence is very rare under normal conditions. In one case of my own the operation of ventrosuspension was followed by obstinate constipation and distress in the hypogastrium, with gaseous distension of the bowels. Suspecting that some coils of intestine had found their way between the uterus and abdominal wall, I directed the patient to assume the knee-chest position, which relieved the condition.

In conclusion, I wish to say that the careless and unclean operator will almost assuredly be disappointed in this operation, as suppuration is prone unless the most scrupulous aseptic detail be adhered to. Not only should there be a careful preliminary cleansing of the parts, but there should be frequent ablution of the hands during the operation, and it should be the aim of the operator to handle the parts as little as possible and to complete the operation as expeditiously as consistent with good work. I desire to say, furthermore, that increased experience with the operation confirms all my preconceived notions as to its value and adds to my desire that it should be more generally known and practiced.

## MAGNETIC FOREIGN BODIES IN THE EYE.

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The class of patients with whom we have to deal in our subject may be said to belong for the most part to laborers or mechanics, whose daily occupation requires that they strike steel upon steel or steel upon iron as the case may be.

We may speak of steel or iron interchangeably. Either causes deflection of the magnetic needle; each can be located by means of the Röntgen rays; both are attracted by the magnet, and the one is as destructive as the other.

Small particles of iron or steel are occasionally found loose in the conjunctival sac. When seen there they have usually first struck and probably loosely imbedded themselves in the cornea or bulbar conjunctiva and afterward become dislodged. They are then principally found just under and a little above the margin of the upper lid and are naturally easily removed.

Small chips of iron or steel are frequently found imbedded in the cornea—they then cause considerable pain, lachrimation and photophobia. If located in the horizontal meridian or a little below it the degree of pain may be lessened by the patient's constant effort to limit the act of nictation, thus keeping the eye open as much as possible, thereby diminishing the amount of irritation caused when the lids are in contact with the foreign substance. Such particles of iron may be overlooked by the patient or his friends. If left alone they rust and cause more or less infiltration and frequently are the seat of infection. We are enabled to detect them in good daylight or by means of focal illumination —still more definitely by the use of a corneal magnifier. If loosely imbedded, we may use a probe around which is wrapped a piece of absorbent cotton, moistening it and wiping the foreign body off. If firmly imbedded, the cornea should be anesthetized either with cocain or holocain, the eye steadied with the fingers and under good illumination the foreign body removed with a spud or gonge made for that purpose. Or we may loosen the particle and apply a strong magnet. If rust is present it is well to remove as much of it as possible.

If the foreign body is deeply located in the tissues of the cornea, we should, if necessary, cut the overlying portion with a small cataract knife and then apply a strong electromagnet. In this way we lessen the possibility of further injury to the cornea or of having a sharp piece of iron penetrate into the anterior chamber during the process of removal.

The importance of strict asepsis in all cases can not be over-estimated. If infection is already present, we should use an antiseptic and then irrigate with an aseptic or mildly antiseptic solution. If much irritation is present, instill atropin and apply a pressure bandage.

Small sharp pieces of iron are occasionally found imbedded in the sclera. Owing to its elasticity and density, it, in many cases, resists the impelling force of the foreign body sufficiently to prevent penetration, or, on the contrary, it is entirely penetrated by it. It is

as a rule easy to locate and remove these pieces of iron from the sclera.

Before considering the more complicated subject of injuries due to penetration by, and retention of, the magnetic body, we will speak of the history and diagnosis of such cases. The patient, perchance, tells us that he has been working with hammer and chisel, and that upon striking a blow something hit him in the eye. Occasionally bystanders are the recipients of small pieces of steel in the eye. Many times patients try to assure us that nothing has penetrated the globe. They complain often of having only comparatively slight pain; of photophobia, lacrimation, together with more or less diminution of vision. We may find only a linear scar, the edges of which are already in apposition.

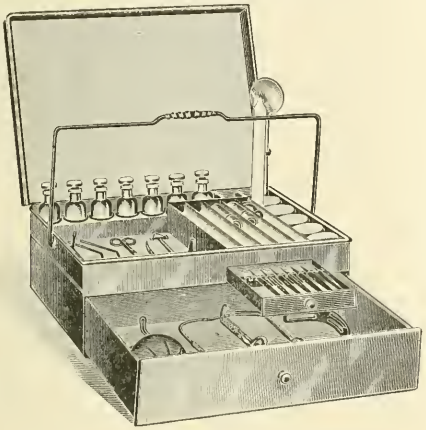

Figure 1.

After examining the eye well in good daylight, we determine approximately the amount of visual acuity —field of vision—then examine under focal illumination and with the ophthalmoscope. Next in order is the sideroscopic examination. The value of the sideroscope in determining the presence of iron in the eye, and too, its approximate location, is much underrated. Dr. Thomas Pooly of New York was the first to use the compass needle in determining the presence of iron in the eye. All sideroscopes have been modifications of

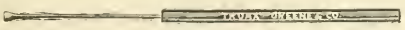

Figure 2.

his. In 1894 Asmus devised one which has been successfully used up to the present time, but as it is somewhat complicated in construction, it requires the services of a good assistant for its successful employment. I have seen Professor Hirschberg get brilliant results with this instrument of Asmus's, and two years ago it was my pleasure to see him demonstrate, before the Berlin Ophthalmological Society, a sideroscope designed by himself. Its mechanism is simple and it gives excellent results. In structure it consists of wood, brass and glass. There are two substantial wooden brackets which should be firmly attached to a solid wall running north and south, or nearly so. Upon the upper bracket is an adjustable upright standard, the upper part of which consists of a glass tube. In the middle of the standard is an oblong chamber of brass on each end of which is fastened a small glass capsule. In the upright tube is a fine brass thread attached above to a revolving screw. On the end of the thread hangs a magnetic needle, upon the middle of which is fixed a small mirror. Upon the lower bracket swings a standard, bearing a lamp, rays from which pass through a strong lens on to the mirror of the swinging needle. A graduated scale is placed in position and the lamp so adjusted that the reflected rays fall upon a graduated screen.

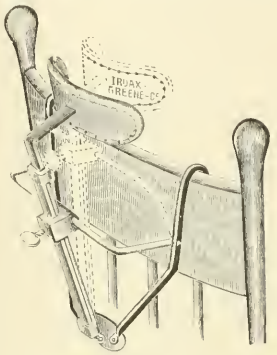

Figure 3.

For convenience of expression we may divide the eye vertically and horizontally, thus giving us four quadrants, an upper and lower nasal and an upper and lower temporal quadrant. Cut No. 1 shows the glass rod—within which is balanced a magnetic needle—as being almost in contact with the eye at about the juncture of the lower and middle third of its lower nasal quadrant, 7 mm. from the sclerocorneal junction. Here we find the needle gives the greatest reaction which,

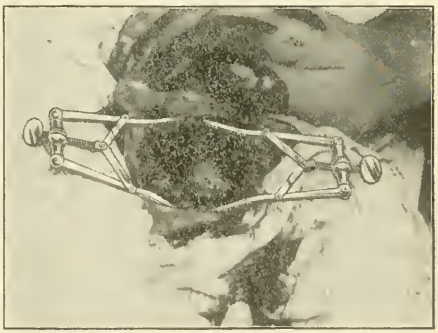

Figure 4.

as the indicator shows upon the screen, measures 4 degrees. If we get little or no reaction of the needle when applied to an eye in which we have good reason to believe iron is present, we should bring the patient's eye into the field of a strong electromagnet. This magnetizes the retained iron and consequently results in its giving a better reaction when the eye is again brought into the field of the needle.

In no case should we undertake an extraction nor should we even cause dislodgment of a chip of iron until we have if possible determined its location and relative size. In order to do so it will frequently be necessary to utilize the Röntgen rays. The first foreign

body removed successfully after location with Röntgen rays was reported by Williams.[1] De Schweinitz, Hansell, Sweet, Oliver, Percy, Friedenberg and others have since reported favorable cases.

In order to obtain good results in *x*-ray work,[2] the head and eye of the patient must be kept motionless during exposure. This is best accomplished by having the patient lie upon a table designed for that purpose. The eye should be kept closed. Knowing that the rays travel in straight lines, we endeavor to place the tube and plate in such a position that we get a bitemporal skiagraph and also one taken in a fronto-occipital direction.

Before making an exposure in the bitemporal direction, four pieces of fuse wire, each 6 mm. in length, are placed—and held in position by means of ordinary court-plaster—over the temporal region of the eye so that the enclosure represented between their inner ends corresponds to an area a little larger than that corresponding to the lateral area of the eye. These pieces of fuse wire show distinctly on the plate after development.

If there be upon the plate more than the four regular outlines of the wire, we know we have a foreign body, and, moreover, we know its approximate size, location and shape as seen from this direction. We may still better locate it by placing a piece of paper cut exactly

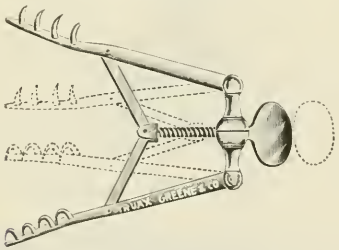

Figure 5.

the size of the normal eye upon the plate between the four artificial landmarks, and mark upon it the location of the foreign body. Then, in turn, we place the paper over the area between the landmarks upon the patient, then designate the location of the foreign body by means of an anilin pencil.

In the anteroposterior exposure two pieces of wire may be used. They are placed, one upon the upper, the other upon the lower lid in such a manner as to represent the diameter of the eye from above downward. Comparisons are in like manner made here as before.

We now come to the subject of the extraction of the magnetic body. The use of the magnet in surgery of the eye was first recorded about 250 years ago, when Wm. Fabry, a German, removed a small piece of iron from the cornea by means of a lodestone (1656). It is a little over half a century (1842) since Meyer, also a German, removed, through the wound of the sclera, a piece of iron from the vitreous, using a thirty-pound magnet. About a quarter of a century later, McKeown, of Belfast, made the first recorded equatorial incision (1874) for the removal of a piece of iron from the vitreous, which he accomplished by means of a magnetized rod of iron—the so-called permanent magnet. In 1877 Hirschberg perfected his electromagnet, and two years later operated successfully with it on a difficult case, making the first recorded meridional incision.

In 1894 Haab, of Zurich, constructed a giant magnet on the principles of the one used by Meyer in 1842. So many good descriptions of the magnet have been published that I shall here say but little regarding its structure. It consists of a cylinder of soft iron, around which is wound many layers of insulated copper wire. There is a cut-off switch fastened to the wall, also a resistance box at its base, with a number of steps which allow the gradual admission of the current, thus enabling an assistant to regulate the amount of force required by the operator. Meyrowitz has mounted the Haab magnet so that it may easily be moved in practically any direction.

I find that when in the recumbent position, the patient is often under much better control. This applies particularly to those cases in which the amount of traumatism is great.

The Hirschberg magnet consists of a soft bar of iron around which is wound a coil of fine insulated wire. It is a hand magnet provided with a number of variously shaped points of different sizes. It can be connected to a series of dry cells or to a zinc carbon element, and will support as high as 500 grams. It should be used in conjunction with the Haab. What the one will not accomplish, the other, in a large majority of cases, will.

Knowing the position of a foreign body lodged in the interior of the eye, we elect as to whether we shall remove it through the tract of entrance; draw it by means of a large magnet into the anterior chamber and afterward through a corneal section, remove it with the small point of the Hirschberg magnet; or we may decide that a meridional or an equatorial incision is preferable. In each instance it is our aim to remove the iron by such a method that it will result in the least injury to the eye.

The Haab magnet is and has been much used as an important factor in diagnosis. When used for that purpose the head of the patient is brought gradually toward the pole of the magnet. If pain be then present or increased we know that the foreign body has impinged upon the tissues; finally, if after we have turned on the full force of the current, we get no pain nor increase of pain, we reverse the current and apply the magnet to the eye so that its power-lines shall have had effect from all directions, and then if the patient complains of no pain, we infer either that there is no magnetic body present or else that it is too firmly imbedded to be affected by the magnet.

The magnet as a diagnostic instrument should be applied only after all other means have failed to show the presence of iron or steel in the eye. It is of the greatest importance that the patient be seen as soon after the injury as possible.

1. Trans. of Am. Ophthal. Soc., vol. II, p. 708.
2. I am much indebted to Dr. Harold Sneve for aiding me in my efforts to obtain good radiographs.

## VARIABILITY OF THE TUBERCLE BACILLUS.

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The variability shown by tubercle bacilli in their staining reactions and morphology has been made the subject of much study for more than a year at Fort Stanton, N. M. Facts have been observed which, so far as we have been able to ascertain, have not as yet been described in the literature of tuberculosis, or at most vaguely alluded to, and which we believe have importance in establishing early and correct diagnosis, as well as in other stages of the disease.

Our purpose now is to demonstrate the important fact that tubercle bacilli from different subjects, and from the same subject at different times, undergo changes in their affinities for certain dyes, to the extent, at times, of rejecting one or several while displaying avidity for others.

This phenomenon has been observed and studied by P. A. Surg. Cobb for several years past, to as great an extent as official duties allowed, but not until detailed at Fort Stanton was it possible for him to give the matter the attention it deserved. Since then the results of our experiments have not only confirmed his earlier tests, but also brought out some new facts hitherto unobserved. In this connection the reader is referred to Cobb's article in the "Annual Report of the Marine-Hospital Service" for 1898.

The text-books all seem to unite in stating that tubercle bacilli are best stained and demonstrated by fuchsin solutions, given solutions properly made up, of course, and sufficient experience and manual skill on the part of the operator in destaining and counterstaining. Now, in view of the fact that there are several preparations in the market designated as fuchsin, as well as modifications of the same substance under the names of magenta, rosanilin, solferino, etc.—all classed under the head of fuchsin—it is evident that the books are not at all clear as to what preparation is referred to as fuchsin. Generally little or no mention is made of the fact that several other dyes than fuchsin are able to stain tubercle bacilli equally well; or if alluded to at all the impression is usually conveyed that they require many hours in time, and the employment of aniline oil as a mordant, which of course renders solutions so unstable as to be worthless in a short time.* The different preparations of fuchsin, and the varieties known as magenta and rosanilin possess markedly different physical properties very easily observed, as varying solubility in alcohol, water and other liquids, staining of tubercle bacilli and other micro-organisms, etc. Grubler's fuchsin (S) is quite soluble in water, sparingly so in alcohol, gives no metallic luster in solution, and rarely is able to stain tubercle bacilli. Merck's fuchsin (anilin-red) is the entire reverse of Grubler's, but the latter's preparation of magentaroth seems physically identical with it. Of course, bacteriologists are aware of the different uses of the fuchsin preparations and varieties, but general practitioners are not always so, and often make the error of employing acid fuchsin (fuchsin S) in sputum examinations, which rarely stains tubercle bacilli, being intended for other purposes. This mistake is not to be wondered at, seeing that the instructions in the books are not sufficiently definite on this point. Grubler's Sudan III seems to be a most reliable stain for tubercle bacilli, while Merck's is said to be worthless for that purpose.[1] We have also noticed differences in efficiency in bottles of certain dyes from the same maker, especially so with methylene-blue, gentian-violet, fuchsin and safranin. Up to the present time we have had best results from Grubler's Sudan III, magentaroth, Merck's fuchsin, and Merck's methyl-violet. Malachite-green (Merck's) has worked beautifully in several cases, but our experience with it is only recent. Regarding mordants, we prefer carbolic acid to anilin oil, and use it with all stains except Sudan III, which does not require a mordant. As remarked before, anilin oil makes solutions very unstable, while those containing carbolic acid last much longer, excepting rosanilin which does not seem particularly valuable. To avoid complexity it is best to make all the formulas relatively identical, that is, where their physical properties permit. Thus the solution in which the different dyes are dissolved may consist of 5 per cent. carbolic acid in 25 per cent. alcohol. From 1 to 2 per cent. of any dye may be added and the solution is complete, though saturated solutions would be as good or better, but in the case of very soluble dyes the mixtures would be too expensive. Sudan III is an exceptional stain both in composition and principle, and for staining tubercle bacilli all that is necessary is to use a saturated solution in absolute alcohol. Except in rare instances any of these stains should do its work within two minutes, either hot or cold. Sudan III when dissolved in turpentine will also stain tubercle bacilli. The same destaining fluid, consisting of $HNO_3$ or HCl, alcohol, or $H_2SO_4$ 25 per cent., or sweet spirits of niter, can be used for all stains except Sudan III, which only requires plain alcohol.

The method employed in this laboratory in preparing the specimen for staining is one known as the Berlin method. Cobb improved this method, and as it is far superior to that in general use it will be described.

A portion of the sputum is removed with a wire hook, not necessarily of platinum, and transferred to a clean slide held between the thumb and index finger of the left hand. A second slide is now taken in the right hand, held in like manner, and pressed down upon the sputum on the first slide, and they are then drawn apart and pressed together alternately until a spread of uniform distribution is effected on the apposed surfaces of both slides, with the exception of a space one-half to three-quarters of an inch from each proximal end where the slides are grasped by the thumbs and fingers. The slides are then dried and fixed in the usual manner, and are ready for staining. When ready for examination, a drop of oil of cedar or glycerin is placed directly on the spread and the oil-immersion lens brought in contact with it. As this method dispenses with cover glasses its advantages are obvious. Cover glasses are objectionable, owing to their small size, brittleness, liability to cut and infect the fingers of the operator, and the general nastiness of the cover glass method. The improved Berlin method prevents error in demonstrating the staining qualities of any stains employed, as both spreads are prepared in the same manner and should contain the same relative number of bacilli. The demonstration of variability is also well shown here when one spread is beautifully stained by one method, and the other spread, when some other stain is used, often gives negative results. Glycerin is to be preferred to oil of cedar for oil-immersion work not intended to be permanent, as slides thus used are much easier to clean. But it should be clearly understood that even with glycerin it is not easy to rid slides of stained tubercle bacilli. It seems incredible that these germs can preserve their form and staining properties as they do in the presence of heat and alkalies, but we have often detected fairly well stained tubercle bacilli on slides boiled one-half hour in solutions of caustic potash. About the most reliable cleaning reagent we have employed is concentrated lye in strong solution, in which the old slides should be boiled at least one hour. Before proceeding with the subject of variability it may be of interest to note that tubercle bacilli can often be stained in absolute alcoholic solutions of several dyes to which pure carbolic acid is added. This is only mentioned because the books

1. Rosenberger, in the Journal of Applied Microscopy, June, 1900.

lead one to believe that the presence of water is essential.

In a small percentage of cases the bacilli are found to possess so little affinity for any stain that even very dilute acid destains them almost instantly, and only by the most delicate manipulation can they be demonstrated. In a few exceptional cases no tubercle bacilli can yet be shown by any method, though the patients present undoubted physical signs and symptoms of tuberculosis. Such cases, however, as well as the preceding ones, usually contain bodies of irregular conformation resembling bacilli and showing some affinity for the primary stains. These bodies may possibly be involution forms of tubercle bacilli. In a few cases experimented with who have lesions other than pulmonary, such as tubercular tonsil and lupus vulgaris, the bacilli seemed to indicate a preference for Grubler's fuchsin (S.) —the poorest stain for sputum. Only a few pulmonary cases here can be made to show tubercle bacilli with Grubler's fuchsin (S.), but these also stain with other colors. A very curious fact noted in several patients immediately upon their arrival was the impossibility of making their bacilli retain any stain by a quick method, though specimens exposed to the stain 18-24 hours were beautifully stained. This condition was not permanent, however, and in the course of a few days the bacilli would stain in the usual way. Differences in size of the individual bacilli are often observed, and as a rule seem to depend on the length of time the disease has been present, the older cases showing bacilli of nearly uniform size and few in number, while recent cases are apt to exhibit considerable variety in this respect, the sputum being loaded with bacilli, some so large as to inspire doubt as to their identity with the Koch bacillus, even though staining similarly and having the same granular structure. The so-called branching form of tubercle bacillus is occasionally met with in acute cases, though its occurrence is comparatively rare and its special significance, if any, is unknown.

In order to explain the fact that tubercle bacilli could not be demonstrated at all times in sputum from any subject, it has been frequently claimed—by observers who apparently employ only one primary stain—that the bacilli in question are absent at such times, and, presumably, only appear in sputum coincident with acute exacerbations in which active tissue destruction is going on. We must take exception to this statement or inference since making use of a variety of staining methods, confidently believing that in no well marked case in which tubercle bacilli have once been demonstrated are they ever absent from the sputum, though often rejecting one or other stain temporarily. This belief receives additional emphasis from the fact that introduction of sputum from such cases supposed to be free from tubercle bacilli into the peritoneal cavities of guinea pigs usually produce the lesions of tuberculosis and subsequent death.

Of course, sputum is more appropriate for demonstration of a large number of tubercle bacilli when raised in the early morning than during the rest of the day, but that fact can be readily explained on purely physical reasons. During the night, if the patient sleeps well, the pulmonary sputum accumulates, and as its water is transformed into vapor and removed with the breath, it becomes quite dense, and naturally contains many more bacilli than at other times.

It is often astounding when, after negative or doubtful results with one stain the specimen is tried with another or several others, and is then seen loaded with typical tubercle bacilli. On one occasion bacilli in the sputum of a certain patient could only be made to retain gentian-violet, but several days later the phenomenon was reversed, methylene-blue being held with avidity, while the former dye was so imperfectly retained that a diagnosis would have been impossible by its agency alone. Many other instances of variability have been encountered, and the importance of such in practical diagnosis must surely be considerable.

For quickly staining tubercle bacilli in tissue sections the following method is convenient: Place the section on the slide, and when the alcohol has evaporated apply a drop of a weak solution of egg albumin and gelatin; dry in air, fix with heat, and stain same as sputum spreads, except that heat should not be applied and staining and destaining ought to have about double the time.

### THEORIES OF VARIABILITY.

In view of the natural doubt likely to arise as to the bacilli which exhibit such remarkable variability being genuine tubercle bacilli, it may be well to enumerate the several other species of bacteria which, according to the text-books, possess the power to retain certain anilin dyes in the presence of dilute mineral acid. They are the following: 1. Lepra bacillus. 2. Smegma bacillus. 3. Acid-resisting bacteria in butter. 4. Bacillus of syphilis (Lustgarten). 5. Timothy-hay bacillus.

It is exceedingly improbable that any of these bacilli can be responsible for the peculiar variability toward stains so often noticed in connection with our patients when staining for tubercle bacilli. The bacillus of leprosy is out of the question, of course. The smegma bacillus can also be eliminated from further consideration in the large majority of cases, for obvious reasons. The acid-resisting bacteria found in butter might perhaps be present now and then in the mouth shortly after a meal, but they would not likely occur in large numbers in deep pulmonary sputum, and even if they did, they would shortly appear as colonies on glycerin agar plates inoculated from the sputum. A number of such tests failed to develop bacilli of that character, and examination of oral secretion from several healthy persons did not reveal bacilli capable of holding anilin dyes in presence of acid.

Lustgarten's bacillus of syphilis has always occupied a precarious position, which has become more so since the recent work of Van Niesen has been described. The discovery of the smegma bacillus nearly proved its death blow, but it managed to partially outlive that event, probably because of Lustgarten's claim that his bacillus had also been obtained from the central portions of gummata. Providing it is really an independent organism, it is probable it would stain as the tubercle bacillus usually does, and possibly this germ does figure to some extent in tubercle cases where the syphilitic infection is comparatively recent, but as at present there is no differential test, and as syphilitic consumptives are decidedly in the minority any way, Lustgarten's bacillus can not be considered a very formidable antagonist to the tubercle bacillus when it comes to a demonstration of acid-resisting germs in sputum from a patient having physical signs of tuberculosis.

Regarding the timothy-hay bacillus nothing definite can as yet be said, but considering its habitat, and as a result its association with stables, corrals, etc., its relation and possible identity with the acid-resisting germs in butter becomes a matter of interesting speculation.

The alleged saprophytic form of tubercle bacillus described by Ferran should be briefly mentioned. He asserts that spermin is produced in the cultures, but as we have not yet been able to obtain his full report as to the staining properties and pathogenesis of this variety, nothing further can be said about it here.

Scratches on the surfaces of slides will frequently confuse and mislead a beginner, and their frequent occurrence on slides that have been used several times should always be remembered. They hold the primary stains in presence of dilute acid and after moderate boiling, and often closely resemble bacilli, but generally they can be recognized without difficulty if the following points are borne in mind:

1. Several usually occur in series, resembling minute arcs of a circle.

2. All members of the series have about the same degree of curvature.

3. Their extremities are generally pointed.

4. A granular appearance is not usual.

5. They stain deeper than tubercle bacilli, and have greater power of refraction.

The subject of scratches on the surfaces of glass slides is mentioned here because of the fact that errors in diagnosis are known to have been made from this source.

### THE PHYSICS OF VARIABILITY.

It can be taken for granted, in view of Koch's and Klebs' experiments, that the only reason tubercle bacilli are able to resist the destaining action of acids is because of the large amount of fat they contain—about 22 per cent. Possibly and very probably the physical condition directly responsible for the apparent absence or great scarcity of tubercle bacilli in the few cases where we were not able to make satisfactory demonstrations while undoubted physical signs of the disease were present is a relatively small percentage of fat in the individual bacillus. Klebs asserts that when tubercle bacilli are exposed to the action of strong alkalies for some time they lose their power of retaining stains against acids, and thereafter act like most ordinary bacilli toward stains and destains. While the fat hypothesis may hold good for the cases just mentioned, it cannot explain the variable affinity of genuine tubercle bacilli for different anilin dyes whose principle of action is apparently the same. In these cases it would seem that some essential modification in the fat or stroma or capsule is brought about, varying in nature and extent, so that at one time a certain stain or set of stains has a greater chemical affinity for the modified bacterial substance than at another. We have often noted that a specimen in which no typical bacilli could be demonstrated nevertheless contained granular bodies which held the primary stain. Klebs states that these are disintegrated tubercle bacilli. We were usually able to demonstrate typical bacilli in such cases at a later period. Sputum is, as a rule, strongly alkaline, and that fact may have some importance in the cases recently alluded to where the bacilli can only be found with difficulty or not at all, the hypothesis of saponification to a greater or lesser extent being then tenable. But the amount of alkalinity alone could not explain, for instance, why gentian-violet is preferred to methylene-blue at times, or the reverse. The peculiar sweetish taste so common in the sputum of tubercle subjects may perhaps indicate the presence of one or more substances having special mordant or destaining properties for certain stains. So far as we are aware, previous chemical experiments to isolate this sweet substance, or substances, have resulted negatively. Tuberculous sputum does not give the Ehrlich diazo-reaction, fresh or boiled, acid or alkaline, only showing a deep yellow ring when the ammonia is added, and not the intense red one frequently seen in the urine. In our experience this reaction is most marked in the urine of cases where the disease is actively progressing and constitutional symptoms are quite severe. The output of urea is increased in this altitude.

Whatever the chemistry involved, it is probable that the phenomenon of variability is ultimately the result of one of two factors, or a combination of both, namely: 1. The production of a specific antitoxin. 2. The presence of extensive mixed infection.

That a specific antitoxin is produced in tuberculosis as in other infectious diseases there can be no reasonable doubt, and that being admitted, it seems certain its presence must affect the vitality of the bacilli more or less. The changes thus brought about may have for their visible manifestation the capricious staining reactions so much discussed here; in which case the variations exhibited would indicate the different stages of vitality possessed by the bacilli, some stains having affinity for strong organisms and others for debilitated ones. Speculation along these lines naturally brings in the subject of immunity at the same time, and certain aspects of it are nowhere better exemplified than in the clinical observation of a number of tuberculous patients. Take, for instance, individual or relative power of resistence to the action of toxins produced by tubercle bacilli. Some patients, presenting physical signs of extensive tissue destruction in both lungs, will live on for a long time without becoming markedly worse. The turning point on the downward arc is passed, and then, slowly but surely, progress towards recovery is made. In those of this class who do not recover the necropsies frequently reveal the fact that death was more the result of gradual suppression of functional activity than of intoxication. On the other hand, some patients, having a comparatively small amount of tissue involved, will show a marked susceptibility to the toxic action resulting, rapidly growing worse in every way and shortly succumbing to the disease. The necropsies usually confirm the physical findings in life, showing that only a small portion of pulmonary tissue was functionally inactive, and consequently that death was the result of intoxication and not loss of function. Of course, in such cases, mixed infection probably plays a more important role than generally given credit for.

The relation of mixed infection to the variable staining properties of tubercle bacilli and to the clinical phases of the disease is, we have reason to believe, a subject worth much time and study, though somewhat neglected since the first rush of cultivation experiments following Koch's memorable discovery. We have recently given some attention to it in a superficial way. But the whole subject ought to be gone over again thoroughly. Streptococci are usually spoken of as being of most importance in mixed infection, though in our experience staphylococci are much more in evidence. However that may be, the fact remains that in the matter of vitality streptococci have the advantage, our cultivation tests having demonstrated their ability to survive exposure to carbolic acid 5 per cent., and bichlorid of mercury 1 : 1000, about as long as tubercle bacilli. The idea may be reasonably entertained that the chemical product of other organisms, present in large numbers in tubercle sputum, may be, in part, at least, the cause of the staining variations shown by tubercle bacilli. Ina-

bility to stain readily, or erratic manifestations in that direction, probably indicate lowered vitality of the bacilli. There are a number of facts which show that some microorganisms (the products of their vital action) are inimical to the growth and life of others. It will be interesting to note the effects produced on tubercle bacilli—from the staining point of view—when other germs are grown along with them; also the action of blood serum of appropriate animals immunized to tuberculin and the far more powerful toxins recently extracted from tubercle bacilli.

In this connection the clinical relation of other diseases to tuberculosis, when coincident with it, should receive brief mention. There is evidence showing that in several tubercle cases attacks of smallpox apparently eliminated the former disease. The clinical observations of Portucalis on the relation of syphilis to tuberculosis are interesting, and his conclusions will be quoted verbatim:

"(1) Syphilis, when it is contracted by a phthisical patient, arrests the course of the earlier disease. (2) When contracted by a patient already suffering from phthisis, syphilis runs a mild course. (3) The antagonism between the microbes of these two diseases produces a neutralization of their toxins. (4) When the microbe of syphilis has been discovered, and its cultivation made possible, we shall be able to prepare a serum with which consumptives may be inoculated and their disease arrested. (5) Inoculation with the blood serum of syphilities in the third stage would be of great advantage to consumptives."—*Med. Rec.*, Sept. 8, 1900.

From the results as noted in the foregoing it seems logical to advance the following

CONCLUSIONS.

1. Tubercle bacilli are not always so easy to demonstrate as is commonly believed, even though present in large numbers.

2. The fuchsin solutions, like those of other dyes, can not at all times be absolutely depended upon.

3. Tubercle bacilli from different patients, and from the same patient at different times, will not invariably stain by one method.

4. The bacilli exhibiting these varying staining properties are genuine tubercle bacilli, and not other species of acid-resisting germs.

5. The staining variations probably depend on physical and chemical changes in the bacterial substance, instituted either by antitoxic action or by the products of associated organisms, or by a combination of both.

6. In the absence of demonstrable tubercle bacilli, where physical signs of tuberculosis exist, a prompt diagnosis of that disease should be confidently made in the interest of the patient, and no valuable time be lost in waiting for typical bacilli to appear.

## MEDICAL COLLEGES AND PROFESSIONAL STANDARDS.

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According to the report of the United States Commissioner of Education, in 1899, there were in that year 23,778 medical students and 4911 medical graduates. Between 1875 and 1899 the increase in the number of medical students was 177 per cent. But not alone upon statistics do we depend for confirmation of the crowded state of the profession. The fact is so patent and alive that much of the editorial space of leading medical journals is devoted to a discussion of the condition, its cause and its cure.

That a majority of the profession is incompetent and unworthy, is not subject to statistical proof. To the unprejudiced medical observer of the profession of almost any locality, the truth is patent that very many of its members are persons of inferior ability, questionable character and coarse and common fiber. The little esteem in which the profession is held by laity and government attests its unworthiness. Patients whose number is legion throw themselves from its arms into the embrace of quackery, and we must admit that the support is often as effective in the one case as in the other. "Christian Science," mental healing, magnetic healing, and osteopathy reap a rich harvest from the incompetency of regular practitioners. Granted that the wisest and most conscientious often stumble, to any one possessed of medical skill witnessing the mistaken diagnoses, inefficient and ofttimes barbarous, treatment, and the unconscionable fleecing of a credulous public by members of the profession, is borne in the conviction that, like the traveler on the Jericho road, he has fallen among thieves. The public can not discriminate. In its view there is no comparison of a degree which, qualitatively considered, varies as between mud and mind. The influence of the profession is not felt in the conduct of government. Bills championed by its foremost members are pigeon-holed in the committee room. Just bills for compensation for medical services rendered to the public are not allowed; while those licensing quackery make triumphant passage from the first reading to the governor's signature. The opinion upon matters medical of the ignorant member from X. outweighs that of the highest in the profession. Why? Because the profession does not conform to that short rule of Dr. Holmes' for acquiring the confidence and esteem of the public—to deserve it. Unquestionably the cause of professional degeneracy lies in the educational requirements made for entrance to the profession: and hence the question resolves itself into one of medical colleges, their number, their location and their standards. The educational aspect of medicine is seldom discussed in our societies. Are we dwellers in houses of glass and hence wary of stone-throwing? In defense of the highest, it is well if all our houses of glass be shattered that we must build more enduring.

Medical colleges exist far in excess of any public need. Like the country store which doles out its inferior wares at every cross-roads, a so-called medical college is found in almost every town of generous size; and to obtain a medical degree is within the possibility, intellectual and financial, of any youth, however lacking in mental and moral fitness. In inverse ratio to the frequency of medical colleges do we find the extent of their equipment. In the majority of cases they possess few facilities for demonstration; are located in towns where there is not a sufficient number of dependents to furnish requisite clinical material; and generally have as instructors men of mediocre or less ability. The same law that holds in trade, to-wit, that the best interests of the consumer are served by bringing him as near as possible to the center of distribution, obtains as regards medical instruction. The report of the United States Commissioner of Education for 1899 notes 151 medical colleges, the recent estimate of the Secretary of the AMERICAN MEDICAL ASSOCIATION is 173. No doubt the latter figure is more nearly correct. As an institution of local ill-fame and more than average depravity is not noted in the list it is probable that other choice institutions throughout the land do not appear in this report. The total number of medical colleges in Austria and Germany, with a population greater than in the United

States, was in 1898, twenty-nine. In the same year, Great Britain with a population more than half ours, had seventeen. The editor of the *Medical Record*, commenting upon the discrepancy, while admitting the greater need of America by virtue of its less dense population, adds: "But we do contend that when a city the size of St. Louis has as many medical schools as Russia, the craze for multiplying these schools is being carried to absurd and harmful lengths." As regards the establishment of medical schools there seems to be but one governing idea, that they may have life, considered in a purely quantitative sense, and have it more abundantly. Instead of bending its energies to the eradication of the large number of medical schools which are a blot upon its escutcheon, the profession establishes ever more, perhaps reasoning homeopathically that one poison will antidote another. A motto which might appropriately adorn the portals of many of our medical colleges, were fitly expressed in the lines of the old doggerel: "Will you walk into my parlor, said the spider to the fly?" Being generally a very inexperienced fly, fresh from sylvan groves, he often accepts the invitation, and can never thereafter extricate his feet from the mesh of inadequate instruction and indifferent example found therein. Professional welfare is not a desideratum in the founding of most medical colleges, they being merely reflectors of personal ambition. To most men the good of the moment is paramount. Few there are who, tempted upon the mountain of personal ambition, offered a professor's title or an enlarged fame and clientele, can, following the Nazarene, exorcise Satan.

Excessive multiplication of medical colleges entails inferior instruction and example. Prophets are not as thick as roses in June, and to be divinely called to the instruction of youth is a distinction to which few attain. Too often men who have not sufficient interest in their profession to attend the meetings of a medical society, who, if they possessed the energy, have not the ability to write a correct medical paper, much less appreciate one, and whose morals are for the most part in that nebulous stage where the distinctions of *my* case and *thy* case, are but dimly revealed, are, forsooth, set apart as instructors and inspirers of youth.

Commensurate with the vast strides that medicine is making along the lines of bacteriology and physiologic chemistry, laboratories are demanded, requiring for their equipment large sums of money, generally not available to the small institution. However, given the endowment the latter can build and equip the laboratory and call men of ability to professors' chairs. You can make a bacteriologist in a laboratory; you can not make a physician. To make a physician demands a large clinical experience, legitimately obtainable only where there is a large dependent population, and hence only in metropolitan centers. To acquire a knowledge of pathology demands a rich autopsical service, possible only in connection with large charity hospitals. While to maintain clinics sufficient for the instruction of medical classes were in Chicago feasible and defensible, in the town of 50,000 it would well-nigh pauperize the entire population. So irrationally have medical schools been established in our large cities that it is recognized by sociologists and charity workers as one of the most potent causes at work to undermine the sense of economic independence and self-respect in the community. The clinics must be filled; hence, the ability to pay of those seeking relief can not be questioned. The official of the railroad and the banker's wife seek unquestioned the free medical services offered therein. Not alone are the laity pauperized; the young practitioner walks long and wearily in the borderland between inanition and starvation. My statements are fact, not fancy.

It is granted that there are men in the small towns and the country—that brooder of self-reliant strength—possessed of sufficient ability and character to honor a professor's chair; but this does not justify the founding of the medical college in their midst. Let him who deems his light hid under a bushel remove to the medical center, where, if he possess transcendant ability, that recognition it merits will be vouchsafed.

While we Americans are proud of our state universities, which bring within the possibility of well nigh every young person the higher education, we must admit that they are liable to severe criticism. A chief indictment is their incorporation of the medical department. In no case does a state school take first rank among medical colleges; and with little exception to eliminate the medical department from the state university should be our constant aim. Besides the objections already named, applying to state schools because of their usual location in small towns, their students lack the inspiration arising out of association with a large working profession and access to large medical libraries. Boards of Regents need education along this line. That a majority of our 173 medical colleges require a four years' course is no adequate basis for judgment as to their worth. It has been said: Better fifty years of Europe than a cycle of Cathay." A safe criterion is the old injunction: "By their fruits ye shall know them." Teeth set on edge by sampling the product sent into many a hamlet is sufficient evidence that either the persimmon was prematurely plucked or intrinsically beyond the embrowning and sweetening influence of sun and frost.

But not alone do we find explanation of the excess of medical colleges in the commercial spirit of the time. There is an ultra-democratic tendency abroad—somewhat in disrepute at present in governmental circles—which maintains that nothing is too good for anybody, ignoring the fact that there is an aristocracy of intellect and character not dependent upon birth, to which, if our civilization is to grow and endure, we must entrust guidance. If this be a trust, let us have it.

While recognizing the great ability and disinterestedness of members of faculties, and the worthy equipment of graduates of our two Nebraska medical schools, I affirm that for Nebraska to maintain one medical school, much more two, is in contravention of the fundamental law of professional progress. Until the profession can be brought to this way of thinking, until, in the words of Emerson, "Private men can be brought to act with vast views," we can not look for amelioration of professional conditions.

In closing, let me not be misunderstood. I would not ignore the many noblemen in character and intellectual grasp, who have not behind them the momentum of birth or general culture, or best or even good medical training, but who have by innate ability, untiring devotion and unimpeachable honesty, won highest professional honors. To such no added restrictions to entrance to the profession would oppose ultimate success. Such are not the supporters of the diploma mill.

"Hope springs eternal in the human breast," and that such is the case justifies the belief that there is ever a basis for hope. Along with our commercialism, our intense individualism, there is growing a reactionary collectivism, proclaiming the solidarity of the race,

that the good of one is the good of all, upholding the law of individual sacrifice as the only saving grace. Ultimately, he that exalteth himself shall be abased, is the case of the physician in the abasement of a prostituted profession. The cosmic law of Huxley, tersely if inelegantly state as, "Every man for himself and devil take the hindmost" has yielded, in theory if not in practice, to the ethical, where personal sacrifice rules.

In the service of a regenerated profession, let us conform to this law. Let us not for personal ambition commit the unpardonable sin, medically considered, of further lowering educational standards, by foisting more medical colleges upon an already basely deluded public. Let us labor unceasingly to raise professional standards by upholding the thorough preliminary education (a college course, and that not obtained from the sectarian academy of the cross-roads); medical reciprocity obtained by national regulation of medical schools and rules governing admission to practice, and the best professional training.

Let fewer and better be our motto. Let us discourage the entrance of the unfit into a profession to guard whose honor should be our every thought. What I have said I enter as a protest against evils which are not chimerical, and which can not be met after the manner of that accorded to the prejudice in the rhyme, by assuming an absent-minded air and walking directly through them as if they were not there. They stand a solid and impenetrable hulk athwart the path of professional progress, requiring for removal the lever of an intelligent and disinterested attitude on the part of the members of the medical profession.

## PHILIPPINE CUSTOMS AND HABITS.

J. C. MINOR, M.D.
MAJOR AND SURGEON, U. S. VOLS.
MANILA, P. I.

In the next decade there will be as great changes in the Filipino medical world as there will, doubtless, be in the civil government of these possessions. A record of a few of the things that are, may for comparison in some time to come be pleasant to remember, if not interesting now. There are many customs among these people that have a naturalness about them that is refreshing, others that are deplorable, and others yet that so squint both ways that it is a pertinent question to ask: Who knows which is right?

To the eye that sees in nature God's best gift—health, nothing can be more pleasing than the customary dress of the women of the Philippines. From the artists' standpoint beautiful; from that of the sociologist unchangeable; and from the standpoint of the sanitarian healthful and therefore faultless. No modiste of society's chameleon-like world has fashioned for woman a gown more pleasing than the *sarong* of the Moro, or the comfortably draped *harmartin* of the Igarrote or Negrito. It is true, one often feels a disgust for the apparent filthy garb among the lower classes of women while they work; but on a feast-day or a Sunday, one has to wonder at these same creatures as they appear with fan, cigarette and sunshade in their gowns of *jusi* and *pinya* to whisper devotion to the Virgin, or whirl in the waltz at a *baile*. One wonders at the hazardous manner in which the drapery clings to the wearer. But for centuries the style has remained unchanged and these garments have faithfully adhered to each generation, namely, a *pannela* (or neckerchief); large loose sleeves; a loosely draped bodice or *camisa*; a gingham, calico, hemp, or silk brocade (according to purse) skirt; toe slippers—no corns, no corset and no tight bands—veritable walking advertisements for the late lamented Mrs. Pinkham's shibboleth "yours for health." Childbirth among them is what I believe God intended it, a physiologic process and not a disease, nor a disgrace. The occasion rarely demands the surgeon's aid, a female friend officiating more as a companion for the woman and nurse for the infant than for professional services. The infant receives all attention. The attention consists of annointing with cocoanut oil, severing the cord and applying a clean cloth belly-band. The new-comer is then wrapped in a towel, or among the better element attired in a little slip of some dainty fabric and laid aside for inspection by the friends who have gathered to welcome it to its new world, which in the absence of flannel possibly is already growing more or less chilly to the little adventurer.

Gathering at the River.

The National Bath, open at all hours.

Labor rarely consumes more than four hours. Death of a mother in child-birth is infrequent, nor are puerperal sequelæ more frequent. As a rule these hardy women are up and at work in a day or two; often they are not confined to bed at all and are in attendance the third day at the Christening *baile* (ball or dance). Abortion and miscarriage are seldom or never encountered; if either does occur it is from accident and never induced. Still-born babies are common.

The people as a class seem to know little or nothing of what to do for *the helpless,* whether it be to assist an infant in its advent to the world or minister to the wants of an adult sick enough to go to bed. They usually sit around and do nothing until Providence or Death relieves the sufferer.

The corset, until the past year, in many towns has never been worn. Now, many of the upper-ten Filipino

The Costume del Pais. The Water Carrier, with Bamboo Bucket.

women imitate the *senorita Americana* by donning on feast days, etc., this agent of the devil and gynecologists. Just how soon the civilizing influence will suggest to the Filipino mother the "inconvenience" of bearing children remains to be seen. Now, to be a mother seems

Smoking at the Baile.

to be their dream of happiness. Matrimony is held in high esteem by all the natives I have lived among. Rape and illicit intercourse are seldom heard of. A woman's highest ambition seems centered in maternity. Her fondness for the first child is only exceeded by her expectations for the future. The facility with which labor is accomplished doubtless encourages the industry, and so "pickaninnies" (as they are commonly called here) are as plentiful as blackberries.

The fact is noticeable that these people are modest; and although they have no hesitancy in going more than half naked about their vocations and even obeying calls of nature by simply stepping a pace or two aside, they deem it shameful and unpardonable to make an indecent exposure of himself or herself to the opposite sex either in public or in private. In my practice among them I have found it difficult to obtain an ocular examination of the genitals of the few men I have encountered with venereal diseases; and so far have been unable to make either a specular or digital examination of a native woman.

Their unceremonious manner of stepping aside to relieve the bladder, any time or anywhere, possibly accounts in a great measure for the infrequency of vesical irritation, cystitis, enlarged prostate and other

Smoking at Work.

diseases dependent in origin on prolonged retention of urine and dilation of the bladder.

SANITATION.

Sanitation in the native hamlets of the Philippines is as simple as it is primitive. There is no systematic manner observed in the disposal of sewage and wastes. The well-to-do class have a bath room and closet, usually in the kitchen, always near the kitchen. The bathing facilities in the aggregate for the well-to-do consist of a large, cumbersome and homely tub or stone tank with half a dozen servants to fetch water. The closet is generally a stone flume opening flush with the floor (an armed chair decorated like a throne sitting over the opening) and emptying either into a well for the purpose, or having a side opening at the ground below with a trap door through which the deposited matter is removed or not according to the memory of the *major domo:* the olfactories of the household being so obtunded by tobacco smoking that they rarely sug-

gest to the owner of the house or its functionaries the propriety of an inspection. The poorer classes have probably the more efficient method of disposal of wastes, certainly the most convenient and labor-saving. Every native owns a hog; the native "presses the button." Sometimes an uneducated hog has to be tethered underneath the kitchen corner till he learns his business. The poorer class bathes in public by getting under a spout in the rain or by douching with bucketful after bucketful from the well. They never expose their persons in these ablutions. The pickaninnies bathe without a rag on, anywhere and everywhere.

They are opposed to putting offal in heaps or holes, but whether by reason or instinct or habit (I know not which) they scatter all rubbish to the four winds, or dump it into the most convenient water course. At Zamboango (Mindinao) as also at Romblon and other places a sluggish but large mountain stream is artistically led and decorated with sod, flowers and bridges throughout the corporate space, and supplies the native contingent with baths, water for drinking and laundry purposes; all three acts were formerly played indis-

Smoking at Home.

criminately at every and all points along the narrow space of this overworked stream. Strange to say the population of the two towns mentioned (I am credibly informed) has never been affected with epidemic disorders. It is difficult to account for this immunity unless it is because those who survive the atrocious ignorance displayed by parents in rearing them to the age of 10 years, must be invulnerable thereafter.

Though their method of scattering wastes to be dried and evaporated and carried off by the winds appears to have some virtue, such a method must be an important factor in producing the prevailing diseases in the towns, viz., skin affections, tuberculosis, etc., since they all are afflicted with the habit of drying the newly-washed laundry by spreading it out on the nearest stretch of ground. I have seen in some of the laundrying neighborhoods the streets (there are no pavements) so covered by drying garments that one could walk past only by picking one's way and stepping over and jumping the various articles. They never boil their laundry; wood is too scarce. They are most of the time washing clothes and (it seems) the time not spent in this high calling they put in washing themselves, smoking, dressing and attending fiestas and funerals.

Smoking is just as constant a quantity with a Filipino as "x" is with an algebraic equation. It does not seem to matter a particle whether the proposition be a female symposium of washerwomen "gathering at the river" or a galaxy of beauty and white-duck at a church festival or a ball, one will find "x" = constant quantity = tobacco, either in form of a cigarette or a cigar as big as a marlin-pin. It is smoked by old and young, male and female. Sometimes for a change they chew *buyo*. This is to the native of the orient what "navy" and "climax" is to the American. It is the betol-nut, or the nut of the *bongao* tree wrapped in the leaf of the *buyo tree*. The nut is about the size and formation of the nutmeg and they cut it into four pieces. Each piece with a pinch of lime is daintily wrapped in the green *buyo* leaf and sold to consumers for an eighth of a cent. They keep it in the mouth like a quid of tobacco. The ostensible effect is that of giving to the teeth an indian-red color. The subjective effect is said to be sedative and pleasing after eating. They chew it while at work also, and the beginner expectorates a deal more than is consistent with decency. The constant use of *buyo* seems to have a deleterious effect on the teeth; and both directly and indirectly it impairs the digestive function.

In many towns the natives have come to believe that Americans are strong and large of frame because they do not use tobacco in childhood as do their own pickaninnies. They do not seem to know that a Volunteer has to be strong and large in order to become one, so in many towns the council has forbidden the use of tobacco by children under 16 years.

A statistical report on the mortality of children in this country would be of interest, the mortality under the age of 10 being high everywhere and in some localities as high as 90 per cent.

## MEDICAL DEPARTMENTS IN PUBLIC LIBRARIES.

C. D. SPIVAK, M.D.

President Colorado Medical Library Association; Editor Medical Libraries.

DENVER, COLO.

In the world of industry we witness a tendency toward co-operation, unification and centralization. The one line store passes out of existence and its place is taken by the department store. The same tendency is prevailing in the educational world. The medical school proper is slowly disappearing and in its stead comes the medical department of the university. The libraries in large cities like New York, Chicago, Boston and elsewhere are becoming in one way or another merely departments of one great library system. The state libraries of several states have discarded the idea that its books are intended only for the delectation of the state solons—a law library pure and simple. These progressive libraries collect, preserve and make available for the citizens of the state books on agriculture in its various subdivisions, mining, engineering, natural philosophy, etc. Medical departments in public libraries were but few until 1898,[1] when there were only 13 medical departments in the United States, including departments in university libraries that are not supported by the state. Since 1898, however, the movement for the establishment of medical departments in public libraries spread rapidly, thanks to the passage

1. Spivak: Medical Libraries in the United States: Phila. Med. Jour., 1898, vol. II, p. 851

of resolutions by two powerful organizations favoring such departments, namely, the AMERICAN MEDICAL ASSOCIATION and American Library Association.

At the meeting of the AMERICAN MEDICAL ASSOCIATION, held at Denver, in 1898, the following resolution was adopted:

RESOLVED: That the AMERICAN MEDICAL ASSOCIATION unanimously approves of any ethical and legitimate methods of encouraging the organization, perfection and support of public medical libraries in all cities, towns and villages of the United States, and urgently urges upon the members of the ASSOCIATION to aid in the formation and organization of such libraries.

This resolution stands unique in the annals of medical history. For the first time has the subject of medical libraries been brought up for discussion before such an august body.

One month after the Denver meeting of the ASSOCIATION, the men who hold the keys to all the libraries of the United States met at Lakewood, N. J., and passed the following resolution:[2]

*Whereas*, the public library should be the means of stimulating all neighborhood, intellectual and scientific progress, and of representing the combined helpful forces ethical mental and sanitary, furthering the well-being of the entire community, it is therefore

RESOLVED, That in the opinion of the American Library Association it is both possible and advisable in the interests of the library, the profession and the community that public libraries should have medical departments and that physicians and medical societies be cordially invited to co-operate with the librarians and trustees of public libraries in establishing and maintaining such medical departments.

Three years have passed since these two resolutions were adopted, and now a voice is raised in protest against "spending the money of the people for books benefiting only one class."[3] The author, Dr. G. E. Wire, introduces himself to the readers as a graduate in medicine and also of a library school, and therefore is presumed to know whereof he writes. He is not satisfied with theoretic considerations alone, but he hurls an accusation against the physicians in stigmatizing the movement for establishing medical departments in public libraries as having grown out of the "ambition of a comparatively few men to make the people pay for books by which they may enrich themselves." He is especially bitter against the 2000 physicians of Chicago, from whom, in his five years of work in the Newberry Library, he could not "gain one iota of wisdom relative to the selection of books or periodicals." What personal grudge Dr. Wire has aganist the physicians in general and the Chicago profession in particular I know not, but it sounds incredible that 2000 men who constantly read medical books and periodicals could not impart to Dr. Wire one iota of wisdom concerning the things they are most familiar with. Is not there, perchance, something wrong with the receptive faculties of Dr. Wire? But admitting, for the sake of argument, that the physicians could not help Dr. Wire in selecting books, this argument does in no way militate against medical departments in public libraries. It is not the duty of the physicians to select books; it is the business of the librarian. Dr. Wire says, however, when he left the Newberry Library, the library contained 25,000 volumes, and 400 current medical periodicals were received. Dr. Wire, then, has evidently done his duty, whether with or without the aid of physicians. Since he left (1895), the library doubled the number of its volumes, and is now considered one of the best medical libraries in the United States. We know, also, that in the medical libraries of Philadelphia, New York, Boston, Brooklyn, Cincinnati, Denver, etc., the books are selected by committees composed entirely of physicians, and Dr. Wire knows that these libraries will stand comparison with any special library in the world.

The only argument of sociologic import which Dr. Wire brings forward is that a public library should spend the money of the people for books benefiting the "public" at large and not a particular class of readers. Now the question is, who is the "public"? What does the public read? If we should take as a criterion the nature of the majority of books read in the public libraries, then 95 per cent. of the reading of the "public" consists of novels, the bane of every librarian of the land. Yet there is no library whose stock consists of 95 per cent. of novels. Ought the public libraries exclude books on agriculture because this would be catering to farmers, books on chemistry because they supply the wants of chemists? Are not the few, the 5 per cent. readers of "solid literature," who read books on psychology, biology, bacteriology, pathology, sanitation, physiologic chemistry, etc., the real "public," for whose sake books are written, published and preserved. Without these few readers, the public libraries might as well shut up shop or limit their activity to dispensing cheap novels. We have quite a different conception of the function of a public library, namely, that it should be the repository of the world's literature, in the widest sense of the word, and that it should endeavor to supply the varied wants of all its patrons.

After Dr. Wire has exhausted all his arguments, he says in conclusion: "Why do they (physicians) not have their own libraries, supported by themselves as do the lawyers in every considerable city? You do not find lawyers clamoring for law departments in public libraries, and why should the physician be so favored at the public expense?" Dr. Wire, who is a frequent contributor to library literature, and is at present a law librarian, ought to know something about the law libraries in the United States. It seems, however, that even lawyers could not add to his wisdom. Now let us be reasonable and look into the statistics of the subject. According to the statistics of libraries in the United States, published in 1897 by the U. S. Bureau of Education,[4] there are about 100 libraries each devoted exclusively to medicine and law. Out of the medical libraries only about ten are medical departments supported by the state or government, whereas every state or territorial library is *eo ipso* a law library, and therefore the number of supported law libraries amount to more than sixty. That is the reason the lawyers do not clamor for law departments. The lawyers have all they want without asking for it.

We are sure the librarians and physicians of the United States, who have inaugurated the movement for establishing medical departments in public libraries, will continue their good work, and we hope a time will come that whenever the people's money is spent for books, a part of this will go for the purchase of books of that branch of the useful arts which deals with the questions of how to cure, prevent and eventually exterminate disease.

2. Library Journal, vol. xxiii, p. 293.

3. Medical Departments in Rate Supported Public Libraries. Public Libraries, May, 1901, p. 267.

4. Statistics of Libraries and Library Legislation in the United States. Washington, 1897.

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## TRICHINOSIS AND TRICHINA INSPECTION

In his recent address before the Philadelphia Pathological Society Charles Wardell Stiles, of the Bureau of Animal Industry at Washington, discussed in a very interesting manner the relations of trichinosis to public hygiene.[1] He calls to mind that about half a century ago the late Joseph Leidy of Philadelphia, in a slice of cold ham which he had cut for the purpose of making a sandwich, made a discovery that was fraught with importance to medicine, to hygiene, to national economics, and to our diplomatic relations. Leidy's scientific curiosity got the better of his appetite, and he demonstrated that the little specks which attracted his attention were due to a small worm, *trichinella spiralis*. Already described by Owens in 1835, Herbst shows by experiments that the worm could be transmitted through food, and Zenker in 1860 established definitely its relations to a form of disease which previously had been confounded with typhoid fever. Eventually the discovery in which the ham sandwich figures so conspicuously gave rise to a special occupation giving employment to 40,000 to 50,000 persons; it resulted in the prohibition of American pork into Germany for a period of nine years, caused a bitter political fight in Germany and the farmers and exporters in this country a financial loss of millions of dollars; it saved hundreds of human beings from disease and death, inaugurated the most elaborate system of public hygiene ever put into practice and gave a mighty impulse to the study of etiology of disease.

Stiles discusses ably the powerful influence which the discovery of trichinosis has exercised upon public hygiene and public policy and then turns to the question of the effect which American pork has actually had upon the health of Germany. He above all others is most competent to speak with authority upon this point, because he has investigated the question thoroughly, having been delegated by the authorities at Washington to go to Germany for that particular purpose. It is pointed out that there are two methods available for preventing trichinosis, a disease which once established is beyond medical treatment, namely, microscopic inspection of the pork before it is sold, and education of the people to avoid eating pork before it is thoroughly cooked or cured, to do away with offal feeding of hogs, and to regulate the country slaughter house. In Germany there is a widespread custom of eating raw pork, and the German microscopic inspection—for which purpose 27,602 persons were employed in 1896—is certainly calculated to foster the custom of consuming raw pork because it gives rise to a feeling of false security among the people. During the exclusion of American pork from Germany (1883-1891) there was reported from that country an annual average of 454 7/9 cases of trichinosis, with 30 4/9 deaths. Since the readmission of American pork (1892-1898) the annual average has been 149 cases, 3 6/7 deaths, so that it can not possibly be maintained that American pork has caused any increase in trichinosis in Germany. In fact, Styles shows conclusively by a summary of German statistics based on German evidence that the sanitary quality of American pork exported to Germany is fully vindicated. Indeed, he goes so far as to intimate that the total prohibition of German pork in Germany and the compulsory use of American pork "would probably do more to eradicate trichinosis than does their elaborate and expensive microscopic examination." Not a single case of trichinosis has been traced to the more than 200,000,000 pounds of pork exported from this country to Germany during 1892-1898. No one has claimed a reward of 1000 marks offered since two years by American importers to the first person who can "prove a case of trichinosis in man in Germany due to American cured meats or sausages imported under the American certificate since 1891." The important lesson in public hygiene from the figures and arguments presented by Stiles is that the present curing methods employed in this country are superior to a general compulsory system of trichinia inspection.

That the custom of eating raw pork obtains at least to some extent among Germans in this country is probably indicated by the fact that of 274 American cases collected by Stiles, in which the nationality was ascertained, 76 per cent. were Germans.

1. Proceedings Path. Soc. of Philadelphia, 1901, iv, 137-153; The Journal A. M. A., xxxvi, 1577.

## THE RELATIONS BETWEEN ALCOHOLIC INDULGENCE AND VENEREAL DISEASE.

Of all the infectious diseases there is none so easily and so surely avoidable on the part of the individual as the venereal diseases. It becomes therefore a most important matter to inquire into the influences that lead up to exposure and favor infection and to aim at their removal as far as possible. Now, alcohol gives rise to certain physiologic effects that may result either in simple functional disturbances or in actual structural or organic disease. While alcohol is primarily a stimulant, it becomes, when taken in large amounts or for long periods, a depressant, lowering inhibitory activity, especially as exhibited in the psychic sphere. It is in this way that it leads to sexual abuse and that it acts as a predisposing cause of the venereal diseases. Of this relation practical experience affords abundant evidence, a statistical presentation of which has been undertaken by the distinguished psychiatrist Dr. Aug.

Forel,[1] who dwells upon the frequency with which alcoholic indulgence on the part of young men, and even of young women, leads to illicit sexual intercourse, with its obvious attendant dangers, while he points out upon the other hand that a large proportion of prostitutes are the offspring of alcoholic parents. In both sexes alcohol increases sexual desire, while it blunts the moral sense and lowers the powers of resistance. It further increases indifference to the results of illicit intercourse and carelessness in their prevention.

It was found that among 179 cases of venereal disease the larger number included students (54), soldiers (31), officers (23), officials (13), teachers and physicians (6), while there were also 30 laborers and 10 prostitutes. Of the 169 cases in males, the attack of gonorrhea was acquired by 1 while in a state of chronic alcoholism, by 12 while in a state of acute alcoholic intoxication, by 42 while in a state of mild alcoholic stimulation and by 59 while in a state of sobriety; whereas syphilis was acquired by 64 while in a state of acute alcoholic intoxication, by 13 while in a state of mild alcoholic stimulation and by 36 while in a state of sobriety. Of the 10 prostitutes 6 were affected with syphilis and had been infected while intoxicated. The remaining 4 had attacks of gonorrhea, which were acquired in 3 while in a state of mild alcoholic stimulation and in the remaining 1 while in a state of sobriety. It thus appears that infection was favored by mild indulgence in alcohol in 43.8 per cent. of the males and in 90 per cent. of the females.

Among 219 other cases (190 in men and 29 in women) it was found that venereal infection was far more common in conjunction with occasional than with habitual alcoholic indulgence and that when present in cases of the latter it had generally been acquired before the habituation had been established. Less than one-quarter of the cases were in a state of sobriety and more than three-quarters were under the influence of alcohol when infection occurred, while one-half were in a state of mild alcoholic stimulation. Syphilis appeared to be much more common than gonorrhea in chronic alcoholics.

Infection occurred in 66 cases between 21 and 25 years of age, in 64 cases between 26 and 30 years, in 33 cases between 17 and 20 years and in 25 cases between 31 and 35 years. Of these 214 cases in which infection occurred, primary intercourse was illicit in almost all (192) and marital in but a few (7), the character not being ascertainable in the remaining 15. Of the first of these three classes infection was acquired in 79 while the individual was under the influence of alcohol and 74 while in a state of sobriety, while in 39 information on this point could not be secured.

It is properly not contended that the infecting coitus would not have taken place in all instances in the absence of alcoholic indulgence, but it seems likely that it would not have occurred in most instances, and that in those instances in which it had taken place precautionary measures would otherwise have been adopted that would greatly have lessened the risk of infection, and it is probable that in a number of cases in which it was stated that the patient was entirely sober there had really been some alcoholic indulgence, so that this fact would compensate for possible error on the other side.

The foregoing data, while perhaps not so extensive as they might be, merely confirm the conclusions arrived at from *a priori* reasoning and it would seem that an important means for the prevention of the venereal diseases, with their disastrous results, consists in the avoidance of alcoholic indulgence.

1. Wiener Med. Wochenschrift, 1901, Nos. 16, 17.

## A NEW METHOD OF TREATMENT FOR INOPERABLE CARCINOMA OF THE BREAST.

The industry with which the study of carcinoma is being pursued raises the hope that we shall before long be made familiar with its causative agent and be thereby provided likewise with the means for its prevention and possibly also for its cure. The attainment of these objects is especially to be desired, inasmuch as carcinoma is one fortunately of a gradually lessening number of diseases in the face of whose treatment the physician stands almost hopeless and helpless. It is true that early and adequate surgical removal will in a gratifying proportion of cases be attended with permanent cure, but only time can then bring assurance that all morbid tissue and cells have been removed and that metastasis has not already occurred and recurrence or even redevelopment will not take place. For these reasons any method of treatment, however startling and unusual that promises amelioration, if not cure, and does not unduly imperil the safety of the patient should receive respectful and considerate attention, especially if it emanate from a reputable source. A suggestion along these lines has recently been made by Mr. Cecil H. Leaf, assistant surgeon to the London Cancer Hospital[1] with regard to treatment of cases of carcinoma of the breast that are unsuited for operation. He points out that with the exception of oöphorectomy, conjoined with the administration of thyroid extract, the measures heretofore employed have had little effect in checking the onward progress of the disease and that even by this means, although the growth may be temporarily arrested, no permanent good is effected, signs of renewed activity again becoming apparent after a time.

The principle proposed by Mr. Leaf consists in an attempt not to destroy the carcinoma cells, but to prevent them or the agent that causes their multiplication from passing along the lymphatics and invading the internal organs. For this purpose he applies over the new-growth or the recurrent nodules a large vulcanite shield adapted accurately to the skin and including as large an area of surface as possible. The shield is fitted at the bottom with a gauze India-rubber inflatable

1. Edinburgh Med. Journal, May, 1901, p. 452.

tube exactly similar to that of an ether-inhaler, and at the surface it is provided with a small tap to which can be adjusted any ordinary air-pump, so that the air in the apparatus can be thoroughly exhausted. By this means a force is provided that it is hoped will as long as it is in action constantly restrain the noxious agent from passing to the deeper lymphatics and thus prevent or delay dissemination. A glass window in the top of the shield will permit observation of the degree of suction that is being made. The apparatus should be worn as nearly constantly as possible. In addition, absolute rest for the arm on the affected side is insisted upon, to favor quiescence in the lymph-stream. The existence of ulceration is considered an advantage rather than a contraindication to the treatment, as the cells and juice are then more readily drawn to the surface and gotten rid of entirely. In the absence of ulceration it is encouraged by the constant use of boric-acid fomentations, which soften the fibrous tissue that is present, so that the channels in which the cells and carcinoma-juice travel become less constricted and the suction is then rendered more effective. It might even be advisable to make multiple punctures or incisions.

Three illustrative cases are reported in which the treatment was employed, but in none had sufficient time elapsed to permit of any but a tentative opinion; nor is any statement made as to the histologic characters of the neoplasm. The cases to which the treatment is thought to be adapted comprise those with ulcerating schirrus adherent to the pectoral muscles and enlargement, matting together and adhesions of the axillary glands, and those in which after one or more operations recurrence has taken place in the pectoral muscles or the lymph-glands or both.

## THE ST. PAUL MEETING.

The last meeting of the American Medical Association was in many ways a remarkable one and successful in every way. The scientific work of the Sections, without exception, was of the highest quality, and the amount of work done in practically all of these scientific branches exceeded the average, although the total number of papers read was less than usual. While the papers in almost every instance were above the average in scientific interest and practical value the discussions were still more so.

The attendance at the Sections was very large, especially in the Sections on Surgery and Anatomy, on Obstetrics and Diseases of Women, and on Practice of Medicine. The number in attendance at each of these ran up as high as seven hundred at one time.

The subject of reorganization of the Association was one that created much interest and was the main topic of conversation outside of the Section work. The report of the Committee, as given in our issue of May 25, was accepted almost unanimously. The adoption of this new order of things will make the future meetings of the Association different in many respects from what they have been in the past. The elimination of the general meeting in the morning, after the first day, will give much more time for Section work, while the general meetings for the orations coming in the evening will interfere but little, if any, with the social functions. The possibility for more deliberate consideration of the important questions that come before the Association can not but result beneficially, but what is of most importance is the fact that it will bring the state societies into more direct touch with the parent association and with each other, the resulting good of which can not be overestimated.

While there was much fear on the part of many members that the city of St. Paul would not be capable of accommodating so large a body, these fears were not realized, for although there may have been a little crowding in some respects, as a rule, general satisfaction was expressed at the accommodations furnished for the members of the Association. The members of the profession of St. Paul and Minneapolis deserve the highest praise for the excellent manner in which they entertained their guests; the visitors will look back to the meeting of 1901 with satisfaction and pleasure. While the attendance was not quite as large as that at Atlantic City last year, which was the largest in the history of the Association, the meeting just closed, considering its geographical location, was well attended. The registration last year was 2019, while this year it was 1806.

## THE EXCLUSION OF CONSUMPTIVE IMMIGRANTS.

The exclusion of tuberculous immigrants by the Government officials, at the port of New York, is on the whole a salutary measure, though scarcely for the reason popularly assigned. The inspection for tuberculous immigrants can not well be so thorough as to cull out all infected individuals, and the most that can be expected from it is the exclusion of more or less advanced cases, where the physical and rational signs are sufficiently obvious. Anything more rigid than this would meet with difficulties and probably be very imperfectly carried out. Nothing short of a tuberculin test would absolutely exclude all cases, and we doubt whether the Government will adopt that precaution. If it did, it is we believe safe to say, it would be the most efficient check on immigration possible, and we might perchance find only the minority passing it successfully. The exclusion of consumptives is excusable on the ground that it is not the policy of this country to accept immigrants who, being hopelessly diseased, are practically incapable of becoming useful members of society and liable therefore to be a burden to those among whom they come. This reason therefore applies to advanced and presumably incurable cases. It will undoubtedly work hardship in individual instances and there should be some discretion allowed. Even hopeless consumptives may sometimes bring some good; a rule that would have sent Robert Louis Stevenson back to Scotland is scarcely to be followed without exceptions. It would be well if

we could apply a still more rigid test to exclude the syphilitic, the epileptic, the insane and the criminal immigrant, in fact the degenerate classes generally, from our shores. At present we have more than our share of Europe's output in that line.

### CORONER'S JURY VERDICTS.

The beauties of "crowners' quest law" are continually being illustrated. In a trial just closed in one of our cities it appeared that a reported inquiry over a suspicious death was probably never legally made; the verdict was made up with apparently fictitious names, by the deputy coroner, a politician who evaded summons and could not be found. The body had been promptly cremated and any evidence of foul play thus pretty thoroughly destroyed. This illustrates the rascally side of the present system and leads to a strong suspicion that "fake" inquests may be more common than has been supposed. An inquest really amounts to very little in the majority of cases; the jury contributes only an element of ignorance, and it is not surprising that an unprincipled ward-politician, such as many of our city coroners and coroner's deputies are, concludes occasionally to dispense with it and pocket its fees. What a jury can do in the way of irrationality, on the other hand, is shown in a recent verdict in another city where an inquest was held on a severed head of a human being and a verdict rendered of suicide. The paper from which we have the latter account says: "It was not a ghastly joke, such as was perpetrated by a jury in a southern town the other day, where after inquiring into the death of a negro who had been insolent to a white man, the verdict was given out that the man had committed suicide." That was the brutal humor of the participant after the act, the deliberate condonation of homicide. In the other we have the perhaps worse than stupid, the absolutely thoughtless routine acceptation of the first suggestion that offered without regard to facts. All these only indicate the average worthlessness of the coroner's inquiry and the need of reform. Not only justice but common decency call for a change, and the medical profession is the motive force which must inaugurate the much-needed reform. When we begin, as a profession, to recognize and take up our public responsibilities, the removal of this important function from the hands of incompetent and often worse than incompetent politicians will not be one of the least important benefits that we can endeavor to confer upon our fellow-citizens.

### THE CAUSE OF DEATH FROM PERFORATIVE PERITONITIS.

While the conditions under which peritoneal infection takes place have been quite clearly established, a like statement can not be made with regard to the cause of collapse and death in the presence of peritonitis. Inflammations of other serous membranes do not, as a rule, terminate fatally, so that there must be some special reason for such an outcome in cases in which the peritoneum is involved. This was at one time thought to reside in reflex influences, but at the present day the opinion prevails that it is due to intoxication resulting from the absorption of the morbid products of bacterial activity, or to the taking up and dissemination of the bacteria themselves. Either of these events, it is thought, may take place even before the local lesions have become obvious. It has, however, been shown that irritation of the peritoneum may induce reflex reduction in the blood-pressure, with resulting heart-failure, while, on the other hand, bacteria have been found in the blood, often in conjunction with almost negative local conditions. In order to determine so far as possible the exact mechanism by which the evil results of perforative peritonitis are brought about Heineke[1] undertook an experimental investigation, using rabbits for this purpose. Through a small opening in the abdominal wall a loop of small intestine was brought out, a small laceration made, hemorrhage controlled, the bowel returned, and the abdominal wound closed. The animal soon recovered, but in the course of from six to eight hours symptoms of peritonitis made their appearance, shortly terminating fatally. As a result of this study it was found that death under the circumstances detailed was due to paralysis of the centers in the medulla oblongata, involving principally the vasomotor and largely the respiratory. Marked disturbances in circulation were observed earlier than those of respiration, although breathing ceased before the heart's beat. The circulatory disturbances are attributable to the paralysis of the vasomotor center, the heart not being directly affected. They are entirely analogous to those attending the infectious diseases. The paralysis of the nervous centers is due to the absorption of bacterial products from the peritoneum into the blood, the perforation of the bowel as such not inducing any circulatory disturbance.

### FOURTH OF JULY TETANUS.

For some years past the increasing use of various explosives in order to celebrate our day of national independence, the Fourth of July, has been followed by a noteworthy number of fatal cases of tetanus, especially among the youth in our large cities. According to Wells,[1] 27 boys, ranging in age from 10 to 17 years, died from Fourth of July tetanus in Chicago last year. In all but one case the atrium was a wound, generally of the hand, produced by blank cartridges, the exception being a wound from a toy cannon. The period of incubation varied from five to nine days, death resulting in from six to eleven days after the accident. The infection seems to have been of a decidedly virulent type. Wells set about to discover the exact etiology of this sad accompaniment of patriotic exuberance. A careful and extensive study of the different materials in blank cartridges on the market in 1899 and again in 1900 failed to reveal tetanus bacilli in a single cartridge. Now, tetanus is endemic in Chicago, and presumably also elsewhere, and in the cases that follow wounds other than those incident to the use of explosives, the bacilli are unquestionably introduced by means of dirt. Wells readily found tetanus bacilli in Chicago street dirt, and so its stands to reason that the lodgment of the wadding of blank cartridges under the skin of the hands and elsewhere is exceedingly liable to carry in

1. Deutsches Archiv für Klin. Med., 69 B., 5, 6, H., p. 429.
1. Medical News, 1901.

bacilli present in the dirt and other foreign substances upon the surface of the skin. The resulting wound is usually long and narrow; blood-clots and infiltrated tissue are present, as well as ordinary aerobic, oxygen-consuming bacteria—all favoring proliferation of the anaerobic bacillus of tetanus. As the matter stands, a Fourth of July wound of this character places a grave responsibility upon the physician who is consulted. From the information gathered in the timely article by Wells it appears that physicians in general are not always as painstaking and thorough as they should be in cleansing cartridge wounds and in removing the last vestige of extraneous substances, especially pieces of wadding. Veterinarians report excellent results from the use of tetanus antitoxin as a prophylactic in horses, but its employment for this purpose in man has been neglected too much so far, probably because of the rather disappointing results of its use as a curative agent after the intoxication has become apparent and lockjaw established. In the future all wounds caused by explosives such as are in vogue on or about July 4th, should be rendered surgically clean as early as possible, and drained freely; for this purpose the wounds should be freely exposed by liberal incisions wherever indicated, so that free access is gained to the innermost recesses of the wound in order that wadding and dirt may not remain and favor the growth of bacilli. As tetanus may occur even when wounds are well cleansed and drained, tetanus antitoxin is indicated, and the prophylactic dose suggested by Wells is 5 c.c. This is certainly an ample quantity. Finally, physicians should use their influence in favor of some less harmful outlet for patriotic enthusiasm than the production of noise.

### THE CREMASTERIC REFLEX IN SCIATICA.

A study of the reflexes is often capable of yielding important information in the diagnosis of disease, especially involving the nervous system. The presence of a given reflex will be dependent upon the integrity of the arc constituted by an afferent nerve, the related portion of the cerebrospinal axis and an afferent nerve. Reflex activity is normally somewhat restrained by physiologic inhibition, and it may be reinforced or intensified by influences that lessen the latter through sensori-motor or psychic channels, while it is exaggerated in the presence of irritative conditions and lesions in the course of the sensori-motor arc. The appearance of the reflexes may be prevented by mechanical influences, such as rigidity, by increased inhibitory activity from whatever cause, or by abolition of any portion of the sensori-motor arc. Inasmuch as pain tends to reinforce reflex activity, one is prepared to learn that this manifestation is generally increased in cases of neuralgia and—at an early stage before degenerative changes have taken place—even when this is of inflammatory origin. In this connection we wish to refer to a recent communication by Dr. G. A. Gibson[1], in which attention is called to a remarkable exaggeration of the cremasteric reflex in cases of sciatica, not alone in those of the more serious neuritic type of the disease—attended with muscular wasting and alteration in the electric reactions—but also in those of the less grave neuralgic variety. The reflex was obtained not only by gently stroking the skin on the inner aspect of the thigh, but also and much more readily by firm pressure over the lower and inner portion of Scarpa's triangle, whose sensory nervous supply is derived from the internal cutaneous branch of the anterior crural nerve. The latter procedure was in some instances followed slightly later by a less distinct contraction on the opposite and unaffected side. The exaggeration of this reflex was found in cases not exhibiting much increase in the knee-jerk, as well as in others with great augmentation of myototic irritability. In some instances the plantar and gluteal reflexes were exaggerated equally with the cremasteric; in others the last was marked, while the former were scarcely elicitable. In no instance was the increase in the cremasteric reflex associated with dorsal flexion of the toes on irritation of the sole of the foot. In explanation of the phenomena described it is suggested that in the presence of sciatica the segments of the cord above the level of origin of the sciatic nerve from the lumbo-sacral cord—including therefore the second lumbar, in which the cremasteric reflex center and also the knee center are believed to be situated—are in a state of excessive irritability, while the segments below—in which the plantar, the gluteal and the ankle centers are situated—are but little if at all influenced.

1. Edinburgh Med. Jour., May, 1901, p. 459.

## Medical News.

### ILLINOIS.

**The Physicians of Sterling** met May 24 at the office of Dr. Frank Anthony, to endeavor to establish a uniform fee-bill.

**Dr. Miles D. Baker** has been appointed first assistant at the Illinois Southern Hospital for the Insane at Anna, and Dr. David R. Sanders, Jonesboro, superintendent of the annex.

### Chicago.

**Dr. Gustav Fuetterer**, who has been professor of pathology at Northwestern University Medical School for the past two years, has resigned.

**Dr. Christian Fenger** was made an honorary member of the Association of Military Surgeons of the United States, at its meeting May 31 in St. Paul

**"Dr." Orlando E. Miller**, of O. E. Miller Hernia Treatment Company fame, seeks, by due process of law, to be relieved of an indebtedness of $586,943. He has no available assets.

**Dr. E. S. Pettyjohn**, who has been abroad for a year studying in Berlin and Vienna and visiting hospitals, sanatoria and mineral springs, sailed for New York, May 23, on the *Potsdam*. He intends to locate in Chicago, making a specialty of nervous diseases.

**In the "Bulletin"** for the week ended May 25 it was said that "it is not probable that the total deaths for the month will much exceed 2000." The actual number is 2046, giving an annual mortality rate of 13.7 per 1000 of the estimated mid-year population, to-wit, 1,758,025. For the week the total deaths were 472 and the annual rate was 13.99. Only measles, among the more important causes of death, continues to give any concern. Attention has been called in three previous bulletins to the unusual prevalence and severity of this disease and advice given against exposing children to its contagion. During the past week there were 10 deaths reported from this cause, 7 of them being fatally complicated with whooping cough—which disease also continues to prevail to an unusual extent.

### IOWA.

**Dr. Charles B. Adams**, Estherville, has been elected president of the State Board of Medical Examiners.

**Dr. John C. Shrader**, Iowa City, has been re-elected president, and Dr. Josiah F. Kennedy, Des Moines, secretary of the State Board of Health.

**Barnes Graduates Admitted.**—The State Board of Medical Examiners has decided to admit to examination the two graduates of Barnes Medical College of St. Louis who were refused examination a short time ago by the secretary on the ground that the college did not live up to the requirements of the state law.

## MARYLAND.

**Dr. Delmar Smithers** was elected president of the Chesapeake City Town Commissioners, June 4.

**Dr. Harry S. Jarrett**, of Towson, has been elected president of the first board of pension surgeons at Baltimore.

### Baltimore.

**John L. G. Lee, B.A., LL.B.,** has been elected president of the faculty of the Woman's Medical College.

**Dr. George H. Stewart** has succeeded Dr. S. Perchy Lataré as medical superintendent of the Maryland University Hospital.

**Gone to Europe.**—Among those who have left for Europe are Drs. Richard H. Thomas, Joseph Erlanger and Samuel C. Chew.

**The Johns Hopkins Register** for 1900-1901 just out shows 200 students in the medical departments and 149 graduate students.

**Drs. Mary Cook Willis and Jessie M. Thornton** have been elected resident physicians of the Good Samaritan Hospital for the ensuing year.

**Dr. William Osler** will visit Holland this summer and will especially be interested in the University of Leyden, so full of reminiscences of Boerhaave and other medical worthies of the 18th century.

**Dr. William Royal Stokes,** city bacteriologist, has been elected professor of pathology and bacteriology in the College of Physicians and Surgeons, of Baltimore. Prof. N. G. Keirle retains the chair of medical jurisprudence and the directorship of the Pasteur Institute connected with the college.

**The Woman's Medical College Association** elected the following officers: President, Dr. Flora Pollack; vice-presidents, Dr. Mary Lois Jones; recording secretary, Dr. Marie Thalwitzer; corresponding secretary, Dr. Jessie M. Thornton; treasurer, Dr. Mary Willis.

**The graduating class** of the Johns Hopkins Medical School is by far the largest in the history of the university. In it are representatives from all parts of America, India and Hawaii. The class number 56, consisting of 47 men and 9 women. The examinations closed May 31, the commencement, June 7.

**The following appointments** have been made at the Johns Hopkins University: Fellowship in the Medical School provided by the liberality of the Baltimore Association for the Promotion of the University Education of Women, Florence R. Sabin, M.D., Fellowship in English, Louis Wardlaw Miles, A.B., M.D.; Fellowship in pathology, Dorothy M. Reed, B.L., M.D.

**The mayor** has appointed the following as a municipal hospital commission to provide for the building of an infectious disease hospital: The mayor, health commissioner, Mr. Henry Williams and Drs. Wm. H. Welch, J. Edmonson Atkinson, John D. Blake and John W. Chambers. The commission will select a suitable site, arranging for its purchase and preparing preliminary plans for erection of building.

**Johns Hopkins' New President.**—The selection of Professor Ira Remsen, professor of chemistry in Johns Hopkins University, to succeed Dr. Daniel C. Gilman as president of that institution, has been made public. Professor Remsen has held the chair ever since the foundation of the institution in 1876, and his works and researches have given him a world-wide reputation. His executive ability has been manifested not only in the development of his own department, but while acting president on several occasions during the absence of President Gilman he has displayed qualities that have strongly commended him to the Trustees. He is a man of mental breadth as well as common sense and scientific attainments, and it is believed that his administration will mark the beginning of a new era in which the University will emerge from the difficulties that have surrounded it for some time past and enter upon a period of increased strength and usefulness. It is understood that Prof. Remsen will continue to direct the chemical laboratory. Prof. Remsen was born in New York City in 1846. He studied at the College of the City of New York and was graduated in medicine from the College of Physicians and Surgeons in 1867. He then studied abroad in the Universities of Munich and Göttingen for three years, receiving the degree of Doctor of Philosophy at the latter in 1870. From 1870 to 1872 he was assistant in chemistry to Prof. Fittig in the University of Tübingen. In 1872 he was made professor of chemistry and physics in Williams College, Massachusetts, where he remained until called to the Johns Hopkins in its opening in 1876. Dr. Remsen is one of the best lecturers in the University, and takes the deepest interest in the researches of his pupils. His best known work is on the relations between oxygen, ozone and active oxygen, the influence of magnetism on chemical action and the discovery of saccharin. He founded in 1879, and has since conducted, the *American Chemical Journal*. His works have gone through several editions and have been translated into German, Italian and French. They are used as text-books in many colleges of England, Germany, Australia and America.

## MASSACHUSETTS.

**Leominster** has provided two houses to be used as an isolation hospital.

**Carney Hospital,** Boston, will receive $56,500 from the estate of Julius Adams.

**Dr. Michael J. O'Meara,** Worcester, has been made physician at Holy Cross College, vice Dr. Charles F. Fitzgerald, resigned.

**The Newton Hospital** and other institutions in Newton benefit to the extent of $46,000 by the will of the late Mary Shannon, a resident of that place.

**The King's Daughters and Sons' Hospital,** Springfield, has applied to change its name to "The King's Daughters and Sons' Hospital Company, of New England." It was also voted to so enlarge the hospital that space might be secured for incurable patients.

## MISSISSIPPI.

**Dr. E. Knox White,** formerly of Steen Creek, has been appointed health officer of Simpson County.

**Smallpox** caused 456 deaths in Mississippi out of 2066 cases reported in the first six weeks of the year, a death-rate of about 20 per cent.

**Dr. William W. Payne,** Meridian, was reappointed division surgeon of the Mississippi Division United Confederate Veterans, May 20.

**Dr. James W. Lipscomb,** Columbus, has been appointed health officer of Lowndes County, succeeding Dr. John Brownrigg, who declined reappointment.

## NEW YORK.

**Dedication of Loomis Buildings.**—On May 28, Bishop Potter consecrated the Church of St. Luke, the Beloved Physician, and dedicated the buildings of the Loomis Sanatorium at Liberty.

### Buffalo.

**Dr. Lorenzo Burrows, Jr.,** of Buffalo, has been appointed a member of the Buffalo Board of Pension Examining Surgeons, vice Dr. F. W. Abbott, deceased.

**Measles Among the Eskimos.**—There is a small epidemic of measles existing among the Eskimos located at the Pan-American Exposition. There have already occurred a number of deaths from this disease.

**Dr. Irving M. Snow,** of Buffalo, invited the members of the American Pediatric Society from Niagara Falls to visit the Pan-American Exposition, and to dine at "Alt Nuernberg." A number of Buffalo physicians were asked to meet the visiting guests and a very enjoyable evening was passed on the Exposition grounds.

### New York City.

**Another Surgeon's Mistake.**—On May 21, a wealthy real-estate dealer, of New York, who had suffered for two years from epilepsy, was taken in a patrol wagon to the Bedford avenue police station and locked up in a cell while in a semi-conscious condition. Two surgeons of the Williamsburg Hospital considered him intoxicated and he was held under a charge of intoxication.

**New Water Supply Needed.**—Persistence of typhoid fever in New York City proves that the health of the community requires a new source of supply. The watershed of the upper Hudson seems far away, but there is no nearer route by which pure drinking water can be obtained. An aqueduct from Lake George would cost $100,000,000, but this is a sum not considerable as the price of the health of millions.

**Rockefeller Institute for Medical Research.**—The United States is to have an institution for medical research similar to the famous Pasteur Institute of Paris and the Koch Institute

of Berlin. John D. Rockefeller has provided $200,000 for preliminary work on the project, and is expected to endow it when plans are finally agreed upon. It will be located in this city, with branches in every large city in the country. It is to be called "The Rockefeller Institute for Medical Research," and has been incorporated. The purpose of the foundation is to furnish facilities for original investigation, particularly in medicine and hygiene as have a practical bearing upon the prevention and treatment of disease. The board of directors as at present constituted is as follows: Dr. William H. Welch, Baltimore, president; Dr. T. Mitchell Prudden, New York, vice-president; Dr. I. Emmett Holt, New York, secretary; Dr .C. A. Herter, New York, treasurer; and Drs. Theobald Smith, Boston, Simon Flexner, Philadelphia, and M. H. Biggs, New York.

## NORTH CAROLINA.

**Dr. William H. Cobb, Jr.,** has been elected city physician of Goldsboro.

**North Carolina Medical College,** Davidson, held its eighth annual commencement exercises, May 13, graduating a class of eight.

**Dr. William D. McMillan,** Wilmington, on May 6, was unanimously re-elected superintendent of health of New Hanover County.

**State Board of Health.**—The governor has appointed the following members of the board: Dr. Richard H. Lewis, Raleigh; Dr. Francis Duffy, Newbern; Dr. George G. Thomas, Wilmington, and Dr. William P. Ivey, Lenoir.

## OHIO.

### Cincinnati.

**Cincinnati Academy of Medicine.**—The regular meeting was held in the amphitheater of the Cincinnati Hospital, May 27, at the invitation of the Board of Trustees. The occasion was the official opening of the new laboratories. Speeches were made by Dr. P. S. Connor, on behalf of the Board; Dr. N. P. Dandridge, president of the Academy; G. A. Fackler, president of the hospital staff; J. E. Greiwe, director of laboratory.

**The medical staff** of the Cincinnati Hospital held its annual election of officers on May 30. The result was as follows: Dr. G. A. Fackler, president; Dr. B. K. Rachford, vice-president; Dr. Arch I. Carson, secretary; Dr. P. S. Connor, librarian.

**The Society of Ex-Internes** of the Cincinnati Hospital held their fifth annual meeting and banquet on June 1. About sixty were present. Dr. D. I. Wolfstein acted as toastmaster, and toasts were responded to by Drs. John H. Landis, Joseph Ransohoff, W. E. Crane, William Muehlberg, and S. E. Allen. Dr. A. B. Thrasher was elected president for the ensuing year.

**Presbyterian Hospital Staff.**—At the annual meeting, June 3, Dr. W. H. Taylor was elected president for the coming year; Dr. E. Campbell, vice-president, and Dr. Estella Riley, secretary. Dr. D. I. Wolfstein, formerly professor of pathology in the Ohio Medical College, has resigned to accept the chair of neurology at the Cincinnati College of Medicine and Surgery.

## PENNSYLVANIA.

**An isolation hospital** has been prepared for the reception of smallpox patients on the county almshouse farm, east of Lebanon.

**Two New Hospitals.**—By an agreement of legislators, Western Pennsylvania is to have two new hospitals. The West Penn Hospital, Pittsburg, toward which the state will give $200,000 provided the hospital secures a like amount, and the Allegheny General Hospital, which has already raised $200,000, to which the state will add $100,000.

### Philadelphia.

**St. Joseph's Hospital Internes.**—The following are the successful applicants for interneships at St. Joseph's Hospital: Drs. Foulkrod, Rigel, Homer Rhode, Mervin R. Taylor and Lamott.

**Reunion of Class of 1891.**—Dr. Matthew M. Smith, Austin, Texas, president of the class of 1891, Jefferson Medical College, has called a meeting of the class to be held in Philadelphia, June 28 and 29.

**Dr. A. Donaldson Smith,** at a recent meeting of the Royal Geographical Society, received the Patrons' medal for his journey to Lake Rudolf, south of Abyssinia.

**Unclaimed Dead.**—The distribution of unclaimed corpses to the various medical colleges for dissecting purposes has produced friction between the State Anatomical Board and the pathological section of the Medical Board of the Philadelphia Hospital, which claims that mutilated bodies have been given to the colleges.

## VIRGINIA.

**Dr. B. Lawrence Taliferro,** Richmond, sailed for Europe, May 8, to pursue special studies abroad.

**Dr. Jefferson R. Kean, U.S.A.,** of Richmond, Va., has received his promotion and is now a major of the medical department in the regular establishment.

**Dr. Buckner M. Randolph, Jr.,** Richmond, who has recently been made dean and director of the laboratory of the Polyclinic Hospital, Philadelphia, has sailed for Europe for a study-trip of three months.

**University College of Medicine,** Richmond, Va., held its commencement exercises May 2 and graduated a class of 72. Prof. Charles D. McIvers, president of the State Normal and Industrial College, Greensboro, delivered the address on "The Best Field for Investment in the South."

**The Medical College of Virginia,** Richmond, held its sixty-third annual commencement exercises, May 9. The graduating class numbered 55. Dr. Willis G. MacDonald, Albany, N. Y., delivered the doctorate address.

**Dr. James B. McCaw,** one of the oldest physicians in Richmond, on the occasion of his retirement from active practice, issued the following announcement: "Dr. J. B. McCaw having arrived at years of discretion, and remembering that he has been a doctor of medicine for fifty-seven years, announces to the public that he goes on the retired list on and after this date. He would be ungrateful if he did not take this opportunity to return thanks to the good people of this community who have shown their confidence in him and his forefathers for four generations—from 1786 to 1901."

## WASHINGTON.

**Everett Physicians** have formed an association to guard against quackery and to establish a uniform schedule of fees.

**The Sisters' Hospital,** built on the line between Fairhaven and Whatcom, was recently opened. It contains 48 rooms and 4 wards, and will accommodate about 40 patients. It is fitted up with the most modern equipments and is a model of its kind. The building as it stands cost about $27,000.

**Walla Walla Hospital** will receive $10,000 under the terms of the will of the late Joseph Conatser, of Colfax, and may receive the entire estate, valued at $60,000 to $75,000, in case heirs should not appear. The bequest is conditional on the change of name of the hospital to "The Joseph Conatser Walla Walla Hospital.

## WISCONSIN.

**Milwaukee Medical College** graduated a class of 39, May 1, at its seventh annual commencement.

**Dr. Bruno L. Schuster,** Milwaukee, has returned from Europe, where he has been studying for some time in Berlin and Budapest.

**St. Elizabeth's Hospital,** Appleton, dedicated its new building May 9. The building cost about $75,000, and has a capacity of 75 to 80 beds.

**Wisconsin College of Physicians and Surgeons.**—The eighth annual commencement of this college was held at Milwaukee, May 11. A class of 18 received diplomas. The doctorate address was delivered by Dr. Walter Kempster.

**Medical College not Exempt.**—The application of the Milwaukee Medical College to permanently enjoin the City of Milwaukee from collecting taxes, has been denied and the city is taking steps to collect the taxes for 1901, which amount to $1857.36.

**Compulsory Vaccination Bill Vetoed.**—Governor La Follette has vetoed the Collins compulsory vaccination bill, as he does not believe an emergency exists which demands a law repugnant to so many good citizens!

## WYOMING.

**Licensed Physicians.**—The records of the State Board of Health show that Wyoming has 136 licensed physicians.

**The Quaker Doctor's Suit.**—A case of more than usual interest to the medical profession was tried at the April term of the district court of Uinta County at Evanston. In November, 1899, a traveling representative of the Quaker Medicine Co. of Portland, Ore., styling himself "Quaker doctor" was tried before a justice of the peace charged with selling medicines and nostrums. While the evidence was conclusive as to

his guilt the justice, for reasons best known to himself, discharged the defendant. Several days later he was charged with practicing medicine illegally. This second charge was dismissed as the attorney for the defendant convinced the justice that his client was being tried the second time for the same offense. As a result of these unsuccessful prosecutions, the so-called "Quaker doctor" brought a suit for $20,650 damages against Dr. E. E. Levers, of Spring Valley, Wyo., and Drs. T. L. Wicks, C. H. Solier and F. H. Harrison, of Evanston, Wyo., charging malicious prosecution. The trial developed the fact that these gentlemen were acting only in compliance with the written request of the State Board of Medical Examiners and no motive was shown to have existed. It was also clearly demonstrated that the plaintiff was actually practicing medicine. The jury promptly brought in a verdict for the defendants.

## CANADA.

**Smallpox at Hamilton.**—The disease has appeared at Hamilton, Ont., where five cases have been located. A general vaccination has been ordered.

**Smallpox at Toronto.**—Three new cases of smallpox were discovered in Toronto last week. Dr. Sheard has requested that $5000 be immediately placed at his disposal for meeting emergencies promptly.

**Doctors' Assessments.**—The Ontario government has responded to the request of several physicians for a test case being submitted to the courts with regard to the validity of the assessment tax of the Medical Council. This will stay the hands of the Council until such time as a decision can be arrived at.

**Montreal General Hospital Elections.**—President, Mr. James Cathern; vice-president, Mr. Harry Stikeman; treasurer, Mr. S. H. Ewing; secretary, Dr. F. G. Finley; physicians: Drs. W. A. Molson, A. D. Blackader, F. G. Finley and H. A. Lafleur; surgeons: Drs. F. J. Shepherd, G. E. Armstrong, J. Alexander Hutchinson and J. M. Elder.

**Convocation at Trinity.**—Convocation exercises were held at Trinity University, Toronto, on the afternoon of May 31, when 52 graduates received their degrees in medicine. On the following afternoon similar exercises were held at Trinity Medical College, when a like number received the diploma of the College and subscribed to the fellowship oath.

**Smallpox in Winnipeg.**—On May 24, all the smallpox cases in Winnipeg were recovering and quarantine was raised on that date. The patients were removed from the pest-house and quarantined in a tent some distance from that place. They will be kept there for a fortnight before being permitted to re-enter the city. On the following day two new cases were discovered in the city, two brothers who had just arrived from Edmonton, N. W. T.

**Convocation at the Manitoba Medical College.**—The medical graduates of the Manitoba Medical College received their diplomas on Thursday afternoon, May 23. Dr. H. H. Chown, in presenting the graduates, hoped to see the time when a B.A. would be the requirements for matriculation; and that the five-year course would soon be established in Winnipeg as in eastern Canada. Ten were graduated M.D.'s; four, degrees of C.M. There was a considerable number of unsuccessful candidates.

**Halifax Board of Health.**—The Halifax Board of Health held a meeting on the afternoon of May 23, when it was reported that the city was free from contagious diseases and that there were no patients at the Infectious Disease Hospital. Dr. Venables wrote the Board in reference to his campaign of vaccination. He had recently covered a large territory and had met with great opposition in many quarters. In fact, in one section of the city he had received a personal attack in the discharge of his duties.

**Montreal Foundling Hospital.**—The annual meeting of this institution was held last week. The treasurer's report showed that the receipts for the past year amounted to $6951 and the disbursements to $6762, leaving a balance on hand of $189. The medical report stated that there were in the hospital on the 15th of May last 36 babies, and there had been admitted since 137, making a total of 173, or an increase over the previous year of 22. Very nearly one half of the babies admitted were under one week old, and of these 31 were under twenty-four hours.

**Western Hospital, Montreal.**—The annual meeting of this institution was held on May 28 and the reports show that this hospital has just passed through the most successful year in its history. The annual report stated that the debt had been reduced in the year from $10,000 to $8000, and this while great improvements had been made in the building, including new operating instruments and anesthetic rooms fitted up with electricity and all other modern appliances. As soon as the debt has been completely wiped out it is the intention to enlarge the buildings.

**The Physicians of Three Rivers, Quebec.**—On May 30, some 43 physicians responded to an invitation to meet in the city of Three Rivers, to organize a district medical association for the advancement of the profession, the study of Dr. Roddick's bill and other like measures. The meetings will be held monthly, the next being held on June 24. The following officers were elected: Honorary president, Dr. Desaulniers, of Nicolet; honorary vice-president, Dr. Grenier, of St. Maurice; president, Dr. L. P. Normand; first vice-president, Dr. Marchand; second vice-president, Dr. H. Trudel; treasurer, Dr. J. H. Leduc; secretary, Dr. C. E. Darche.

**Sickness in Ottawa.**—Mr. Chancellor Boyd has just issued judgment, given in Toronto, restraining the city of Ottawa from building the new contagious disease hospital on the property of the parks commissioners. This may have a serious affect upon the city of Ottawa, as at the present time there are said to be numerous cases of infectious diseases in the city and no hospital to which to take them. The provincial board of health had condemned the old site at Porter's Island, besides which the buildings there are not fit for use. It would look from this judgment as though Ottawa could not establish a permanent hospital for contagious diseases. The rules regarding the proximity of other buildings are also very strict in that city and the suburban places object to the presence of a contagious disease hospital in their midst.

## FOREIGN.

**At Moscow** two new medical scholarships have recently been founded by the widows of two prominent physicians.

**Plague at Capetown.**—The total number of cases up to June 9 were 700, with 326 deaths. Of these, 119 were white, almost equally divided between colonists and Europeans.

**Plague at Hong Kong.**—According to a cable dispatch, the epidemic is increasing. The Asiatic cases average 40 daily, and the Europeans 12. The medical staff of the board of health is numerically inefficient.

**A Moscow physician,** according to the *St. Petersburg Med. Woch.*, charged with inoculating three of his patients with syphilis, has been condemned by the courts to six months of imprisonment and loss of all his professional privileges for a certain length of time.

**Plague in India.**—For the week ending April 27 there were 4093 deaths against 6304 for the week ending April 20. In Bombay the number of deaths was 403, fewer by 56 than in the previous week. In the Bombay Presidency the deaths have fallen from 570 to 468; in Calcutta from 389 to 215, and in the Bengal presidency from 3258 to 1707. In the Punjab and Kashmir there has been a slight increase, the figures having risen from 518 to 547 and from 25 to 33 respectively.

**Hospitals of Vienna.**—The City Council has given its approval of the improvement of the city hospitals, and contemplates, it is said, the expenditure of a large sum of money therefor. This will be in connection with the Wiener Allgemeines Krankenhaus. The late Professors Billroth and Albert protested against the limited space and the disturbance due to street traffic.

**French Population Slowly Increases.**—It is expected that complete official figures of the recent census of France will be published in a few days. Paris has a population now of 2,660,000, showing an increase of 149,000 since 1896. The entire country will show only about 500,000 increase in five years. This, from a military standpoint, shows unfavorably with Germany's increase of 800,000, Austria's 450,000, England's 450,000, and Italy's 400,000, each within a period of twelve months.

**Beri-beri in Japan.**—In 1883, the last year of the old system of diet, there were 1236 cases out of a force of 5346 men in the navy, or a ratio of 231 per 1000 of force; the deaths were 49. In 1898 the number of cases was 16 out of a total of 18,426; the mortality was one. Now, by a judicious system of diet, beri-beri may be regarded as driven out of the navy

altogether. The daily food of a man in the Japanese navy is now approximately one-half pound of bread, two-thirds of a pound of meat, two-thirds of a pound of rice, five-sixteenths of a pound of vegetables, plus small quantities of fish, tea, sugar, roasted barley, etc. The average weight has increased from 121 pounds, approximately, in 1884, to 130 pounds in 1988.

**Recrudescence of Diphtheria in Paris.**—The number of cases amounted to 1262, with 225 deaths, during the first four months of 1901, while there were only 563 cases, with 121 deaths, during the same period last year. The Minister of the Interior has issued an order that physicians should not wait to obtain fresh antidiphtheria serum, but inject at once some of the obtainable supply. When the injection is made the day the false membranes first appear, the mortality of diphtheria, he states, is less than 2 per cent. It is 6 per cent. when the injection is made the second day, and rises to 30 per cent. when the injection is delayed till the third day, and to 50 and 60 per cent. the fourth day and thereafter. Some of our Paris exchanges comment on this "Compulsory Serum Treatment" as a measure more autocratic than a despot would dare to promulgate, but the *Progrès Médical* approves of the motive inspiring it.

## PARIS LETTER.

### Cocain in Maternity Cases.

Cocain in maternity cases has been tried by several accoucheurs in Paris. Doleris, who is well known to gynecologists in America, has been employing it in his service at the Boucicaut Hospital. The number of cases reported in the thesis of his assistant, Dr. Malartic, is 62. The usual dose was one centigram, sometimes two. The results were good in 52 cases, and bad in 10. Dr. Malartic established the following conclusions: Analgesia lasts about two hours, the uterine contraction is excited, especially immediately after the injection, retractility is also induced; there is a certain hemostatic action, and lastly a slight degree of action on the contractions even outside parturition. As a result of this, intramedullar cocainization is the best anesthetic in all obstetric operations, with the exception of version. It is counterindicated in cases of pregnancy, on account of its abortive influence. It may be used in cases of parturition where there is much pain, as a hemostatic, as a means of inducing labor, for instance in eclampsia. Dr. Doleris used this method in a case necessitating Cesarean section, and the action on the uterus was so pronounced that it was not necessary to check the bleeding after extraction of the child, as is usually done, by compression at the neck of the uterus.

### Mortality Among Parisian Physicians.

The statistics concerning the number of deaths of the medical body in Paris are published every three months, and they tend to show that a large proportion of them are due to diseases contracted in the profession. Out of 71 deaths 38 are due to consumption and kindred affections. Out of 14 physicians 3 died of diabetes and two committed suicide; one died from morphinomania.

### Novel Will Tending to Improve Race.

The recent laws concerning marriage which have been proposed in Indiana and Minnesota have been outdone by the terms of a will made a few months ago by Count Saint Ouen de Pierrecourt, an inhabitant of Rouen, who has left his estate to the town under the following conditions: Every year $20,000 will be given to a married couple who will be chosen for their size and strength. The man and his wife will have to be examined by the physicians of the town, and the latter will report as to their condition.

### Remarkable Case of Deception.

There has been a good deal written recently in the French newspapers about a young woman at St. Germain who had needles coming out from different parts of her body. She said that she had swallowed a package of needles some five years ago, and they were only just beginning to come. The physician and the druggist had already removed 50 needles, when some one told her that the pricking of the skin would be the cause of serious inflammation. The phenomenon stopped very soon after, and as the needles were always found on the left side and always came out by the blunt end, it was shown that she had been practicing deception.

### Invention of the Stethoscope by Laennec.

In the last number of the *Chronique Médicale* the manner in which the stethoscope was discovered is described by Dr. Gorgon. Laennec, who was always very punctilious about examining young women, was taking care of a girl 18 years old who had some lung affection. One day he was going to see his patient and was crossing the court of the Louvre, where some children were playing about some long timbers and striking them so that others at the other end might hear the knock. Laennec was holding in his hand a roll of papers. The idea came to him to use it in like manner while examining his patient. He later found it more advantageous to use a solid piece of wood, which was ultimately transformed and became the modern stethoscope. Most French physicians auscult directly without any instrument, but they use the stethoscope for certain heart lesions. The double stethoscope, which is employed in England and America is rarely seen in France.

### Sanatoria for Consumptives.

Sanatoria for tuberculous patients are not common as yet in France. There are a few established in the southern part of France, but they are more for wealthy patients, and we do not see in France what has been established in Germany during the last four years, sanatoria for workmen where the expenses are only three marks a day. There are already 43 sanatoria of this type in Germany, and 19 more will be finished in 1902. This number will be ultimately increased. A fact worthy of notice is that these sanatoria are built by the state, as an outcome of the insurance made by law in the case of certain laborers. It is useless counting upon private charity to find the necessary funds to build the sanatoria that will be found necessary. Another point is that whereas in Germany the cost of construction and the money needed to run such establishments seem to be comparatively small, in France the amounts indicated are very large. A recent estimate would place the cost of construction of sanatoria for 300,000 consumptives at 1,800,000,000 francs, and the annual expense would be 328,000,000 francs. According to the German estimate it would be respectively 200,000,000 and 70,000,000. There is a new law under discussion in the Chamber of Deputies concerning the establishment of a pension for workmen, arrived at a certain age, and the passing of this law might lead to establishing sanatoria as a means of prolonging the time during which a workman can accomplish his work.

### Laveran Elected Member of the Institute.

One of the highest honors that a physician can obtain in France is to be made a member of the Academy of Sciences: one may say that the life of a physician is made up of the following positions, which he is destined to occupy in succession: Medical student, externe, then interne of the hospitals, physician of the hospitals, professor agregé of the Faculty of Medicine, member of the Academy of Medicine, and lastly member of the Institute. A place was vacant on account of the death of Professor Potain and on May 20 an election took place. Dr. Laveran, who is so well known for his works on malaria, got 40 votes and Professor Richet 13.

## LONDON LETTER.

### The Polyclinic Dinner.

The annual festival dinner of the Medical Graduates' College and Polyclinic has been a most successful function, and by far the most important medico-social event of the year. Mr. A. J. Balfour, M.P., first lord of the treasury, presided, and was supported by many distinguished persons, including the Duke of Marlborough, Lord Kelvin, Sir William Broadbent (president of the Polyclinic), Mr. Jonathan Hutchinson, Sir William Gowers, Sir Lauder Brunton, the Lord Mayor, and the Bishop of London. About 400 physicians were present. Mr. Balfour proposed the toast of the Polyclinic in an excellent speech. In describing the need for such an institution and the position of medical science in this country he showed a command of the subject which might be envied by any medical speaker. He pointed out that there were three sides to the activity and utility of the Polyclinic. First it supplies medical advice of the highest kind to persons who could not otherwise obtain it. Vast sections of the population availed themselves of the services of the general practitioner. In cases of difficulty in which he would recommend them to go to some consultant they were not able to do so because they had not the resources. This was a want which was not supplied by the hospitals, but was supplied by the Polyclinic. But this was not the form of its activity which he thought would produce the most far-reaching benefits to mankind. It enabled the hard-worked general practitioner to make himself familiar with the latest researches in medical science—a matter hitherto impossible. It gave these men on the easiest and cheapest terms an opportunity of keeping abreast with the times and coming into personal contact

with the leaders of medical thought. There was yet a third branch of the activity of the Polyclinic—furthering the growth of medical knowledge. Although this country could claim the credit of the discovery of anesthesia and of the antiseptic system it could not be said that, compared with Germany, France, or Italy, it had done all that it might have done as a pioneer of medical discovery. For that the unprofessional and unscientific public were partly to blame. The richest country in the world lagged behind Germany, France and Italy. Mr. Balfour concluded his eloquent speech with a plea for the support of the Polyclinic. The toast was drank with enthusiasm. Sir William Broadbent said, in responding, that the Polyclinic was only the embryo of what it hoped to become in the advancement of medical science and investigation. Mr. Jonathan Hutchinson also responded and referred to the unique collection of photographs and illustrations of disease which were being accumulated at the Polyclinic and would in part supply the place of an hospital in the instruction of its members. The immediate result of the banquet was a subscription list of $8000 in aid of the support of the institution.

### The Annual Report of the Local Government Board.

The supplement to the annual report of the Local Government Board has just been issued. It opens with a fitting tribute to the great public services of the late Sir Richard Thorne by whose untimely death the board have lost an administrator of the highest order, and with a like reference to the late Dr. Robert Cory, for many years director of the board's animal vaccine establishment. Mr. Power, whose skill and acumen were conspicuously displayed some years ago by his discovery of the agency of milk in the conveyance of scarlatina and diphtheria has succeeded Sir Richard Thorne as chief medical officer. From the summary of the departmental work which is given, it is evident that the increase in vaccination which is believed to have followed recent legislation did not commence too soon for the safety of the country. The statistics now given apply only to 1897, in which the amount of default is greater than has ever been recorded. Of 927,518 children born in the year only 62.4 per cent. were returned as successfully vaccinated, 11.2 per cent. as having died unvaccinated, 0.3 per cent. as insusceptible, and 3.4 per cent. as exempted under certificates of "conscientious objection," according to the act of 1898. The demand for glycerinated calf lymph is now continuously increasing.

### Intestinal Intoxication from Appendicitis.

At the Royal Medical and Chirurgical Society Dr. Sidney Martin described the case of a man aged 50 whose motions were offensive and never solid. After eight weeks there were pallor, cachexia, emaciation and flabby muscles. There were daily from one to three extremely offensive, liquid motions. No cause could be discovered for the intestinal decomposition. The colon was flushed with boric solution, but the patient continued to lose flesh (11 pounds in 15 days), and his condition became desperate. The right deep inguinal glands were enlarged. At one examination a mass was felt in the right loin, and it was decided to explore the abdomen. The mass was found to be the kidney which the emaciation had made readily palpable. The cecum was thickened and the appendix enlarged and there were calcereous glands between the ileum and cecum. The appendix and glands were removed. The appendix was enormously thickened and its mucous membrane showed two small erosions. The contents were extremely fetid. The appendix was considered the origin of the patient's condition. Gradual recovery followed. Seven months after operation the bowels were loose only occasionally and there was no fetor. The glandular enlargement disappeared rapidly after the operation and might be considered part of the intoxication process. As far as could be discovered there was no bacterial infection. Mr. R. J. Godlee, in commenting on the surgical aspect of the case, said that enlargement of the inguinal glands in association with appendicitis was a new fact in his experience.

### The Pathological Society.

Certain alterations in the mode of work of the society have been adopted. In future the work will be carried on in four sections with sectional chairmen and secretaries. Section A (pathological anatomy and histology) will have as chairman Dr. J. F. Payne; Section B (bacteriology), Dr. Klein, F.R.S.; Section C (experimental pathology), Dr. F. W. Pavy, F.R.S.; Section D (chemical pathology), Prof. Halliburton, F.R.S. The members of the council have been arranged in a corresponding manner in committees for the several sections. This alteration in the mode of conducting the business of the society has been necessitated by the great extension of the field of pathology since the society was founded in 1846. It will no doubt greatly conduce to the utility of the society, which has done such excellent work in the past, by keeping together all who are working at the different branches of pathology.

## Correspondence.

### "A New Operative Method for Exposing the Seminal Vesicles and Prostate for Extirpation."

TOLEDO, OHIO, June 4, 1901.

*To the Editor:*—In the May 4 issue of THE JOURNAL my attention has been called to an article by Dr. Eugene Fuller, of New York, on the subject of "A New Operative Method for Exposing the Seminal Vesicles and Prostate for Extirpation." Inasmuch as Dr. Fuller's assumptions are based upon work which originated, so far as I have any definite information, with myself more than nine years ago, and was published in the *New York Medical Record*, Aug. 6, 1892, I feel that he has done me an injustice to publish a report of "a new method" wherein he describes an operation exactly like my own, with the unimportant change of the patient from the dorsal to the ventral decubitus. Does changing a patient from the dorsal to the ventral position give an operator the right to lay claim to all the work that has preceded him in that direction? It appears that Dr. Fuller has taken this position. In Dr. Fuller's "new method" his paper is illustrated showing the ventral position of the patient and the line of incision which covers the field external to the anal sphincters and internal to the pelvic rami, the two lines along the rami being connected by a transverse incision immediately in front of the anal sphincters and behind the transversus perinei. Dr. Fuller says of this space, that it gives easy access to the prostate and seminal vesicles and is devoid of necessary hemorrhage, there being no vessels to ligate. In my article in the *New York Medical Record* of Aug. 6, 1892, I use the following words in the description of my operation: "The space immediately in front of the rectum and behind the bulb of the urethra was chosen as the route to reach the base of the bladder and the prostate. The transverse diameter of the outlet of the pelvis at this point is too short to work in, and, consequently, it behooved me to increase the operating space without doing injury to important structures. I accomplished this by making a semicircular incision, as is shown in the illustration, from a point midway between the tuber ischii around the anus and entirely within the connective tissue between the bulb of the urethra and the rectum. The advantage of this is that it gives the widest possible diameter of the pelvic outlet with no hemorrhage to speak of, and an easy access to the field of operation. No spurting vessels need be divided, inasmuch as they lie to the outside and in front of the incision." In the *Philadelphia Medical Journal*, April 1, 1899, I further elaborated the anatomical surroundings, and it would seem impossible for Dr. Fuller not to see that he was pursuing the same description and making the same claims that I had already made. The photographic illustrations which accompanied my articles to the *New York Medical Record* and the *Philadelphia Medical Journal*, with the descriptions therein given, evidences the similarity of Dr. Fuller's operation with that of my own.

Respectfully. JOHN S. PYLE, M.D.

### Decinormal, not Normal, Salt Solution in General Use.

PALMER, NEB., June 4, 1901.

*To the Editor:*—In a recent issue of THE JOURNAL the writer noticed the question as to how much salt to put in a quart of water to make the normal solution extemporaneously. The answer given was to take a small teaspoonful to the pint. This answer is, of course, correct for the purpose intended. However, it makes the decinormal, and not the normal, solution. A normal solution is almost exactly two ounces (avoirdupois) of common salt (NaCl) in a quart of water.

A normal solution contains as many grams of the drug per liter of menstruum as there are units in the molecular weight of the drug taken for univalent substances or substances combining with one atom of hydrogen. For instance: 23 (the combining weight of Na) added to 35.4 (the combining weight of Cl) equals 58.4, the number of grams for a liter of water. This makes 899 grains salt to be put into 33 ounces and 6.5 drams water (liquid measure). This, of course, is too strong even for analytic chemistry, so that only one-tenth of the amount of salt is taken per liter of water.

From this it appears that 90 grains (89.9) is nearly correct for a quart of water, to make even the decinormal solution. It is the decinormal salt solution that is used for intravenous injection or subcutaneous transfusion, and not the normal solution at all.

C. S. MINNICH, M.D.

### Surgery in Exophthalmic Goiter.

COLUMBUS, OHIO, May 27, 1901.

In response to the suggestion in the Editorial on the above subject in the issue of THE JOURNAL of May 25, 1901, I report briefly the following case:

Mrs. P., Dennison, Ohio, aged 34, mother of two children, youngest of which is aged 6, was suffering with a retroverted and adherent uterus, with prolapse of the right ovary. She had a well-marked goiter, with a pulse of 132. Exophthalmos was noticeable, but not pronounced. She had been having this condition of the goiter and heart for a year or more, but the symptoms seemed stationary. Operation was made Nov. 20, 1898, in the presence of Drs. S. L. McCurdy of Pittsburg and C. U. Patterson of Uhrichsville, Ohio. The operation consisted in separating the adhesions and making an ordinary ventral suspension. The patient stood the operation well and suffered no ill effects afterward. Her pulse on the second day reached 140, but soon dropped to its usual frequency, and so continued until she left the hospital. I understand that her symptoms of exophthalmic goiter still remain about as they were at the time of her operation. This is my only experience in operating in this disease. In the case referred to in your editorial the connection between the exophthalmic goiter and the fatal issue is, to my mind, by no means clear.

J. F. BALDWIN, M.D.

### The Monument to Dr. Ollier.

PHILADELPHIA, June 3, 1901.

*To the Editor:*—Some time since you kindly published an appeal of a committee soliciting subscriptions for a monument to the late Professor Ollier in Lyons. As treasurer of the committee, I beg to inform the profession that I have received the sum of $649 from 103 subscribers. I have forwarded the same, less $4.60 for postage, printing, etc., to Dr. G. Mondan, 27 rue Jarente, Lyons, France.

Yours very truly,

W. W. KEEN, Chairman.

**Professor Freund.**—Professor W. A. Freund, of Strassburg, recently resigned his chair to retire from active professional duties. He facetiously observed in his farewell address to the students that the physician nowadays is like the camel in the fable whose back was broken by the proverbial last straw. The profession is the cruel master whose back was broken by the proverbial last straw. The profession is the cruel master that loads him down with a constantly increasing burden of new anatomic, microscopic, chemical and photographic techniques, new methods of diagnosis, new bacteria and toxins, new antitoxins and new methods of sterilizing the hands. The last straw is the wearing of hoods and masks to operate in. "Instead of staggering under this daily growing load until my back breaks," he remarked, "I prefer to be like the horses of the watering carts, who start out with heavy loads, but find their task constantly growing lighter."

# Association News.

## AMERICAN MEDICAL ASSOCIATION.

*Fifty-Second Annual Meeting, held at St. Paul, Minnesota, June 4-7, 1901.*

### OFFICIAL REPORT OF THE GENERAL SESSIONS.

JUNE 6—THIRD GENERAL SESSION.

The Association met at 11 a. m., and was called to order by the President.

The minutes of the previous General Session were read by the Secretary and approved.

Before proceeding with the regular order of business, the President stated that he had arranged with the Committee of Arrangements to allow 10 minutes for the presentation of a memorial, with remarks by the representatives of the National American Woman's Suffrage Association relative to certain questions of sanitation in the Army.

President Reed then introduced Miss Susan B. Anthony, who spoke briefly on the subject of regulating vice in Manila, Hawaii, and Porto Rico, the new possessions of the United States.

Miss Anthony was followed by the Rev. Anna Shaw, who spoke of the memorial that had been passed at the thirty-third annual convention of the National American Woman's Suffrage Association, held May 30 to June 5, 1901. She outlined the principal features of the memorial, and expressed the hope that some action might be taken by the Association in regard to the regulation of vice in our new possessions.

Dr. Seaman, New York, asked for two minutes of the time of the Association in which to point out the actual condition of affairs in regard to the prevalence and control of vice in China and elsewhere. This time was granted, and Dr. Seaman read extracts from a paper which he had presented before the recent meeting of the military surgeons of the United States.

Dr. McCormack, Kentucky, offered the following resolution as supplementary to the work of the Committee on Reorganization relating to state and county societies:

*Resolved*, That this Association cordially endorses the plan proposed by the Committee on Reorganization for a uniform system of organization of state and county societies in affiliation with this body; and the Secretary is hereby instructed to correspond with the officers of each state society and urge the adoption of such plan in so far as it may be applicable to their conditions, and that he shall report to the next annual meeting the result of such correspondence.

On motion, the resolution was adopted.

Dr. Gould, Pennsylvania, offered the following resolution:

WHEREAS, at the last meeting of this Association an appropriation of $150 was made to pay the expenses of the Committee on Reorganization, and

WHEREAS, the actual expenses incurred by the members of this Committee in the performance of its duties amounts in the aggregate to nearly $400; therefore, be it

*Resolved*, That the Board of Trustees be authorized to pay such properly attested bills of expenses, not to exceed the sum of $400 above named.

On motion, the resolution was adopted.

The President announced as the Committee on National Legislation: Drs. H. L. E. Johnson, of Washington, D.C., William L. Rodman, of Philadelphia, and William H. Welch, of Baltimore.

The President said that in the new Constitution and By-Laws the words "Session" and "Meeting" were used in such a manner as to create confusion. After quoting from Robert's Rules of Order the correct use of these terms, he stated that unless the Association ordered otherwise, he would direct the Committee on Engrossing the Constitution and By-Laws to rectify the matter.

There being no objection, it was so ordered.

Dr. Bulkley read the report of the General Executive Committee of June 5, which, on motion, was adopted.

### Report of General Executive Committee.

The General Executive Committee begs to reports as follows:

The Committee met yesterday afternoon at 3 o'clock, thirty members being present, in conjunction with the Committee on Reorganization. The Committee remained in session till 6:30 p. m.

As there were many matters in the President's Address requiring careful consideration, no action was taken upon it except to refer it to a sub-committee, who will report to-day and the General Executive Committee will report upon same, after full discussion, to-morrow.

The report of the secretary, which was referred to the Executive Committee, was considered and the recommendations contained therein were adopted for recommendation to the Association.

The representatives of the Section on Physiology and Dietetics and that on Pathology and Bacteriology reported that their Sections had each requested by vote that the two Sections should be combined into one section under the title of Section on Physiology and Pathology, in order that the scientific work relating to these branches might be considered together; they reporting also that the attendance on each Section was so small that it was desirable to consolidate the two. After discussion and inquiring from members of the executive committee of each Section, who were present, the General Executive Committee finally resolved to request the Association that the proposed change or merging of the two Sections into one section be adopted by the Association.

L. DUNCAN BULKLEY, M.D., Secretary.

Dr. Bulkley read the report of the General Executive Committee of June 6 on matters that had been referred to it.

### Report of General Executive Committee.

The General Executive Committee begs to report as follows:

1. The President's Address has been carefully considered and the Committee respectfully submits for your consideration the following recommendations made by him with their endorsement:

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

The Committee on the President's address respectfully submit for your consideration the following recommendations:

1. That the admirable address of our President, Charles A. L. Reed, be published in full in an early issue of THE JOURNAL of the Association.

2. That the Association appoint a Committee to draft appropriate resolutions commemorative of the lives and distinguished services of Alfred Stillé, Lewis A. Sayre and Hunter McGuire, recently deceased Presidents of the Association, and that resolutions adopted be published in THE JOURNAL, and engrossed copies of the same be tendered to the nearest living relative, respectively, of these distinguished men.

3. That action be taken to secure suitable portraits of deceased ex-Presidents of the Association.

4. That the incorporation of the Association be confirmed.

5. That a Committee of three be appointed to revise the Code of Ethics with instructions to report at the next annual session of the Association, and that a printed report of their revision be published in THE JOURNAL of the Association not later than April 1, 1902.

6. That the Association pass resolutions of disapproval of the action of Congress in failing to pass the bill which provided for the proper and adequate recognition of the medical corps of the United States army. * * *

2. In regard to the request from the Committee on Scientific Research, signed by Dr. William H. Welch, chairman, the Executive Committee recommends to the Association that the sum of $500 appropriated for this Committee last year and not expended, be used by that Committee this year in place of further appropriation of $500.

3. A communication from Dr. Arthur MacDonald in regard to the establishment of a Psycho-Physical Laboratory in the Department of the Interior at Washington, was received by the Committee and fully discussed. They would recommend that the following resolution be adopted with reference to the same:

*Resolved*, that we are in favor of the establishment of a Psycho-Physical Laboratory in the Department of the Interior at Washington for the practical application of Physiological Psychology to Sociological and Abnormal Pathological data, especially as found in institutions for the criminal, pauper and defective classes and in hospitals and also as may be observed in schools and other institutions.

4. The report of Committee on Legislation was considered and the following recommendations contained therein are endorsed by your Committee for adoption. (See report.)

5. The Section on Pathology and Physiology having requested the Committee to consider their work, your Committee begs to recommend to the Association that the appropriation of $500 for the Pathologic exhibit be continued for the following year, as your Committee believes this to be an extremely valuable portion of the educational work carried on by this Association.

6. Your Committee begs leave to call attention of the Sections to the necessity of each electing two delegates for the House of Delegates for the coming annual session.

It was moved that the report be adopted as read. Seconded.

Dr. H. Bert Ellis, California, suggested that the name of Dr. R. Beverly Cole, California, be added to the list of deceased presidents, and it was so ordered.

Dr. Happel, Tennessee, said he understood that there was a provision in the report of the Committee on President's Address which involved the appointment of a Committee to revise the Code of Ethics. He did not wish to make a motion to table that part of the report, for the reason it might carry with it the possibility of tabling the entire report. He therefore asked that this section of the report be considered and acted upon separately. Accordingly, he made the following motion:

"I move as an amendment to the motion that the report be adopted as a whole, save and excepting the appointment of a Committee to revise the Code of Ethics, and that this section be left for action until all the other sections are disposed of." Seconded.

Dr. Allen, of New Jersey, moved as an amendment to the amendment, that each section of the report be read and acted upon separately. Seconded.

The original motion as amended was carried.

Dr Bulkley then re-read the report of the General Executive Committee section by section, all of which were adopted, with the exception of Section 5, which relates to the revision of the Code of Ethics.

After the reading of Section 5, namely, "That a Committee of three be appointed to revise the Code of Ethics, with instructions to report at the next annual session of the Association, and that a printed report of their revision be published in THE JOURNAL of the Association not later than April 1, 1902."

Dr. Reynolds, of Kentucky, moved that this section be laid on the table. Seconded.

Dr. Happel, Tennessee, rose to a point of order, and stated that no one had a right to vote on the Sections of this report who was not a delegate. He therefore demanded the call of the roll of delegates.

After some discussion, Dr. Bishop, Pennsylvania, moved that the roll-call be postponed until the next annual session.

The President put this motion, and it was carried amid laughter.

Dr. N. S. Davis, Jr., of Chicago, was then introduced, and delivered the Oration in Medicine. (See p. 1606.)

On motion of Dr. Ellis, California, a vote of thanks was extended to Dr. Davis for his interesting address.

The Secretary read the report of the Nominating Committee. (See THE JOURNAL, p. 1649.)

Dr. Harris, of New York, moved that the report of the Nominating Committee be adopted. Carried.

Dr. Tuckerman, of Ohio, offered an amendment to the By-Laws:

"Section 3. Committee on Legislation. The Committee on Legislation shall consist of three members appointed by the President of the Association for a term of three years. One member shall be a resident of Washington, D.C., one of Baltimore, and one of Philadelphia. It shall be the duty of the Committee to represent before Congress the wishes of this Association regarding any proposed legislation that in any re-

spect bears upon the promotion and preservation of the public health or upon the material or moral welfare of the medical profession. This Committee shall also invite to a conference once a year or oftener if need be, one delegate each from the medical service of the United States army, the United States navy, and the Marine-Hospital Service, one from the Bureau of Animal Industry, and one from each affiliated state or territorial medical society; such conference to meet in Washington to consider questions of medical and sanitary legislation, and to report back to this Association and to the several state and territorial societies." (Referred to the House of Delegates.)

Dr. W. K. Sheddan, Tennessee, offered the following resolution, which was referred to the Board of Trustees.

"*Resolved*, That in view of the long and faithful services of Dr. W. B. Atkinson, as Secretary of the American Medical Association, the Trustees be directed to defray the railroad expenses of Dr. Atkinson, individually, to and from each future meeting of the Association, and that he be released from duty on the Registration Committee."

Proposed emendment to By-Laws, Chapter IX, Section 7, as follows: Strike out the following words of Section 7, Chapter IX, "reprints and transactions of Sections, including its lists of members, its rules of order, its lists of officers, as now published, shall be paid for out of the funds of the Association, and furnished free to members of the Association."

### JUNE 7.—FOURTH GENERAL SESSION.

The Association met at 11 a. m., and was called to order by the President.

Before beginning the regular order, the President made the following statement: "Some confusion exists relative to the exact status of the Association under the reorganization. That there may be no misunderstanding upon this important subject, the Chair begs to explain and now rules that:

"1. The reorganization is, in fact, the original organization under and in pursuance of the articles of incorporation which were ratified by the Association for the first time by and in the adoption of the new Constitution.

"2. The new Constitution goes into effect during the present session only so far as applies to the election of delegates by the respective Sections as defined by the new Constitution. All other business is conducted in accordance with the old Constitution.

"3. All standing committees, and all special committees created by the General Meetings of the present session shall report, next year, to the House of Delegates.

"If there are no objections, these rulings of the Chair shall stand as the sense of the Association. As there are no objections, the foregoing rulings are directed to be recorded as the sense of the Association."

The Secretary read the minutes of the previous General Session, which were approved.

Dr. George M. Kober, of Washington, D. C., was introduced and delivered the Oration in State Medicine. (See p. 1617.)

At the close of the Oration, the President extended a vote of thanks to Dr. Kober in behalf of the Association for his splendid address.

The next order was the appointment of delegates to other societies. The President stated that only one name had been handed in, that of Dr. Judson Daland, whom he appointed as a delegate to represent the American Medical Association at the World's Tuberculosis Congress, to be held in London, England, July 22 of this year. He said other names would be added to the list by the Secretary as they were handed in.

Dr. L. Duncan Bulkley then read the report of the General Executive Committee.

### Report of General Executive Committee.

The General Executive Committee begs to report that no business was referred to it by the Association, and but one matter was acted upon, namely, the following resolutions presented by the Section on Pathology and Bacteriology, which are recommended to the General Session with the endorsemnt of the General Executive Committee.

The Section on Pathology and Bacteriology of the American Medical Association presents the following resolutions:

WHEREAS, Mr. John D. Rockefeller, of New York, appreciating the great importance and humanitarian utility of pure scientific medical research, has recently donated the sum of $200,000 for the promotion of original investigation, and has placed the control of this sum in the hands of a committee composed of representative medical scientists under the able chairmanship of Professor William H. Welch, of Baltimore; be it

*Resolved*, That the medical profession, represented by the American Medical Association, desires to express its profound appreciation of this generous gift and of the gratifying fact that the importance and needs of scientific research in medicine are so clearly realized by the donor; also its appreciation of the wise selection of the chairman of the committee having charge of the same. Be it further

*Resolved*, That the Secretary of the American Medical Association be instructed to transmit a copy of these resolutions to Mr. Rockefeller.

It was moved that the report be adopted. Carried.

The next in order was the report of the Judicial Council, which was read by Dr. F. H Wiggin, New York, as follows:

### Report of Judicial Council.

The Judicial Council met at 5 p. m., in Parlor 4, at the Hotel Ryan, Dr. H. D. Didama, and F. H. Wiggin, both of New York, being present. Dr. Wiggin was appointed acting secretary by the Chairman, Dr. Didama, and the meeting was adjourned till 5 p. m., June 6.

FREDERICK HOLME WIGGIN, Acting Secretary.

The adjourned meeting of the Judicial Council was called to order by the Chairman, and on motion Dr. C. S. Rodman, of Connecticut, was elected Chairman and Dr. F. H. Wiggin, of New York, Secretary for the ensuing year.

The request of the New York State Medical Association that the name of a member, of New York City, be dropped from the roll of members of this Association and the protest of the member against such action were considered, and as it appeared that his name had been dropped from the roll of members of the New York State Medical Association for nonpayment of his dues for the years 1898, 1899 and 1900, his name was ordered to be dropped from the roll of members of the Association in accordance with the By-Laws, until all such arrears of membership have been paid up and he has been reinstated to membership by his local society and the Secretary so notified.

The request of the Jackson County Missouri Medical Society that the name of a member, of Kansas City, Missouri, be dropped from the roll of members of the American Medical Association because he is not a member of a local society in affiliation was granted, and his name was ordered stricken from the roll of members.

The secretary was also ordered to drop from the roll of members the name of a member of Elkhart, Ind., as he has ceased to be a member of his local affiliated society. The Council having decided that a member of this Association forfeits his membership when he ceases to be a member of a local affiliated society either county or state where one exists.

The Secretary of the Association, having called the attention of the Council to the fact that there are at the present time on the roll of members of the Association, the names of men who, having obtained their membership from an affiliated association, have removed their residence to another county or state and have not joined the local affiliated society in the place of their new residence. The Secretary was ordered to inform such gentlemen that they were acting in violation of the By-Laws of this Association relating to membership, and that he request them to at once obtain membership in an affiliated society in the place of their legal residence and in default of this within a reasonable time, to drop their names from the roll of members.

The Secretary having asked for an interpretation by the Council of the following sentence in the By-Laws relating to membership, to-wit: "Nor shall any person not a member of a local medical society." It was decided that this clause be con-

sidered to mean a local affiliated society in the county or state in which the applicant resides.

The Council, while wishing the full details of this report entered in the minute book, suggests that in publishing it in THE JOURNAL that the names of the individuals mentioned in it be omitted.

FREDERICK HOLME WIGGIN, Secretary.

### Report of Committee on National Legislation.

Your Committee on National Legislation, to whom was referred the following resolutions from the National Association of Military Surgeons, presented to your honorable body by Major Louis L. Seaman, U. S. V.:

"*Resolved*, That this body deplores the action of Congress in abolishing the Army Post Exchange or Canteen, and, in the interests of discipline, morality and sanitation, recommends its re-establishment at the earliest possible date."

We have carefully considered the resolution proposed and declare it to be wise and proper, and of importance to every citizen of this republic.

The resolution is the outgrowth of careful study and observation by the medical department of the United States Army, is concurred in by the commanding officers at the several posts, and is intended to correct serious abuses under the present law, which result in drunkenness, desertion, insubordination, dishonorable discharge, crime, poverty, appalling increase in venereal disease and invalidism among the soldiers of the United States Army.

We find that the experience of foreign governments coincides with that of the National Association of Military Surgeons in the necessity for the Army Post Exchange or Canteen.

We recommend that the American Medical Association adopt the resolution proposed and that you petition the Congress of the United States to repeal, at the earliest moment, the objectionable law which prohibits the Army Post Exchange.

Respectfully submitted.

H. L. E. JOHNSON,
Chairman Committee on National Legislation.

WM. L. RODMAN.

On motion of Dr. Lewis, Chicago, the report was adopted.

The President appointed Drs. McGruder and Marcy to escort the President-elect to the platform.

Dr. Wyeth, the newly elected President, was then introduced, and made a brief speech in which he thanked the Association for the distinguished honor conferred upon him.

Dr. Seaman, New York, moved that a vote of thanks be extended to the retiring officers for the admirable, excellent and satisfactory Meeting; also to the Chairman and members of the Committee on Arrangements and the citizens of St. Paul who had done so much to entertain the Association.

Dr. Marcy, Boston, put the motion, and it was carried unanimously by a rising vote.

There being no further business to come before the General Session, Dr. Reed declared the Association adjourned *sine die*.

## OFFICIAL MINUTES OF THE SECTIONS.

### Section on Practice of Medicine.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The regular work of the Section on Practice of Medicine commenced with the Address of the Chairman, Dr. J. M. Anders, of Philadelphia. Dr. John B. Deaver, of Philadelphia, read a paper on "Appendicitis: Pathological Anatomy, Diagnosis and Treatment." It was discussed by Drs. De Lancey Rochester, of Buffalo; J. B. Kelly, of Philadelphia; Frank D. Smythe, of Memphis; J. A. Witherspoon, of Nashville; Boardman Reed, of Philadelphia; I. N. Love, of New York City; William Bailey, of Louisville; C. W. Lilly, of East St. Louis, Ill.; H. S. McConnell, of Mechanicsburg, Pa.; Frank Warner, of Columbus; A. F. House, of Cleveland; C. A. Kelsey, of Indianapolis; W. Finlay, of Altoona, Pa.; George F. Jenkins, of Keokuk, Iowa; J. M. Spellman, of Anaconda, Mont.; W. H. Christle, of Omaha; Jno. A. Boager, of Philadelphia; and E. L. Herriot, of Jacksonville, Ill.

A paper on "Some Phases of Malaria" was read by J. B. McElroy, of Stovall, Miss. It was discussed by Drs. E. H. Martin, of Clarksdale, Miss.; Wm. Britt Burns and D. M. Hall, of Memphis; De Lancey Rochester, of Buffalo; W. G. Harrison, of Talladega, Ala.; Victor C. Vaughan, of Ann Arbor; G. W. Young, of Breckenridge, Mo.; Louis Schwab, of Cincinnati; Joseph Brayshaw, of Illinois; T. B. Fütcher, of Baltimore, and A. D. Hains, of Cincinnati.

WEDNESDAY, JUNE 5—MORNING SESSION.

"The Chemical and Microscopic Value of Blood Examinations" was read by W. D. Kelly, of St. Paul; "Pernicious Anemia: Report of a Series of Cases," by Thomas McCrae, of Baltimore; and "The Leucocyte Count in Hemorrhage," by George Douglas Head, of Minneapolis. These three papers were discussed by Drs. De Lancey Rochester, of Buffalo; W. B. La Force, of Ottumwa, Iowa; Thomas McCrae, of Baltimore; George Douglas Head, of Minneapolis; W. T. Higgins, of Courtland, N. Y.; A. J. Coy, of Chicago; W. D. Kelly (closing discussion); Thomas McCrae (closing discussion); and George Douglas Head (closing).

"Osmotic Pressure and its Relation to Euremic Manifestations" was read by Heinrich Stern, of New York City.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Chairman announced the Nominating Committee as follows: J. B. Herrick, of Chicago, chairman; C. H. Hunter, of Mississippi; and James J. Walsh, of New York City. This committee reported for chairman, Frank A. Jones, of Memphis; for secretary, Robert B. Preble, of Chicago.

A paper on "Cirrhosis with Pigmentation" was read by T. B. Fütcher, of Baltimore; on "Circulatory Disturbances Accompanying Cirrhosis with Inosculation of the Portal Branches with Systemic Veins," by Charles G. Stockton, of Buffalo; on "Cirrhoses of the Liver, Due to Metallic Poisons," by Victor C. Vanghan, of Ann Arbor; on "Treatment of Cirrhoses of the Liver," by J. H. Musser, of Philadelphia. These papers were discussed by Drs. Frank Billings, of Chicago; J. B. Herrick, of Chicago; W. E. Quine, of Chicago; William Bailey, of Louisville, Ky.; O. T. Osborne, of New Haven, Conn.; Robert B. Preble, of Chicago; G. W. McCaskey, of Fort Wayne, Ind.; Clarke Gapen, of Madison, Wis.; G. W. Webster, of Chicago; W. H. Neilsen, of Milwaukee; C. G. Stockton (closing); T. B. Fütcher (closing); and V. C. Vanghan (closing).

A paper on "Rheumatic Stimulants" was read by James J. Walsh, of New York City, and discussed by Charles G. Stockton, of Buffalo; G. W. Webster, of Chicago; C. H. Hunter, of Minneapolis.

Charles Lyman Greene, of St Paul, read "Akromegaly: Presenting Features of Interest."

THURSDAY, JUNE 6—MORNING SESSION.

The morning work was opened by a paper on "Modified Treatment of Typhoid Fever," by T. B. Greenley, of Meadow Lawn, Ky.; and on "Medical Shock," by O. T. Osborne, of New Haven, Conn. Discussed by Drs. W. C. Lillie, of East St. Louis, Ill.; James J. Walsh, of New York City; C. A. Kelsey, of Minneapolis; Geo. W. Webster, of Chicago; R. C. Newton, of Mouclair, N. J.; and O. T. Osborne (closing).

"The Spread of Tuberculosis by Coughing," was read by E. Napoleon Boston, of Philadelphia: "Practical Value of Cultures from the Throat," by H. M. Fussell, of Philadelphia (Read by Dr. G. W. Webster). These papers were discussed by Drs. De Lancey Rochester, of Buffalo; R. C. Newton, of Montclair, N. J.; C. W. Lillie, of East St. Louis, Ill.

"Genito-Urinary Examinations by the General Practitioner: With Demonstrations on Patient," Ferd C. Valentine, of New York City.

THURSDAY, JUNE 6—AFTERNOON SESSION.

The afternoon's work opened with an interesting Symposium on Pericarditis, consisting of papers on "Clinical Observations in Pericarditis," by Frank Billings, of Chicago: "Pathology and Pathogenesis of Pericarditis," by Joseph McFarland, of Philadelphia: "The General Etiology of Pericarditis," by Robert B. Preble, of Chicago; "Relation of Pericarditis to Endocarditis and Myocarditis," by Alfred Stengel, of Philadelphia; "Adherent Pericardium," by Robert H. Babcock, of Chicago; "Tuberculous Pericarditis," by C. F. McGahan, of Aiken, S. C.; "Cardiac Lesions as Observed in the Negro: With Special Reference to Pericarditis," by Frank A. Jones, Memphis; "Some Points in the Treatment of Pericarditis," by Frank Parsons Norbury, of Jacksonville, Ill. They were discussed by Drs. De Lancey Rochester, of Buffalo; James J. Walsh, of New York City; H. B. Sears, of Beaver Dam, Wis.; J. B. Herrick, of Chicago; Carl Beck, of New York City; J. D. Smythe, of Greenville, Miss.; and R. B. Preble, of Chicago.

A paper on "Some Points in Raynaud's Disease," by Carl Beck, of New York City, was discussed by Dr. Charles G. Stockton, of Buffalo.

As delegates to the House of Delegates, the Chairman appointed J. M. Anders, of Philadelphia, and Norman Bridges, of Los Angeles, Cal.

The following resolution was handed the Chairman of the Section for action, by J. A. McKenna:

*Resolved*, That Section 1, Chapter IX (By-Laws) be changed to read, instead of "Section on Practice of Medicine," to the "Section on Practice of Medicine, Dietetics and Therapeutics," for the reason that therapeutics and dietetics are so closely allied to the practice of medicine that their consideration should be taken up in this Section, and

*Resolved*, That the Sections from which the subjects of dietetics and therapeutics are subtracted be rearranged by the House of Delegates.

Referred to the Executive Committee for action.

FRIDAY, JUNE 7.

This session was a joint session with Section on Hygiene and Sanitary Sciences.

The Symposium on Smallpox consisted of papers on "A Further Report on Pseudo or Modified Smallpox," by T. J. Happel, of Trenton, Tenn.; "Smallpox: The Old and New," by W. L. Beebe, of St. Cloud, Minn.; "Remarks Covering the Sanitary Features of Smallpox," by Louis LeRoy, of Nashville, Tenn.; "The Diagnosis of Mild Smallpox as in the Present Outbreak of the Smallpox in This Country," by Heman Spalding, of Chicago; "The Distinguishing Characteristics Between Mild Discrete Smallpox and Chickenpox," by Frederick Leavitt, of St. Paul; and "Smallpox," by H. M. Bracken, of St. Paul. They were discussed by Drs. William Bailey, of Louisville, Ky.; James J. Walsh, of New York City; Louis LeRoy, of Nashville, Tenn.; Thos. Wm. Corlett, of Cleveland; F. S. Raymond, of Memphis; J. F. Marchaud, of Canton, Ohio; D. B. Pritchard, of Winona, Minn.; J. M. Barr, of McKees Rock, Pa.; E. H. Martin, of Clarksville, Tenn.; G. W. Goin, of Breckenridge, Mo.; C. F. Dwight, of Minneapolis; T. J. Happel (closing); H. Spalding (closing); F. Leavitt (closing); and H. M. Bracken (closing).

The following resolution was presented by Dr. Henry D. Holton, of Brattleboro, Vermont:

*Resolved*, By the Joint Sections on Practice of Medicine, and Hygiene and Sanitary Science, That the disease now prevailing extensively in the United States and called in some instances, "Pseudo-smallpox" is genuine smallpox and should be so treated with vaccination and quarantine by all health authorities. Carried.

The Section then adjourned.

## Section on Surgery and Anatomy.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The meeting was called to order by Dr. A. J. Ochsner, the chairman.

The following papers were read: "Remarks on the Surgery of the Spinal Cord, with Illustrative Cases," by Dr. Andrew J. McCosh, New York City; "Spina Bifida, with Report of an Interesting Case," by Dr. Paul F. Eve, Nashville; "The Methodical Exploration of the Brain for Fluid," by Dr. Christian Fenger, Chicago; "The Immediate and Remote Effects of Brain Injury," by Dr. D. S. Fairchild, Clinton, Iowa. This Symposium of papers was discussed by Drs. W. W. Keen, Philadelphia; Angus McLean, Detroit; Frazier's remarks (contribution) on tri-facial neuralgia; Weir, Frank, Chicago; Earles, Milwaukee; Moore, Minneapolis; Dawbarn, New York City; Bernays; Maxwell, Keokuk; Means, Columbus; Crile, Cleveland; Taggart, Chicago; McKnight, Connecticut; Baldwin, Salt Lake; and Vaughan, St. Louis.

WEDNESDAY, JUNE 5—MORNING SESSION.

The meeting was called to order and the following papers read: "The Mortality of Appendicitis," by Dr. John B. Deaver, Philadelphia; "Some Unusual Features of Appendicitis and their Treatment," by Dr. Ernest Laplace, Philadelphia; "The Knot within the Lumen in Intestinal Surgery," by Dr. F. Gregory Connell, Chicago; "Surgery of the Colon," by Dr. H. O. Walker, Detroit. Discussion was by Drs. Steele, Chicago; Murphy, Chicago; Knight, Connecticut; Maxwell, Iowa; Andrews, Chicago; Harris, Chicago; Moore, Minneapolis; Morris, New York City; Smythe, Memphis.

Dr. Jackson concluded the morning session by giving a paper on "The Teaching of Relational Anatomy," with presentation of specimens.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The meeting opened with the reading of "The Nature of the Cancerous Process," by Dr. Roswell Park, Buffalo; "The Present Status of the Carcinoma Question," by Dr. Nicholas Senn, Chicago; "Early Diagnosis of Carcinoma—Methods," by Dr. Charles A. Powers, Denver; "The Pathology of Breast Cancer and its Relation to Early Diagnosis and Treatment," by Dr. William S. Halsted and Dr. J. C. Bloodgood; "Carcinoma of the Cecum," by Dr. William J. Mayo, Rochester, Minn.; "Improved Method of Resecting High Rectal Carcinoma," by Dr. Robert F. Weir, New York City; "Method of Operating on Carcinoma of Tongue," by Dr. J. Collins Warren, Boston; "Treatment of Malignant Disease," by Dr. Frederic S. Dennis, New York. This symposium was discussed by Drs. Bernays, St. Louis; Crile, Cleveland; Rodman, Philadelphia; Fuetterer, Chicago; Massey, Philadelphia; Dawbarn, New York City, Levings, Milwaukee; and McKenzie, Oregon.

The Executive Committee reported, through Dr. Rodman, the names of Dr. De Forest Willard, of Philadelphia, for chairman, and Dr. James B. Bullitt, of Louisville, for secretary. Upon vote the nominations were carried.

Dr. Ferguson moved that the same committee consider names of members for election to the House of Delegates, and report tomorrow at 2 o'clock p. m.

THURSDAY, JUNE 6—MORNING SESSION.

The meeting was called to order and the following papers read: "Hemostasis in Amputation at the Hip-Joint, a Résumé of 262 Cases by the Author's Method," by Dr. John A. Wyeth, New York City; "Autoplastic Suture in Hernia and other Ventral Wounds," by Dr. L. L. McArthur, Chicago; "A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery," by Dr. L. E. Schmidt and G. Kollischer, Chicago; "Prostatotomy versus Prostatectomy for Prostatic Hypertrophy," by Dr. Ramon Guiteras, New York City; "Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction," by Dr. Eugene Fuller, New York City; "A Further Report on Permanent Catheterization," by Dr. J. R. Eastman, Indianapolis; "Fallacies in the Treatment of Urethral Diseases," by Dr. Robert Holmes Greene, New York City; "Perineal Prostatectomy," by Dr. Parker Syms.

THURSDAY, JUNE 6—AFTERNOON SESSION.

This meeting consisted in the reading of papers in a symposium on the Surgery of the Chest: "Pneumectomy and Pneumotomy," by Dr. J. B. Murphy, Chicago; "Insufflation of the Lungs and its Application to Pulmonary Surgery," by Dr. Rudolph Matas, New Orleans; "Removal of Foreign Bodies from the Trachea and Bronchi," by Dr. De Forest Willard, Philadelphia; "Treatment of Empyema," by Dr. James H. Dunn, Minneapolis. These papers were discussed by Drs. Means, Columbus; Henry, Omaha; Walker, Detroit; Sylvester, Wallston, Ohio; Wright, Bridgeport, Conn.; Powers, Denver; Eisendrath, Chicago; Eastman, Indianapolis; G. F. Shimonek, Milwaukee; McArthur, Chicago; Dawbarn, New York City; Rackey; Wagner, Columbus; Andrews, Chicago; McGowan, Los Angeles; Allaben, Rockford, Ill.; Guiteras, New York City; Syms, New York City; Greene, Litchfield, Ky.; Bernays, St. Louis; Barber, San Francisco; Jepson, Sioux City, Iowa; Frank, Chicago; Wills, Los Angeles; Norred, Minnesota; Means, Columbus; Willard, Philadelphia; Dunn, Minneapolis.

FRIDAY, JUNE 7—MORNING AND FINAL SESSION.

The meeting was called to order and proceeded to the reading of the following papers: "Acute Infective Cholangitis and Cholecystitis as a Complication of Gall-stones," by Dr. Daniel N. Eisendrath, Chicago; "Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine," by Dr. James Bullitt, Louisville.

These papers were discussed by Drs. Smythe, Memphis; McGowan, Thomas, Pittsburg; Crane, Vermont; Means, Columbus; Davis, Omaha; Rodman, Philadelphia; Lemon, Milwaukee; Bloodgood, Baltimore; Porter, Fort Wayne; Phillips, Rocky Ford; Mitchell, Missouri; Maxwell, Iowa; Bernays, St. Louis; Leonard, Philadelphia; Eisendrath, Chicago; Bullitt, Louisville; Grant, Denver.

"Fractures of Femoral Neck" was read by Dr. Ruth, of Iowa, with exhibition of patient; discussed by Drs. Thompson, of Scranton, and Liston Montgomery, of Chicago.

Dr. Penaington gave a blackboard demonstration and paper entitled, "A Simple Operation for the Treatment of Hemorrhoids."

## Section on Obstetrics and Diseases of Women.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The Section was called to order at 2 p. m. by the Chairman, Dr. H. P. Newman, at the Masonic Hall. Dr. Edwin Ricketts read the report of the Committee on Reorganization, which on motion of Dr. Henry, of Omaha, was adopted and the Committee continued to carry out the details suggested.

Here Dr. Ricketts took the chair, while the Chairman, Dr. H. P. Newman, delivered his Address. On motion, this address was referred to the Committee on Publication.

Dr. A. H. Cordier, Kansas City, read a paper entitled "Post Operative Intra-Peritoneal Hemorrhage." This was discussed by Drs. L. S. McMurtry, Howard Kelly, Seth Gordon, H. O. Marcy, F. H. Wiggin, C. C. Frederick, M. L. Harris, G. B. Massey and, in closing, by Dr. Cordier.

Dr. J. G. Clark, Philadelphia, read a paper entitled "Contributing Factors in the Production of Peritonitis." It was discussed by Drs. Wiggin, Humiston, Kelly, Baldy, Carstens, Wathen, Deaver, Bovée, Henry, Kolischer, Watkins, Dudley, Andr. Smith, Ries, and, in closing, by Dr. Clark.

The next paper was read, by invitation, by Dr. M. D. Mann, Buffalo, on "A New Operation for Extirpation of Cancer of the Rectum." It was discussed by Drs. Marcy, Bovée, and, in closing, by Dr. Mann.

Dr. John Deaver read a paper entitled "The Accidents and Complications of Pelvic Surgery and Their Treatment." It was discussed by Drs. Carey, Harris, Frank Warner, Ricketts, Henry, Smith, Steele, Watkins, Rosenthal and, in closing, by Dr. Deaver.

The Chair appointed the following Nominating Committee: A. H. Cordier, W. E. B. Davis, L. S. McMurtry, S. Gordon, C. C. Frederick. Committee on Reorganization: Bovée, Ricketts and Henry.

WEDNESDAY, JUNE 5—MORNING SESSION.

Meeting was called to order at 9 a. m. by the President.

Dr. O. Theinhaus, Milwaukee, read a paper entitled "Atresia Hymenalis," and exhibited pathologic specimen. Discussed by Drs. McDiarmid and Goldspohn.

"Results, Immediate and Remote, of Conservative Surgery" was the title of a paper read by Dr. A. Goldspohn, Chicago. It was discussed by Drs. Bovée, Jos. Eastman, Cohn, Specht, Henry, and, in closing, by Dr. Goldspohn.

Dr. A. J. Downes, Philadelphia, read a paper entitled "Electrothermic Hemostasis in Abdominal and Pelvic Surgery." It was discussed by Drs. F. H. Martin, Massey, Ries, Eastman, Newman, Bovée, and, in closing, by Dr. Downes.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The meeting was called to order at 2 p. m.

First paper was read by Dr. E. E. Montgomery, Philadelphia, "How Shall We Deal with Uterine Myomata?" It was discussed by Drs. Eastman, Gordon, Wathen, Palmer Dudley, Massey, and, in closing, by Dr. Montgomery.

"Carcinoma of the Uterine Neck" was read by Dr. J. M. Baldy, and discussed by Drs. Carstens, Clark, Zinke, Ries, Montgomery, Kolischer, Massey, Bovée, Wiggin, Duff, and Baldy in closing.

"The Relative Merits of the Different Methods of Uretero-ureteral Anastomosis" was read by Dr. J. Wesley Bovée, Washington. "Some Results of Ovarian Surgery with Further Report upon Intrauterine Implantation of Ovarian Tissue" was read by Dr. A. Palmer Dudley, New York City. Discussed by Drs. Goldspohn, Goffe, Humiston, and Dudley in closing.

"The Various Incisions Appropriate to Different Renal Operations" was read by Dr. H. A. Kelly.

THURSDAY, JUNE 6—MORNING SESSION.

The meeting was called to order at 9 a. m.

Dr. E. Ries read a paper entitled "A New Operation for Retrodisplacement of Uterus."

Dr. F. H. Martin, Chicago: "Surgical Treatment of Retroversion of Uterus." Discussed by Drs. Goffe, Gordon, Goldspohn, Kelly, McDiarmid, Ries and Martin.

Nominating Committee reported: Chairman, J. H. Carstens, Detroit; secretary, C. L. Bonifield, Cincinnati.

THURSDAY, JUNE 6—AFTERNOON SESSION.

The meeting was called to order at 2 p. m. by Dr. H. O. Marcy.

The Committee on Reorganization reported, which, on motion of Dr. Humiston, was unanimously adopted.

It was moved that the secretaryship of the Section be made permanent. Carried.

The number of papers in this Section hereafter will be limited to thirty six, fifteen minutes being allotted for the reading of each paper. The Chairman called attention to the importance of members furnishing abstracts of their papers, to be published in the official program. At future meetings of this Section the Chairman will arrange for two men to open the discussion on papers.

The following papers were read: "The Practice of Obstetrics as It Is and as It Should Be," by Dr. E. G. Zinke, Cincinnati; "Position of Patient During Delivery," by Dr. W. D. Porter, Cincinnati; "Puerperal Sepsis," by Dr. J. F. Moran, Washington; "Indications and Contra-Indications for the Use of Curette in Obstetric Practice," by Dr. H. D. Fry, Washington; "A Case of Streptococcus Infection Following Labor, Operation, Recovery," by Dr. W. H. Humiston, Cleveland. Discussed by Drs. Harris, M. F. Porter, Case, Henry, Ricketts, Dannaker, Bovée, Specht, and, in closing, by W. D. Porter and J. F. Moran.

"The Increasing Sterility of American Women" was read by Dr. G. J. Engelmann, and discussed by Drs. Duff, Wathen, MacDiarmid, Ferguson of New York, M. F. Porter, Jack, H. W. Graham, Coy of Duluth, and, in closing, by Dr. Engelmann.

Dr. C. Dannaker moved that the American Medical Association communicate with the proper United States authorities that it is the desire of this society that in the future compilation of the United States census that the fecundity of the American family be taken into consideration, the nativity of father and mother being made a matter of record and the number of children born. Carried unanimously.

On motion, a committee was appointed to bring the matter before the proper authority: Drs. G. J. Engelmann, Ferguson of New York, and C. L. Bonifield.

"Ectopic Gestation" was read by Dr. W. H. Wathen; and discussed by Drs. Goldspohn and Wathen.

Dr. L. S. McMurtry, Louisville, and Dr. W. H. Humiston, Cleveland, were elected members of the House of Delegates.

FRIDAY, JUNE 7—MORNING SESSION.

The meeting was called to order at 9 a. m. by the Chairman.

Dr. T. J. Beattie, of Kansas City, Mo., read a paper entitled "Puerperal Eclampsia; its Etiology and Treatment." It was discussed by Drs. Bonifield, Cates, Plummer, Rosenthal, Hall, and Beattie in closing.

"Cesarean Section as a Method of Treatment of Placenta Previa" was read by Dr. W. J. Gillette, of Toledo, and discussed by Drs. Eastman, Bernays, Henry, Engelmann, Dugan, Oyler, Bonifield, Reese, Newman and the essayist.

"Intra-uterine Amputations" was read by Dr. J. Maher; "Gynecology; its Contributions to Surgery," by Dr. H. O. Marcy.

Adjourned *sine die*.

## New Members.

The following is a list of new members for May:

### ARKANSAS.

Young, J. M., Little Rock.
Stover, Arthur Reece, Little Rock.
Cann, Dewell, Benton.

### CALIFORNIA.

Purdon, J. E., Turlock.
Fenyes, Adalbert, Pasadena.
Jones, W. Harriman, St. Helena.
Stephens, Wm. Bradley, San Francisco.
Werner, A. F., San Francisco.
Newkirk, Garrett, Los Angeles.
Magee, Thos. L., San Diego.
Baird, J. Gordon, Riverside.
Visscher, L. G., Los Angeles.
Outwater, Sam'l, Riverside.
Ball, Chas. A., Santa Ana.

### COLORADO.

Clark, Jas. L., Denver.

### CONNECTICUT.

Flint, Eli P., Rockville.
Parmele, Geo. L., Hartford.
McKnight, Everett J., Hartford.

### DELAWARE.

Winner, William G., Wilmington.

### ILLINOIS.

Rose, Frank L., Chicago.
Butzow, Arthur M., Chicago.
Lieberthal, David, Chicago.
Anthony, Henry G., Chicago.
May, S. R., Mt. Zion.
Kerr, Norman, Chicago.
Carr, Edgar D., Argenta.
Parrish, M. P., Decatur.
Curry, Thos. Walter, Streator.
Sullivan, E. A., Amboy.
O'Malley, Thos. Jas., Joliet.
Suker, Geo. F., Chicago.
Wesener, Jno. Alfonso, Chicago.
Harrison, Wallace K., Chicago.
St. John, Leonard, Chicago.
Dodson, John Milton, Chicago.
Earle, C. A., Desplaines.
Patton, Jos. M., Chicago.
Kolischer, G., Chicago.
Goodkind, Maurice L., Chicago.
Livingston, W. R., Maywood.
Brode, Willard D., Chicago.
Montgomery, A. B., Reynolds.
Allport, H. W., Chicago.
Adams, Nathaniel H., Chicago.
Huston, Irwin E., Roanoke.
Wilcox, J. M., Clinton.
Kurtz, Russell L., Neoga.
Vick, John W., Carterville.

### INDIANA.

Cunningham, Wm. Ralph, Bourbon.
Long, C. R., Plerceton.

### IOWA.

Richardson, Leon F., Terril.
Michel, Bernard, Dubuque.
Miller, Frank W., Red Oak.
Brown, Luther, Rockford.
Schultz, Chas. S., Lake Park.
Grimes, Eli, Des Moines.
Brooks, J. M., Newell.
Slattery, Wm. P., Dubuque.
Reynolds, Jno. W., Creston.
Niemack, Julius, Charles City.
Birney, Varilles C., Greene.
Fraser, Jefferson E., Garner.
Brackett, A. R., Charles City.
Berner, W. F., Merrill.
Christy, Wm. D., Shannon City.
O'Keefe, J. E., Waterloo.
Schilling, N., New Hampton.
Dorr, E. E., Des Moines.
Sanders, Chas. Willard, Manley.
Vesterborg, Peder H., Forest City.
Merrill, N., Marshalltown.
Flynn, Chas. H., Postville.
Keogh, John V., Dubuque.
Powers, F. W., Reinbeck.
De Armand, J. A., Davenport.
Bay, Edgar L., Eddyville.
Young, J., Bonaparte.
Brownson, J. J., Dubuque.
Christeusen, P. A., Lake Mills.

### KANSAS.

Sheridan, Allen V., Paola.
Gardner, M. N., Greenleaf.
Tracy, Frank M., Kansas City.
Clarke, H. L., Lacygne.
Carpenter, Chas. R., Leavenworth.
Saunders, Nathan J., Cawker City.
Bogle, Herman H., Pittsburg.
Stryker, Isaac E., Baxter Springs.
Hutton, Alfred, Lincoln.

### KENTUCKY.

Pieck, Chas. G., Covington.

### LOUISIANA.

Reeves, Marcus Clifford, Vidalia.

### MAINE.

Ward, Parker M., Houlton.
Marshall, N. M., Portland.

### MARYLAND.

Medders, Chas. H., Baltimore.
Henry, Wm. T., Fishing Creek.

### MASSACHUSETTS.

Beals, Arthur L., Brockton.
Beckley, Chester Chas., Lancaster.
Foskett, Geo. M., Worcester.
Hartung, Harry Hall, Boston.
Harmon, Melvin A., Lynn.
Cabot, Arthur Tracy, Boston.

### MICHIGAN.

McGugan, Arthur, Kalamazoo.
Broisacher, Leo., Detroit.
Morse, H. Beach, Elk Rapids.
Lewis, C. H., Jackson.
Greenmayer, John D., Niles.
White, Jas. G., Mt. Clemens.
Rowe, Wm. E., Allegan.
Jones, John R., Detroit.
Gardiner, S. E., Mt. Pleasant.

### MINNESOTA.

Brimhall, John B., St. Paul.
Schwyzor, Gustav, St. Cloud.
Hvoslef, Jacob, Minneapolis.
Geer, Ethelbert F., St. Paul.
Murray, Wm. R., Minneapolis.
Wells, Ernest Eldred, Barnum.
Soper, John Elford, Norwood.
Daniel, Orianna M., Minneapolis.
Tibbetts, J. L., Wayzata.
Whitney, A. W., St. Paul.
Crafts, Leo M., Minneapolis.
Taylor, Wm. J., Pipestone.
Leavitt, Frederick, St. Paul.
Xanlen, Frank A., St. Paul.
O'Brien, H. J., St. Paul.
Christison, J. T., St. Paul.
Keyes, Chas. R., Duluth.
Bayley, Emery H., Lake City.
Bohland-Fuchs, T. J., Belle Plain.
Day, Lester W., Minneapolis.
Christie, G. R., Long Prairie.
Estabrook, Edw. L., Minneapolis.
Portmann, Wm. C., Jackson.
Daniels, Jared W., St. Peter.
Chapman, W. E., Litchfield.
Cavanaugh, J. O., St. Paul.
Benepe, Louis M., St. Paul.
Senkler, Geo. E., St. Paul.
Kilvington, S. S., Minneapolis.
Kohler, Christian H., Minneapolis.
Graham, Benj. F., Minneapolis.
Lee, Thos. G., Minneapolis.
Davis, Jas. P., Kellogg.
Scoboria, C. O., Elm River.
McDonald, Hugh N., Minneapolis.
Kenyon, Paul, Wadena.
Von Berg, J. P., Albert Lea.
Stevenson, Geo. A., Albert Lea.
Friedlander, Sam'l, Minneapolis.
Newhart, Horace, Minneapolis.
Andrist, J. Walter, Ellendale.
Kistler, Arthur S., St. Paul.
Aborn, W. H., Hawley.
Knudsen, Becker Mr., Tyler.
Macdonald, A., St. Paul.
Richardson, Walter J., Fairmont.
Fischer, Otto Ferdinand, Houston.
Stratheen, Fred P., St. Peter.
Lynn, Jas. F., Waseca.
Dredge, Homer Percy, Belview.
Williams, A. Elton, Minneapolis.
Schlueter, Robt. E., St. Paul.
Wilson, Louis Blanchard, Minneapolis.
Robertson, Jas. W., Litchfield.
Deony, Chas. F., St. Paul.
Simon, B. F., St. Paul.
Baker, J. F., St. Paul.
Erdmann, Chas. A., Minneapolis.
Cates, A. B., Minneapolis.
Knight, Fred K. A., Minneapolis.
McLaren, Jennette M., St. Paul.
Binder, Geo. A., St. Paul.
Austin, Mabel H., St. Paul.
Brown, LeRoy, St. Paul.
Henderson, Andrew, St. Paul.
Ritchie, Harvey P., St. Paul.
Lando, David H., St. Paul.
Shelby, E. C., St. Paul.
Stein, Gottlieb, St. Paul.
Kilbourne, Arthur Foot, Rochester.
Colvin, Alexander R., St. Paul.
Stamm, Gottfried, St. Paul.

### MISSOURI.

Mills, O. P. M., Grant City.
Brook, Hyman, St. Louis.
Fry, Frank R., St. Louis.
Bernays, Augustus C., St. Louis.
Wolfe, Benj. H., Carthage.
Peak, Oscar L., Springfield.

### MISSISSIPPI.

Elmore, R. C., Black Hawk.
Mitchell, A. T., Vicksburg.
Kiger, W. G., Brunswick.
Trotter, Clifford H., Winona.

### NEBRASKA.

Kearns, A. J., Loup City.
Berry, Wm., South Omaha.
Stevens, Jas. Franklin, Lincoln.
Vance, Jno. H., Omaha.
Ziegler, Chas. H., Vesta.
Meredith, G. A., Crawford.
Foote, J. S., Omaha.

### NEW YORK.

Nagel, Jos. D., New York City.
Congdon, W. O., Cuba.
Mewborn, Ala Duke, New York City.
Beutz, Henry G., Buffalo.
Moore, B. S., Syracuse.
Bluestone, Jos. I., New York City.
Walker, LeRoy P., New York City.
Traub, Jno. Emil, New York City.
Smith, Jos. James, New York City.
Kerrigan, Jos. A., New York City.
Musgrave, Christopher J., New York City.
Barber, Annetta E., Glen Falls.

### NEW JERSEY.

Wallace, Dana L., Newark.

### NORTH DAKOTA.

Clark Sidney, B., Buffalo.
Grassick, Jas., Buxton.
Darrow, Edw. M., Fargo.
Wadel, K. A., Portland.
Porter, Henry R., Bismarck.
Church, R. Jerome, Conway.

### NORTH CAROLINA.

Coggeshall, George Albert, Hendersou.

### OHIO.

Schilling, C. E., Canton.
Ehret, G. A., Cleveland.
Knauss, W. H., Newark.
Purviance, J. F., Steubenville.

### OREGON.

Hemenway, Stacy, Klamath Agency.

### PENNSYLVANIA.

Sturgeon, Jno. D., Uniontown.
Nagle, Thos. S., Allentown.
Todd, D. O., Cochran Mills.
Wolfe, Sam'l N., Wilkes Barre.
Morris, Jos. P., St. Clair.
McGreevy, W. H., Scranton.
Bateson, John C., Scranton.
Bush, A. A., Mamont.
Leatherman, D. L., Williamsburg
Vinton, Chas. Harrod, Wernersville.
Walker, W. K., Dixmont.

### SOUTH DAKOTA.

Keeling, Chas. Monroe, Springfield.
Raberge, Frances L., Milbank.
Stillwoll, Hiram R., Tyndall.
Gyllenhammar, F. N. H., Gayville.

### TEXAS.

Fly, David Richard, Amatillo.
Halley, J. T., Galveston.
Gough, Roy H., Hereford.
Hughes, Chas. T., Gainesville.

### TENNESSEE.

Buist, W. Edw., Nashville.
Smyth, Frank D., Memphis.
Preas, Jas. H., Johnson City.
Porter, A. R., Memphis.
LeRoy, Louis, Nashville.
Todd, J. D., Trezevant.

### WEST VIRGINIA.

Moore, Thos. Waterman, Morgantown.
Magill, Wm. Seagrove, Morgantown.

### VIRGINIA.

McCoy, Wm. Kenneth, Richmoud.

### WISCONSIN.

James, Q. W., Solon Springs.
Martin, M. T., Merrimack.
Bolkoon, Geo. W., Clear Lake.
Read, H. M., Menomonie.
Riddle, Julia, Oshkosh.
Joh. de Besche, Milwaukee.
French, Viola M., Neillsville.
Cheever, Wm. R., Kenosha.
Hopkins, Wm. B., Cumberland.
Saunders, Geo., West Superior.
Ross, A., Oshkosh.
Madden, John, Milwaukee.
Breakey, Jas. R., Alma Center.
Houck, Mary Piper, La Crosse.
Houck, Oscar, La Crosse.
Hannum, Henry, Bayfield.
Rhodes, Edson, Galesville.
Mulford, Edwin Rossiter, La Crosse.
Boyce, Sam'l R., Madison.

### WYOMING.

Young, J. Henry, Cumberland.

### MEXICO.

Yearwood, Kelly James, San Luis Potosi.

### UTAH.

Woodring, Wm. W., Mt. Pleasant.

## ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

*16th Annual Meeting, held at St. Paul, May 30, 31, and June 1.*

President Brig.-Gen. Alexander J. Stone in the chair.

### Rations and the Canteen in the Army in the Tropics.

DR. LOUIS L. SEAMAN, U. S. V., New York City, showed no mercy to those who brought about the abolition of that institution. It was a telling indictment. The facts cited cut the ground from under those responsible for this disastrous "reform." He pointed out that only 5 per cent. of the enlisted men are total abstainers, that the rest are men who became accustomed to drinking before they entered the army and who will get liquor in some way whatever the obstacles. They are not prisoners, but are well-paid men who have their "pass days" or days off, as they ought to have. If liquor is denied them at the exchange they will take the first occasion to get it somewhere else. In this country the stopping of the sale of beer at the post exchange has caused the soldier to satisfy his taste for alcohol with "vile doctored whisky." In Porto Rico he turns to "rum loaded with fusel-oil," in the Philippines to the deadly "vino, a sort of wood alcohol," and in China to "shamsu," a product of rice—all "rank poisons." These maddening liquors lead to insubordination and to desertion, to debauchery and to diseases of the worst description. At the close of the discussion the following resolution was adopted:

"Whereas, The Association of Military Surgeons of the United States, now in session at St. Paul, recognizes that the abolition of the army post exchange or canteen has resulted, and must inevitably result, in an increase of intemperance, insubordination, discontent, desertion and disease in the army; therefore, be it

"Resolved, That this body deplores the action of Congress in abolishing the said post exchange or canteen, and in the interests of sanitation, morality and discipline, recommends its re-establishment at the earliest possible date."

### Secondary Hemorrhage.

DR. CHRISTIAN FENGER, of Chicago, was made an honorary member, and presented an interesting paper on this subject.

The papers read were few but they elicited an animated discussion.

Clinics were given by Drs. Archibald MacLaren, Charles A. Wheaton and John F. Fulton. A reception was tendered the Association at the Aberdeen, a theater party was given at the Metropolitan Opera House, and the members were driven to Fort Snelling and there entertained by Captain and Mrs. Bradley and the officers and ladies of the post.

### Election of Officers.

The following officers were elected: Major John Van R. Hoff, surgeon, U. S. Army, Washington, D. C., president; Brig.-Gen. Robert A. Blood, surgeon-general of Massachusetts, Boston, and Surgeon-General Walter H. Wyman, U. S. Marine-Hospital Service, vice-presidents; Captain James E. Pilcher, assistant surgeon, U. S. Army (ret.), secretary, and Lieut. Herbert A. Arnold, assistant surgeon, N. G. Pa., Ardmore, treasurer.

## Married.

HERBERT N. RAFFERTY, M.D., to Miss Bess Alexander, both of Robinson, Ill., May 28.

V. F. LASSAGNE, M.D., Chicago, to Miss Carrie Hawley, of Eureka Springs, Ark., May 25.

ALLEN ELLIS COX, M.D., Milan, Tenn., to Miss Lucile Folk, of Brownsville, Tenn., May 30.

ABRAHAM D. MILLER, M.D., Indian Springs, Tenn., to Miss Maud Roller, of Kingsport, Tenn.

ROBERT A. SHAW, M.D., Georgetown, Colo., to Mrs. M. E. Kutus, of Lincoln, Neb., at Denver, May 22.

ANNE HOLT, M.D., Colorado Springs, Colo., to Carl E. Trulock, of Chicago, at Tullahoma, Tenn., May 6.

LOUIS GROSS, M.D., San Francisco, to Miss Ida Solomon, of Chicago, May 14. Dr. and Mrs. Gross sailed for Europe, where the doctor will study for a year.

## Deaths and Obituaries.

**Wm. H. Daly, M.D.**, University of Michigan, 1866, prominent as a physician in Pittsburg, a member of the AMERICAN MEDICAL ASSOCIATION, died from the effect of a gunshot wound of the head, self-inflicted, at his home, June 9, aged 59. Dr. Daly was a Virginian and served in the Confederate army. After his graduation, he paid especial attention to laryngology, and in 1894 was made president of the American Laryngological Association, and three years later served as president of the American Laryngological, Rhinological and Otological Society. He was a member and for ten years secretary of the Allegheny County Medical Society, a member of the Medical Society of Pennsylvania; Association of Military Surgeons of the United States; British Medical Association and other societies, and served several times as delegate to foreign medical societies and congresses. He was also for a long time a member of the Medical Department of the National Guard of Pennsylvania. At the outbreak of the Spanish-American War he was appointed major and chief surgeon of volunteers and was assigned to duty on the staff of General Miles. After the war he had the misfortune to lose his wife and he became melancholy, lost all interest in his practice and all pleasure in his life, and this, together with the notoriety and implied censure regarding the "embalmed" beef scandal, undoubtedly drove him to suicide.

**William S. Caldwell, M.D.**, Jefferson Medical College, Philadelphia, 1864, a member of the AMERICAN MEDICAL ASSOCIATION, and well known to the readers of THE JOURNAL as the writer of "Rambling Notes of a Roving Doctor," died at his home in Freeport, Ill., June 7, from paralysis, aged 68. Dr. Caldwell was a prominent feature in the medical world, he was at the head of the profession of northwestern Illinois; a man of broad learning, widely traveled and a close student of human nature. He was a native of South Carolina and lived until the age of 14 in Arkansas and the Indian Territory. After his graduation in medicine he settled down to practice in Elizabeth, after 15 years moved to Warren and eight years later to Freeport, in the meantime spending three years in study in Europe. In addition to his membership in the National Association, he was a member of the British Gynecological, Mississippi Valley, International Railway Surgeons' Associations and the Illinois State Medical Society.

**John L. Feeny, M.D.**, New York University, 1866, died at his home in Stapleton, Staten Island, N. Y., May 31, aged 56. For years he was a police surgeon, subsequently health officer of the village of Edgewater and then a supervisor of the county until 1893, when it was consolidated with New York City. Afterwards he became assistant sanitary superintendent of the borough.

**Lewis S. Tesson, M.D.**, major and surgeon, U. S. Army, a native of Missouri, who became a member of the Medical Department of the Army in 1875, and had served at many important army posts, died at Vancouver Barracks, Wash., where he was stationed as Medical Director of the Department of the Columbia, June 8, from apoplexy, after an illness of one month, aged 59.

**E. Paul Sale, M.D.**, Tulane University, New Orleans, 1869, a member of the AMERICAN MEDICAL ASSOCIATION, of the State, Tri-State, Mississippi Valley and Memphis Medical Associations, and professor of materia medica and therapeutics in Memphis Medical College, died June 7 from injuries received by being thrown from his horse against a stone curb.

**Hugh Stockdell, M.D.**, Jefferson Medical College, Philadelphia, 1859, who had practiced in Petersburg, Va., for more than forty years, with the exception of the period of the Civil War, when he served with distinction as surgeon and later as chief medical purveyor in the Confederate Army, died May 23, at his home, after a lingering illness, aged 65.

**Dwight Mereness, M.D.**, Long Island College Hospital, Brooklyn, N. Y., 1886, a well-known and esteemed physician of Milwaukee, died at Trinity Hospital in that city, May 29, after an operation, aged 41. He was a member of the local

and state societies and of the AMERICAN MEDICAL ASSOCIATION.

**John E. Comfort, M.D.**, Albany (N. Y.) Medical College, 1864, died at his home in the Borough of the Bronx, New York City, May 29, aged 63 years. For more than thirty years he was in active practice in the upper wards of New York and served twelve years as Health Board inspector.

**Allen T. Barnes, M.D.**, Kentucky School of Medicine, Louisville, 1857, for many years postmaster of Bloomington, and previously superintendent of the Illinois Southern Hospital for the Insane, Anna, died at his home in Bloomington, May 30, from pneumonia, aged 67.

**John Spare, M.D.**, Howard University Medical School, Boston, 1842, who had resided in New Bedford, Mass., for more than half a century and who served as a surgeon in the navy during the Civil War, died at his home in New Bedford, May 22, aged 84.

**George Sterne Osborne, M.D.**, Harvard Medical School, Boston, 1862, who served during the Civil War as surgeon in the Union Army, and then, after two years of study abroad, settled in Peabody, Mass., died at his home in Salem, Mass., May 25.

**Francis W. Coleman, M.D.**, Tulane University, New Orleans, La., 1866, one of the most widely-known physicians of Mississippi who had practiced at Rodney for thirty-five years, died suddenly in a hotel in New Orleans, May 28, aged 55.

**James R. Bayley, M.D.**, University of Cincinnati, Ohio, 1851, an active practitioner of Oregon, formerly a member of its Territorial Council, and of its State Senate, died at his home in Newport, Ore., May 24, aged 81.

**Allen M. Sumner, M.D.**, Harvard University Medical School, 1868, for many years visiting and consulting physician at the Boston City Hospital, died at his home in Boston, May 25, from acute nephritis, aged 57.

**Charles F. Close, M.D.**, University of Iowa, Iowa City, 1896, a member of the AMERICAN MEDICAL ASSOCIATION, and a resident of Chicago, died from consumption at Los Angeles, Cal., May 29, aged 27.

**La Baume Elliott, M.D.**, University of Nashville, Tenn., 1854, the oldest practitioner of Dallas, Texas, died at his home in that city, May 23, aged 78. He served as surgeon in the Confederate army.

**Lillian E. Abbott, M.D.**, Woman's Medical College, New York, 1892, a member of the New Hampshire State Medical Society, died as a result of poison self-administered, May 28, aged 33.

**Demetrius P. Sypert, M.D.**, University of Nashville, Tenn., 1866, a prominent physician of Montgomery County, died at his home in Clarksville, Tenn., from apoplexy, May 21, aged 60.

**Henry Tyler Phillips, M.D.**, Albany Medical College, 1860, who had practiced in Cheshire, Mass., for forty years, died there after a short illness, from diabetes, May 24, aged 67.

**Abram J. Miller, M.D.**, Rush Medical College, Chicago, 1858, the Nestor of the local profession, died at his home in Paris, Ill., after a prolonged illness, May 22, aged 78.

**Jesse W. Allen, M.D.**, Vanderbilt University, Nashville, Tenn., 1880, a prominent physician of Guthrie, Ky., died suddenly at his residence in that place, May 28, aged 45.

**Wright L. Witham, M.D.**, Ohio Medical College, Cincinnati, 1900, was instantly killed by lightning at his home, South Lebanon, Ohio, May 24.

**Elmer C. Goldthorpe, M.D.**, College of Physicians and Surgeons, Chicago, 1893, died at his home in Englewood, Chicago, May 18, aged 35.

**Thomas E. Fitzgerald, M.D.**, New York University, 1895, died at his home in Jersey City, N. J., May 21, after a long illness, aged 26.

**J. H. Miller, M.D.**, University of Pennsylvania, Philadelphia, 1891, died at his home in Sheridan, Mont., May 21, aged 35 years.

**Edwin H. Austin, M.D.**, Detroit Medical College, 1880, died at his home in Gaines, Mich., May 22, from pneumonia, aged 45.

**Demetrius P. Sypert, M.D.**, University of Nashville, 1866, died from apoplexy at his home at Clarksville, Tenn., May 21.

**Frank J. Webb, M.D.**, Howard University, Washington, D.C., 1895, died at his home in Washington, D.C., May 18.

**George J. Heitzmann, M.D.**, Paris, France, 1849, died suddenly at his home in Marinette, Wis., May 22, aged 62.

**George J. Heitzmann, M.D.**, Paris, France, 1849, died suddenly at his home in Marinette, Wis., May 21.

**A. N. Brackett, M.D.**, Vermont Medical College, Woodstock, 1851, died at Negro, Va., May 14.

# Book Notices.

DISEASES OF THE HEART. A Clinical Text-Book for the Use of Students and Practitioners of Medicine. By Edmund Henry Colbeck, B.A., M.D., Cantab.; M.R.C.P., London; D.P.H., Cantab., Physician to the Out-Patients at the City of London Hospital for Diseases of the Chest. With 43 Illustrations. Cloth. Pp. 341. Price, 12 shillings. London: Methuen & Co. 1901.

This volume is attractive and neat in appearance. The material is well arranged and classified and the various subdivisions are marked in full-faced type, rendering it easy to find what one is seeking. The index is well arranged and comprehensive, which is a most important feature of a text-book. Probably the most instructive chapter for the student is that on "Method of Diagnosis." Each method of physical diagnosis is gone into thoroughly and cause and effect are dealt with in detail. The chapters on the various endocardial lesions are concisely written, but that on mitral incompetence is amplified so that its study will give one a working basis of knowledge for the other endocardial affections. Altogether the book is well written and is worthy of a place on the table of both the student and practitioner.

AN INTRODUCTION TO PHYSIOLOGY. By William T. Porter, M.D., Associate Professor of Physiology in the Harvard Medical School. Cloth. Pp. 314. Price, $2.50. Cambridge, Mass.: The University Press. 1901.

The leading principle in the system of teaching contemplated by this "Introduction" is that the student shall perform for himself the fundamental experiments of the science. As all experiments in physiology can not be performed in the time now ordinarily devoted to its teaching in medical schools, a careful selection must be made. In order to master at least one field necessary for the scientific training requisite for further independent study, the nerve and muscle has been selected as the part best adapted for exact observation and clear reasoning. Hence the experimental physiology of the nerve-muscle preparation is thoroughly set forth from various points of view. Then the mechanics of the circulation and the innervation of the heart and blood vessels are discussed. The apparatus described is trustworthy and quite simple. The subjects are presented from the chemico-physical standpoint, and the book is recommended as an excellent guide for the purposes indicated. It is illustrated with 57 figures.

A TREATISE ON DISEASES OF THE NOSE AND THROAT. By Ernest L. Shurly, M.D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine. Illustrated. Cloth. Pp. 744. Price, $5.00. New York: Appleton & Co. 1900.

This volume has been prepared specially as a practical guide to the general practitioner and medical student. The etiology, symptomatology, pathology and treatment of the various affections of the nose and throat are thoroughly discussed, yet with a conciseness that eliminates useless speculation on unimportant theories. The book opens with a chapter on the anatomy of the parts and closes with a list of prescriptions for convenience and ready reference. The Latin is occasionally wrong, as for instance, *meati* for *meatus* or the Anglicised form "meat

uses," on p. 512. The illustrations are numerous, while the colored plates appear to have been inserted with a view to being exact and instructive, rather than brilliantly beautiful as often is the case in representations of the mucous membrane. We unhesitatingly recommend the book.

## Miscellany.

**The Slow Growth of Fees.**—To Astley Cooper as to most men who rise to eminence, says an authentic biography, "remunerative practice came but slowly." "My receipts," says he, "for the first year was £5 5s; the second, £26; the third, £54; the fourth, £96; the fifth, £100; the sixth, £200; the seventh, £400; the eighth, £610; the ninth (the year in which he was appointed surgeon to the hospital), £1100.

**Determination of the Acidity of the Urine.**—O. Naegli observes that the acidity of the urine is only that excess of acid above the point where it is neutralized by the alkalinity. The urine may contain large amounts of acid and also large amounts of alkalies, and the point of neutralization be proportionately high. Titration of the bases, therefore, is the only means to determine the actual acidity, and phenol phthallein is the best test for the excess above the point of neutralization. He describes his method in the *Ztft. f. Psysic. Chemie*, xxx, 1900, p. 313.

**The International Congress of Insurance Examiners.**—The second international congress of physicians connected with life and accident insurance companies is to be held at Amsterdam in September, as already announced. Professor Brouardel, officially connected with the Equitable, of New York, is one of the secretaries, 28 rue de Chateaudun, Paris. A committee is to report on the universal medical formula for insurance examiners. Stokvis will deliver the address on albuminuria and Siredey on glycosuria in their relation to life insurance. Other subjects to be discussed from the same standpoint are otitis media, hereditary taints, syphilis and cutaneous diseases, tremors, appendicitis and eye affections. Crocq will speak on the importance of the reflexes in examining for life insurance, and others on the acceptance of persons who have resided in tropical countries.

**Responsibility for Count of Sponges in Surgical Operations.**—Many will recall the suit for malpractice brought some time ago against a surgeon of Columbus, Ohio, for the death of a patient from a gauze sponge which had been left in the abdomen after a gall-stone operation. The operation had been made in a public hospital and the head nurse of the hospital had been personally in charge of the sponges. In response to the surgeon's inquiry, thrice repeated, she had assured him that all her sponges were accounted for, and the abdomen was therefore closed. Recovery was prompt, but some two months later obstruction of the bowels supervened and an operation, made when the patient was practically moribund, revealed the presence of a sponge as the cause of the obstruction. The attorneys who instituted the suit, while admitting that the surgeon himself had adopted the usual precautions and that the death was the result of the act of the nurse, claimed that the nurse was technically the agent of the surgeon and that the latter was therefore responsible for her blunder. A similar suit, and on similar grounds, was instituted about the same time against an Atlanta, Ga., surgeon. The Atlanta case was tried some months ago and the surgeon promptly acquitted; the individual responsibility of the nurse having apparently been proven to the satisfaction of the jury. The decision in the Atlanta case is supposed to have been the actuating cause which recently led the attorneys at Columbus to withdraw their suit, at their own costs, and institute proceedings against the hospital where the operation was made. This suit has only just been filed and the outcome will be watched with much interest, since the suit presents some novel features. The decision in the Atlanta case and the withdrawal of the suit in the Columbus case will go far to establish the principle that when the surgeon is operating with a graduate nurse in charge of the sponges he can not be held responsible for her carelessness, unless from previous experience he knows her to be untrustworthy.

## Societies.

### COMING MEETINGS.

Colorado State Medical Society, Denver, June 18.
Medical Society of New Jersey, Deal Beach, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.
Medical Association of Nevada, Reno, July 1.
American Ophthalmological Society, New London, Conn., July 17.

**Chicago Academy of Medicine.**—At the annual meeting of this organization, May 24, Drs. W. L. Baum, J. G. Kiernan and H. N. Moyer were chosen directors for the coming year.

**Physicians' Club (Chicago).**—At the annual meeting of this club, May 27, Drs. W. S. Christopher, Joseph Zeisler and G. Frank Lydston were elected directors, and Dr. L. Harrison Mettler was re-elected secretary and treasurer.

**Ophthalmological and Otological Society of Washington, D.C.**—At the thirty-seventh annual meeting of this Society, Dr. Stephen O. Richey was elected president; Dr. William H. Wilmer, vice-president, and Dr. Anton Coe, secretary and treasurer.

**First District Branch of the New York State Medical Association.**—The annual meeting of this body was held at Utica, May 21. Dr. C. B. Tefft, Utica, was elected president; Dr. J. W. Douglas, Boonville, vice-president, and Dr. E. H. Douglas, Little Falls, secretary and treasurer.

**American Dermatological Association.**—This Association held its twenty-fifth annual convention in Chicago, May 29, 30 and 31. Dr. George Jackson, New York City, was elected president; Dr. Joseph Zeisler, Chicago, vice-president, and Dr. Frank H. Montgomery, Chicago, secretary and treasurer.

**American Association of Life Insurance Examining Surgeons.**—The second annual convention of this body was held in St. Paul, June 3. The following officers were elected: Dr. James H. Stowell, Chicago, president; Drs. James H. Reed, Battle Creek, Mich., and Talbot Jones, St. Paul, Minn., vice-presidents, and Dr. Thomas A. Stevens, Caney, Kan., was re-elected secretary-treasurer.

**Health Officers' Association of Indiana.**—At the eleventh annual conference of the Indiana state health officers, a new association was organized, known as the Health Officers' Association of Indiana, with the following officers: Dr. Brose S. Horne, Bluffton, president; Dr. Nathaniel D. Cox, Spencer, vice-president; Dr. Albert E. Powell, Marion, secretary, and Dr. Hugh A. Cowing, Muncie, treasurer.

**North Dakota State Medical Society.**—The fourteenth annual meeting of this Society was held at Fargo, May 22 and 23. The following officers were elected: Dr. Harry D. Quarry, Grand Forks, president; Drs. Tonnes Thams, Fargo, and Sidney B. Clark, Buffalo, vice-presidents; Dr. E. C. Branch, Wheatland, secretary, and Dr. William L. Grant, St. Thomas, treasurer. The 1902 meeting will be held in Grand Forks.

**Connecticut Medical Society.**—The one hundred and ninth annual meeting of this Society was held at Hartford, May 22 and 23. Dr. John H. Grannis, Saybrook, was elected president; Dr. J. A. Shelton, Shelton, vice-president; Dr. W. W. Knight, Hartford, treasurer, and Dr. J. H. Townsend, New Haven, assistant secretary. Dr. Charles S. Rodman, Waterbury, was chosen as delegate to THE AMERICAN MEDICAL ASSOCIATION.

**Medical Association of Montana.**—At the annual meeting of this body, held at Great Falls, the following officers were elected: Dr. Thomas J. Murray, Butte, president; Dr. T. J. McKenzie, Anaconda, and Louis Bernheim, Butte, vice-presidents; Dr. Benjamin C. Brooke, Helena, secretary; Dr. James F. Spelman, Anaconda, corresponding secretary and historian, and Dr. George H. Barbour, Helena, treasurer. Butte was selected as the place for the next meeting.

**Medical Society of the State of West Virginia.**—At the annual meeting of this Society held in Grafton, May 22, 23 and 24, the following officers were elected: Dr. G. A. Aschmann, Wheeling, president; Drs. C. F. Amos, Lumberport, Olin H. Hoffman, Thomas, Archibald Staunton, Charleston, and Rolla Camden, Parkersburg, vice-presidents; Dr. William W. Golden, Elkins, secretary, and Alonzo Andrews, Martinsburg, treasurer. The 1902 meeting will be held in Martinsburg.

**Kentucky State Medical Society.**—The forty-sixth annual meeting of this Society was held at Louisville, May 22, 23 and 24. The election of officers resulted as follows: Dr. T. B. Greenley, Meadow Lawn, president; Drs. George M. Reddish,

Somerset, and B. L. Coleman. Lexington, vice-presidents; Dr. Steele Bailey, Stanford, secretary; Dr. Charles W. Aitkin. Flemingsburg, treasurer, and Dr. Frank L. Lapsley, Paris, librarian. The society will meet next year in Paducah.

**Medical Society of the State of North Carolina.**—This Society held its forty-eighth annual meeting at Durham, May 21, 22 and 23. The following officers were elected: Dr. Robert S. Young, Concord, president; Drs. Albert G. Carr, Durham, Isaac G. Taylor, Morganton, E. Dixon Carroll, Raleigh, and James M. Parrot, Kinston, vice-presidents. Drs. George W. Pressly, Charlotte, and Ginnada T. Sikes, Grisson, were re-elected secretary and treasurer respectively. Wilmington was selected for the 1902 meeting.

**The Alumni Association of the John A. Creighton Medical College** held its annual meeting at Omaha, May 7, and elected Dr. E. C. Henry, Omaha, president; Dr. Rudolph Rix, Omaha, secretary, and Dr. A. G. Wiley, South Omaha, treasurer. The meeting concluded with a banquet at which 50 alumni, including the class of 1901, 27 in number, were present. Dr. E. C. Henry was the toastmaster. Dr. B. M. Riley delivered the address of welcome to the new class, which was responded to by Dr. H. L. Akin.

**Missouri Medical Association.**—The forty-third annual meeting of this Association was held at Jefferson City, May 21 and 22. The following officers were elected: Dr. Jefferson D. Griffith, Kansas City, president; Drs. Robert E. Young, Jefferson City, John C. Whaley, Osceola, Robert M. Funkhouser, St. Louis, John F. Campbell, Callao, and George W. Vineyard, Jackson, vice-presidents; Dr. B. Clark Hyde, Kansas City, recording secretary; Dr. F. W. Burke, Laclede, assistant recording secretary; Dr. Charles W. Fassett, St. Joseph, corresponding secretary, and Dr. J. Franklin Welch, Salisbury, treasurer. St. Joseph was chosen as the next place of meeting.

**American Pediatric Society.**—This society held its annual meeting at the Hotel International, Niagara Falls, N.Y., May 27, 28 and 29. Papers were presented by Drs. Osler, Abram Jacobi, T. M. Rotch. Frederick A. Packard, Henry Koplik, F. Forchheimer J. Crozer Griffith and other prominent pediatrists. The following officers were elected: Dr. William D. Booker, Baltimore, president; Drs. Frederick A. Packard, Philadelphia, and J. Lovett Morse, Boston, vice-presidents; Dr. Samuel S. Adams, Washington, D. C., secretary; Dr. J. Park West, Bellaire, Ohio, treasurer, and Dr. Walter Lister Carr, New York City, recorder and editor.

**The American Medical Library Association** met at the hall of the Medical and Chirurgical Faculty, Baltimore, May 25. Receipts for year $644, expenses, $358. Six new libraries were admitted, including the Bristol University Library, England. The following officers were elected: Dr. William Osler, president; Mr. John S. Brown, New York Academy of Medicine, vice-president; Miss M. R. Charlton, McGill University, Montreal, secretary; Dr. George D. Hersey, Rhode Island Medical Society, treasurer; Drs. Osler and Jas. C. Merrill, Mr. Charles Perry Fisher, executive committee. It was decided that in order to join the Association a library must have at least 1000 volumes, and be open at regular hours to the medical profession. A gift of 1000 volumes was received from the Philadelphia College of Physicians. It was decided to issue a bulletin as often as material should accumulate and the interests of the association required it.

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## KENTUCKY STATE MEDICAL SOCIETY.

*Forty-sixth Annual Meeting, held at Louisville, May 22-24, 1901.*

The president, Dr. James H. Letcher, of Henderson, in the Chair.

### President's Address.

This address was extremely interesting. Among other things, the President suggested a complete revision of the Constitution and By-Laws of the Society so as to have them more in keeping with present conditions. The revision should conform as nearly as possible to the work of the AMERICAN MEDICAL ASSOCIATION. The popular address was delivered by Hon. Young E. Allison, of Louisville.

### Medical Organization.

DR. J. N. MCCORMACK, Bowling Green, read a paper on the necessity of medical education, which was the report of the Committee on Public Policy. He advocated the formation of medical societies in every county and state in the Union. Every physician in this country should at least be a member of his county society in order to strengthen his profession and give it a standing in the community. From each local society delegates are to be selected to attend the county society; from the county society, delegates should be selected to attend the state society, and from this delegates to the meeting of the AMERICAN MEDICAL ASSOCIATION. He urged the adoption of the plan of organization outlined by the AMERICAN MEDICAL ASSOCIATION.

The Society endorsed the report of Dr. McCormack and moved the appointment of a committee on organization.

### Conduct of the Second Stage of Labor in Private Practice.

DR. EDWARD SPEIDEL, Louisville, read a paper with this title. He dwelt on the necessity of exercising the strictest aseptic precautions in this work and described his method of preparing the patient, bed, nurse and himself. In place of the usual absorbent pad he uses a bag containing one-half bushel of bran, which possesses great absorptive power. The use of chloroform during pains lessens the liability of perineal tears. Immediately after birth he places the child across the abdomen of the mother. In this position it is not only out of the way, but by its weight also exerts some influence on uterine contractions. He exhibited a small obstetric case devised by him, which contains all the necessary material for conducting labor on an aseptic basis.

### Some Interesting Experiences in Obstetrics.

DR. W. E. SLEEP, Midway, reported three unusual cases. After the birth of a still-born baby the placenta was found to contain another child, the development of which had ceased at about the third month. The second case was complicated by an hourglass-shaped tumor just beneath the pubic arch. The patient was successfully delivered and recovered without complication. Six months afterward the growth had entirely disappeared without practically any treatment. In the third case four children had died successively from icterus neonatorum. An autopsy on the last child revealed a complete abscess of the common bile duct.

### Miscarriage and its Treatment.

DR. W. D. GOSSETT, Louisville, urged that the term abortion be limited to those cases in which there was criminal interference and that the term miscarriage be used to designate emptying of the uterus before the viability of the child. The entire subject of miscarriage was very carefully reviewed and special attention was called to ascertaining positively that the uterus has been entirely emptied of its contents. The curette should be used when necessary, but only under the strictest antiseptic precautions. The essayist believes that curetment is usually looked upon as a simple procedure. In his opinion it is an extremely grave one and should be performed by men who have had some experience in the use of the curette.

### The Puerperium.

DR. JOHN G. CECIL, Louisville, considered the management of this state. Strict asepsis, complete rest and diet are essential. All meddlesome interference should be abstained from. The routine administration of ergot and practice of post-partum douching are designated as most "pernicious." They should be used only when there is a positive indication for them, and then by a competent person. The same applies to the use of the curette. The abdominal binder should always be applied as a support to the relaxed abdominal wall and a stimulus to uterine contractions.

### Instrumental and Operative Obstetrics.

DR. A. P. MCCORMACK, Bowling Green, dwelt upon the necessity and importance of making frequent examinations of the urine and taking pelvic measurements. Podalic version should invariably receive the preference over mechanical interference. Forceps should rarely be applied before the head is engaged, except when rapid delivery is necessary. Symphyseotomy should never be done as an emergency operation. It is unsafe, unscientific and frequently followed by disastrous results. When indicated, Cesarean section should be promptly performed. The various obstetric operations are considered in

detail. The indications and manner of performing them are fully described. The vaginal tampon is condemned. He especially advises the careful inspection of the genital tract after labor and the immediate repair of any cervical or perineal laceration. Both the eye and finger should be used in looking for these tears.

### The Clinical Examination of the Blood in Diagnosis.

DR. L. B. COOK, Stanford, dwelt on the importance of blood examinations. The pathology of the blood was described in the following diseases: anemia, pernicious anemia, chlorosis and leukemia. The Widal reaction was described and its significance given. The various animal organisms found in the blood, especially malarial protozoön, are fully described.

### Substance of Cell Life and the Germs Considered from the Standpoint of Natural Phenomena.

DR. URBAN V. WILLIAMS, Frankfort, presented this paper. It was largely metaphysical, dealing with the origin of all matter and the forces and conditions necessary to convert the original matter into the different kinds now found. Its relation to disease is also considered.

### Typhoid Fever in Infancy.

DR. JAMES B. KINNARD, Lancaster, called attention to the great difficulty in making a diagnosis of this disease in children. He advocates the unrestricted use of water, internal and external, but restricts the diet to milk, either the mother's milk or peptonized milk. Antipyretics should only be used when the baths fail to reduce the temperature. Complications are treated symptomatically as they arise.

### A Few Rambling Thoughts on Infant Feeding.

DR. HENRY E. TULEY, Louisville, said that there is no substitute for healthy mother's milk. The nearest approach to it is cow's milk. It is cheap, always obtainable, and capable of modification. The successful use of cow's milk is dependent on the clear understanding of its modification by the percentage method. Raw milk is superior to sterilized or pasteurized. Every precaution should be taken during the milking process and the delivery of the milk so as to keep it pure and sweet. Carefully watching the stools, sleep and wake of the infant is essential to the proper appreciation of its progress. Regular feeding is important. The mother should avoid everything tending to affect the flow or quality of the milk. Barley water, rice water or flour-ball water, dextrinized, are the best diluents. The percentage of fats, proteids and carbohydrates must be governed entirely by the progress of the child.

### Cure for Enuresis.

DR. PHILLIP F. BARBOUR, Louisville, reviewed at some length the etiology, symptoms and treatment of this affection.

### Hip Joint Amputation—Report of Case.

DR. W. O. ROBERTS, Louisville, gave a brief résumé of the various operations devised and also the methods for controlling hemorrhage, which is the chief element of danger in this operation. He advises the unlimited injection of normal salt solution, as it stimulates the heart and respiratory centers. Amputation should not be deferred, as that lessens the chance of recovery. A case was presented in which hip-joint amputation was performed according to Wyeth's method.

### Sterilization of Suture Material.

DR. AUGUST SCHACHNER, Louisville, spoke on the frequent occurrence of infection from suture material and ligatures. Therefore, the utmost vigilance should be used in having the sutures and ligatures, especially the catgut, absolutely sterile. The Cumol method of sterilization is probably the best. The author presented a metal cup devised by him for the sterilization and carrying of suture material. It is absolutely nonbreakable and completely air-tight, effectually obviating the danger of infection. It can be easily carried about, and is therefore especially serviceable in country practice and in military surgery.

### Ventral Hernia; Its Prevention and Cure.

DR. LOUIS FRANK, Louisville, said that perfect technique and strict asepsis should make the occurrence of ventral hernia an impossibility, except in those cases where it is impossible to procure absolute asepsis. All ventral hernias, even the congenital variety, are curable either by the application of a suitable bandage or by operation. The writer believes that excessive omental development is a factor in the production and maintenance of congenital hernia; therefore, he invariably removes quite a bit of omental tissue. He reports a number of cases operated on, describing his method in full, none of which have had a recurrence of the hernia.

### The Management of Abscesses of the Antrum of Highmore.

DR. M. F. COONES, Louisville, said that the most important thing in treating these diseases is to maintain thorough drainage, as the secretions rapidly decompose. The opening should be made sufficiently large for this purpose and the application of such antiseptics as will rapidly bring the disease under control. Gauze drains are preferable to drainage tubes, which are really worthless. The canine fossa to the place of election for opening the antrum.

### The Ophthalmoscopic Diagnosis of Bright's Disease.

DR. DUDLEY S. REYNOLDS, Louisville, said this is sometimes of great importance, but requires expert judgment and can never be made until the renal disease has reached a dangerous stage. Failing vision is the first symptom, and leads the patient to seek relief. Few persons with retinitis albuminurica live beyond twelve months from the beginning of the affection. Fatty deposits in the retina, presenting a series of radiatory striations around the macula, with some deposits in other parts of the retina and occasional disseminated hemorrhagic effusions with tortuous retinal arteries are never seen without co-existing renal disease.

### The Pathology of Bright's Disease.

DR. GEO. E. DAVIS, Lawrenceburg, after a review of the histology and physiology of the kidney, considered the pathologic changes in structure and function which produced the symptoms of albuminuria, dropsy and uremia.

DR. ANDREW SARGENT, Hopkinsville, briefly mentioned the most important diagnostic features of acute and chronic Bright's disease.

DR. A. G. BLINCOE, Bardstown, dwelt on the importance of rest and a strict milk diet. The symptoms should be treated as they arise.

DR. L. L. SOLOMON, Louisville, described in full the dietetic, hygienic and medicinal treatment. A special stress was laid on the indications and contraindications of drugs in this affection.

### Analgesia by the Spinal Subaracnoid Injection of Cocain.

DR. J. GARLAND SHERRILL, Louisville, gave a full history of the origin of this method and also the manner of carrying it out. The principal points to which the author called attention were, first, the dangers: shock due to the injection of the cocain; danger to the cord and centers in the medulla; action of cocain on the heart; the immediate danger of meningitis and myelitis from infection occurring through improper aseptic precautions. The arguments for the method are: 1, the condition of the patient is much better after its use than after the use of a general anesthetic; 2, it can be used in many cases in which a general anesthetic is contraindicated, in fact dangerous; 3, it simplifies the operation considerably; 4, it lessens the patient's fear and therefore keeps him in much better condition, lessening the danger from shock. The following are the objections to the method: 1, an individual idiosyncrasy to cocain; 2, the method is claimed to be a dangerous one by those who have either never used it or used it improperly, so that complications have resulted.

DR. J. G. CARPENTER, Standford, read a paper on "Appendicitis—Early Operation from a Pathologic Standpoint."

### Stricture of the Male Urethra.

DR. HENRY H. KOEHLER, Louisville, gave a very full and careful résumé of all the present methods of treatment of this condition. He believes that the method of extensive dilatation is followed by no evil consequences and is the only one

by means of which we can clear the canal of its latent foci of gonococci. The steel sound should be used, and the method is applicable to strictures in any portion of the urethra. Strictures not responding to dilatation can be cured by an internal or external urethrotomy or a combination of both, or by forcible dilatation according to the method of Holland and Pereve, or by progressive dilatation according to Le Fort's method. The strictest antiseptic precautions must be observed, no matter which method is used. A careful urinalysis should be made in all stricture cases. Metallic dilators are to be preferred, as they are more easily kept clean. Urotropin, in 5 to 10 grain doses, is the best internal antiseptic.

### Urethroscopy.

DR. WM. R. BLUE, Louisville, gave a detailed description of the indication and uses for the urethroscope. This instrument has simplified the diagnosis as well as the treatment of urethral and bladder diseases most decidedly. We can now easily treat mucous patches, urethral chancroids, hypertrophied follicles, abscesses, strictures, etc. The most satisfactory instrument is that of Scholl, which allows the urethra to be studied as a cylinder and not as a collapsed tube. He advised that plenty of time should be taken in making an examination with the urethroscope, as many failures are due to hurried examinations.

### The Necessity of Medical Organization.

DR. J. N. MCCORMACK, Bowling Green, dwelt upon the urgent necessity for the medical profession of the various states in this country to perfect their organization. He advocated the formation of medical societies in every city and county in the state. That each local society send delegates to the county society, and that each county society send delegates to the state society, which is to elect the delegates to the AMERICAN MEDICAL ASSOCIATION. He believes that it will do away with much of the petty jealousy now existing among physicians everywhere, not only in the city, but in the country as well. In union there is strength, and every step should be taken to effect that union, by making every physician in this country a member of some medical society. This paper was fully discussed by Dr. J. M. Mathews, who handed in the resolutions referred to in THE JOURNAL of June 1, p. 1573. Drs. Richmond, Reynolds, Weidner, Vance and Godshaw also took part in the discussion, which was closed by Dr. McCormack.

### The Practical Management of Smallpox.

DR. N. K. ALLEN, Louisville, referred to the legislation passed in this state as to vaccination, and described the proper method for performing it. He also called attention to the immediate isolation of all cases, the proper disinfection of the habitation and the vaccination of all persons exposed to the disease.

DR. ANCIL D. PRICE, Louisville, read a paper on "The Imperative Necessity of General Vaccination."

### Gunshot Wound of the Right Lung with Complications.

DR. A. M. MORRISON, Goshen, cited a case of a gunshot wound of the right lung which was followed by an empyema and finally to recovery. This was complete except for occasional prolonged paroxysms of coughing, which sometimes threatened suffocation. About a year later the boy was taken with an exceptionally violent fit of coughing, during which he coughed up a strip of gauze which had originally been packed into the wound made in treating the empyema. After this gauze had been extruded complete recovery followed.

### Report of two Cases of Aneurysm.

DR. J. L. ATKINSON, Campbellsville, reported an aneurysm of the ulnar artery and one of the femoral artery, just below Hunter's canal. In both cases the vessels were ligated, the cavities opened and emptied of clots. The patients recovered without any untoward symptoms.

DR. BASIL M. TAYLOR, Greensburg: The author protested against the use of stimulants and milk in "typhoid fever," and pleaded for the treatment of the patient and not of the disease. Several cases are recorded in which his treatment is outlined in detail, and all of which made an uneventful recovery.

### Tubercular Peritonitis.

DR. BEN CARLOS FRAZIER, Louisville, gave a complete review of all the literature of "Tubercular Peritonitis" and described in full the nature of the affection. The various methods of treatment are dwelt upon and the necessity of prompt surgical interference is urged.

DR. J. LIVELY JOHNSON, Louisville, read a paper on "Ununited Fractures and their Treatment."

### Surgical Emergencies from a Medico-Legal Standpoint.

DR. C. C. GODSHAW, Louisville, narrated a case of surgical emergency which he was called to attend by the foreman in the factory where the injury was inflicted. The payment of his bill was refused by the company on the grounds that he was not called by them. All attempts to collect the bill proved unsuccessful and the author finally resorted to legal means to force collection. The opinions of the various courts before which the case was tried are given in full. It was finally lost on the ground that the foreman of a factory has no right whatever to obligate his employers to the payment of any bill.

### Surgical Treatment of Inguinal Hernia.

DR. J. T. DUNN, Louisville, advises the selection of a method which in the individual case is the most applicable and the least complicated. Personally, he favors the Bassini method, which has materially reduced the occurrence of relapses and the mortality rate from this disease. This, as well as all the other surgical methods devised, is described in detail by the writer.

DR. T. B. GREENLEY, Meadow Lawn, read a paper on "The Longevity of the People of 70 Years and over Living in the Valley below the City of Louisville, called Pond's Settlement, within the last half century." It is a paper dwelling especially on the fact that, in spite of the frequent and constant occurrence of malaria in the districts referred to, the majority of people over 70 years of age in the State of Kentucky have lived in this district. He does not attempt to explain the reasons for this fact.

### Election of Officers.

The following officers were elected for the ensuing year: Dr. T. B. Greenley, of Meadow Lawn, president; Drs. Geo. M. Reddish, of Somerset, and B. L. Coleman, of Lexington, vice-presidents; Dr. Steele Bailey, of Stanford, secretary; Dr. Charles W. Aitkin, of Flemingsburg, treasurer; Dr. Frank L. Lapsley, of Paris, librarian; Dr. Frank Boyd, of Paducah, chairman of the committee on arrangements. Paducah was selected as the next place of meeting the fourth week in May.

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## NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

*Eleventh Annual Meeting, held in the House of Representatives, St. Paul, Minn., June 3, 1901.*

President Dr. J. N. McCormack, of Bowling Green, Ky., in the Chair.

### Report of the Committee on Interstate Reciprocity and Uniform Medical Legislation.

DR. EMIL AMBERG read this report and said that the first step toward interstate reciprocity and uniform medical legislation must be established in the various political divisions by forming the medical law so that interstate reciprocity is allowed. The second step consists in establishing the standard for physicians who are permitted to practice. The third step consists in an arrangement by which the findings of one board may be accepted by another board.

The committee reported with satisfaction that the progress along all lines mentioned had been satisfactory during the last year. In regard to the first point the committee reported that the law permitted reciprocity in the following political divisions: District of Columbia, Delaware, Illinois, Indiana, Kansas, Maryland, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Virginia, Washington, and Wisconsin. Concerning the second point the Committee noted with satisfaction progress in Indiana and Washington.

With reference to the third point, the New England states showed that the division into groups is practicable and desirable.

The demand for uniformity of medical education is apparent. The establishment of uniformity is possible. It can be established through the examining boards, aided by the profession and by the public.

The committee came to the following conclusions:

1. The acceptance by the weaker divisions without examination of applicants from states having higher requirements without demanding reciprocal recognition, and the discrimination of medical boards against inferior schools in their own states reveals a commendable spirit.

2. As a step towards interstate reciprocity the committee commended the action already begun of reciprocal arrangements and agreements between the boards of the several states having laws which provide for reciprocity and whose requirements are similar. This will result in the formation of groups of states with established reciprocity.

It is recommended that the members of the confederation from states in which the standard of requirements is not yet sufficiently high, use faithfully the argument that interstate reciprocity can be obtained for the practitioners of that state only upon the basis of such legislation as will bring the standard up to that required in the states with which they intend to establish reciprocity. The three principal points considered were: 1. That the law in any political division should require or authorize the examination of all applicants for license by a competent examining board. 2. That to be eligible to examination the applicant should be required to furnish to the examining board evidence of having graduated from a reputable medical college in good standing with the board in the state in which said college is located and with the board to which application is made. 3. Examinations should be uniform throughout the states as to subjects or branches upon which examination is required.

The committee believes that it would be well for the confederation to agree upon the branches upon which applicants should be examined to the end that uniformity of requirements by the various boards may be attained, and that the percentage required in each subject and the manner of conducting the examinations, together with the rules to be enforced in each examination, should all be uniform.

The committee urgently recommended that reciprocity between the examining boards of the country on all questions pertaining to the welfare of the public and the elevation of the profession be maintained. To this end there should be the fullest and freest communication between the boards which should not be limited to their official reports.

### Some Vulnerable Points in Medical Legislation.

DR. HARVEY B. DALE, of Oshkosh, Wis., followed with this paper and stated that the ultimate intent of medical legislation is unquestionably good. Its motive is a laudable one. It aims to directly benefit suffering humanity, not to establish a doctors' trust, nor to stifle competition, nor to strangle any practical new idea or system of treatment in its infancy. Enforced unification of standards on the part of medical colleges would simplify matters. It would result in a diploma being generally recognized for what it purports to be—a certificate of actual fitness to practice medicine. It would enable the recognized graduate in one state to move into another at his own will. It would remove all injustice and hardship now endured, not always patiently, by qualified physicians. It would strike the Upas-tree at its root instead of lopping off its branches. It would do away with the manifest injustice to really qualified and honest college faculties, now inflicted by post-mortem dissections of their deliberate decisions. In a word, it would reduce the present complicated legislative machinery to a very simple and effective mechanism. Given a concise, yet comprehensive definition of what constitutes the practice of medicine, a uniform requirement that all who engage in such practice should have a medical diploma, and a legislative guarantee based upon actual information that such diploma says what it means, and means what it says, quackery would find life a burden in this country. The qualified physician of one state would be a qualified physician everywhere. The pretender might travel from Maine to California, and from California to Maine again, looking in vain for a chance to plunder the people.

### How Should the Practice of Medicine be Legally Defined?

DR. HENRY BEATES, JR., of Philadelphia, read a paper presenting the following definitions for consideration:

To Practice Medicine: For anyone, except those carrying out the directions of the attending physician, to engage, directly or indirectly, habitually or occasionally, gratuitously, or for pecuniary or other compensation, in the care, management or treatment, by any means whatsoever, either material or immaterial, for the prevention, relief or cure of any or all diseases, accidents or disability to which human or animal life is exposed, threatened or afflicted.

Practitioner of Medicine: Anyone, except those carrying out the directions of the attending physician who engages, directly or indirectly, habitually or occasionally, gratuitously, etc., as above.

The Practice of Medicine: The engaging by anyone, except those carrying out the directions of the attending physician, directly or indirectly, habitually or occasionally, gratuitously, etc., as above.

The above definitions were only offered in the nature of suggestions. During a lengthy discussion the definitions were criticized, several modifications suggested, but no action taken by the confederation committing it to any particular definition.

### Officers.

The following officers were elected for the ensuing year: President, Dr. N. R. Coleman, Columbus, Ohio; first vice-president, Dr. Henry Beates, Jr., Philadelphia; second vice-president, Dr. James A. Egan, Springfield, Ill.; secretary, treasurer, Dr. A. Walter Suiter, Herkimer, N. Y.; executive council, Dr. William S. Foster, Pittsburg; Dr. Joseph M. Mathews, Louisville; Dr. William A. Spurgeon, Muncie, Ind.; Dr. William Warren Potter, Buffalo, and Dr. Augustus Korndoerfer, Philadelphia.

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## PHILADELPHIA NEUROLOGICAL SOCIETY.

*Regular Meeting.*

Dr. Charles S. Potts in the chair.

### Tea Intoxication with Spinal Symptoms.

DR. ALFRED GORDON presented the patient, a woman aged 31 years, who 7 years previously had had an operation performed for some condition of the uterus. Since that time she has been accustomed to taking enormous amounts of tea, sometimes 15 glasses a day. Her present illness seems to date back to three months ago, at which time she began to complain of fatigue and unsteadiness in walking. Increased knee-jerk and biceps tendon reflex were present. When the latter region was struck a distinct tremor could be produced in the hand. The sphincters had also been involved. Sensation was altered, and hyperesthesia was present over the lower extremities. The pupils of the eyes were unequal, with hypermetropia and nystagmus. There had been slight congestion of the optic disc. On standing with the eyes closed, there was unsteadiness with a swaying backwards and forwards, or from side to side. Some time ago she began to suffer from spells of unconsciousness lasting for a few moments. She now complains of heaviness of the legs. Nearly all the symptoms of unilateral sclerosis or hysteria are present. In this case it is believed that the spinal symptoms are due to tea intoxication. Cases of this kind do not seem to have received much attention during the past five years. It should be remembered also, that to color tea sometimes lead is used. It may be possible that some of the spinal symptoms existed previous to the time she began taking so much tea.

DR. D. J. M. MCCARTHY had seen a case treated by Dr. Charles W. Burr, in which as much as 10 glasses of tea a day had been taken. In this case the symptoms presented pointed towards sclerosis.

DR. H. A. HARE called attention to several cases of lead poisoning which had occurred at a certain institution,

and believed to have been caused by biting off and chewing the ends of black sewing thread. In these instances the thread had probably contained large quantities of lead. He also called attention to the fact that at the present time there was little if any caffein upon the market. That which is generally sold as caffein is really thein. Thein might produce different symptoms to that of caffein.

### Trichiniasis.

DR. J. CHALMERS DACOSTA exhibited an interesting case of trichiniasis occurring in his service at the St. Joseph's Hospital. The history of this case was read by Dr. Dorsett as follows: The patient was a man of 20 years who, when admitted to the hospital, was complaining of pain in calf of the right leg. The patient stated that last summer while on a bicycle trip he had sustained an injury to the right leg, which caused bleeding. A short time later the right leg began to swell, and it became painful, worse generally at night. An operation had been performed by Dr. DaCosta and a small piece of a muscle of leg removed. The microscopic findings in this case were given by Dr. Randle C. Rosenberger as follows: The specimen had been fixed in osmic acid and showed in specimens trichiniasis present. In one microscopic field as many as 18 specimens had been found, in some of which obliteration of the fibrous capsule was found. The blood count showed hemoglobin 48 per cent., red corpuscles 4,800,000, and the leukocytes 12,000, eosinophiles 4 per cent. Eight days later the hemoglobin was 80 per cent., red cells 4,275,000, leukocytes 17,600, eosinophiles 3 per cent. Dr. Dacosta then detailed the symptoms existing, and noted especially that the disease was confined to the right lower extremity and seemed to only extend up as far as the thigh, the rest of the body appearing to be free of disease. The right leg was enlarged and each muscle stood out. On palpation over the enlarged portions the consistency was like that of rubber. He was free to confess that the diagnosis could not be made from the clinical symptoms. Trichiniasis had been considered, but had been excluded by himself and other colleagues.

### Severe Anemia with Changes in the Spinal Cord.

DRS WM. E. HUGHES and WM. G. SPILLER reported a case of this kind. Dr. Hughes in detailing the cases stated that the patient had been 63 years of age with previous negative history. Five years ago he had suffered from a mild case of sunstroke, from which he recovered. When seen there was some puffiness of the eyelid, slow, full pulse, and systolic cardiac murmur transmitted into the axilla. Some crackling râles were also present. The eyesight was almost totally destroyed. Urine was normal. The red corpuscles had numbered 780,000, and the hemoglobin was 26 per cent. Normoblasts and megaloblasts were present. The temperature had remained practically normal. Dr. Spiller stated that sclerosis was never pronounced in the upper portions of the lateral columns in these cases. In this instance the anterior and posterior roots were not degenerated. Taylor, in 5 cases examined, had found alterations of the blood vessels in two instances, but no general arteriosclerosis. Drawings were then passed around showing the changes found in the cord.

DR. J. HENDRIE LLOYD was much interested in these changes found in the cord. It might be that they were produced by toxins circulating in the blood. As to ascending degeneration, he had seen the condition occur in a case of syringomyelia.

DR. CHARLES W. BURR had studied 7 cases of pernicious anemia with spinal cord symptoms. In these instances alterations had been found mostly in the posterior regions of the cord. He was confident that without visual changes in the cord, symptoms referable to the cord might exist, and it was his opinion that the condition which gives rise to the changes in the blood also produced the changes in the cord.

DR. CHARLES K. MILLS believed that it would be best to designate these cases "acute toxemia" rather than pernicious anemia.

### Secondary Suture of Posterior Interosseous Nerve.

DR. W. W. KEEN read a paper entitled "Report of a case of secondary suture of the posterior interosseous nerve, with complete restoration of function. The speaker believed that this case was the first one of its kind on record, since a thorough search in the surgeon-general's office and elsewhere had not revealed a similar case. The history was as follows: The man, while cutting down a tree, accidentally dislodged the axe, which struck him in the forearm and completely separated the interosseous nerve. The wound was bandaged without uniting the ends of the nerve, and healed promptly. It appeared that the ulnar and radial nerves were not injured. Dr. Wharton Sinkler had made an examination and noted the condition. Three months after the accident Dr. Keen made an incision over the seat of injury and had found the two ends of the nerve. The tip ends of the two were cut away, after which they were united, and within eight days sensation returned, and two months later complete recovery occurred. The speaker also detailed a case in which he had united the cut ends of the radial and ulnar nerves with recovery of function.

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## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, May 20, 1901.*

The president, Dr. Parker Syms, in the chair.

### Prostate Removed by Perineal Prostatectomy.

DR. PARKER SYMS presented this specimen, removed by operation on Jan. 24, 1901, from a man of 62 years. His method consists in doing away with the suprapubic incision, and by the use of a rubber inflatable bulb and drainage tube so controlling the prostate that it can be readily enucleated. He had operated on nine cases in this way without any mortality, and with complete restoration of the function of the bladder, save in one instance. He commended this operation because of its freedom from danger.

DR. J. W. S. GOULEY said that he had always been opposed to the use of a suprapubic incision in these cases, believing it to be a needless complication.

### The Vaginal Compared with the Abdominal Route in Surgical Treatment of Pelvic Diseases.

DR. J. RIDDLE GOFFE presented a paper on this subject. He advised the vaginal route in all cases in which it could be used with equal safety and success as abdominal section, because it insured a more rapid convalescence and freedom from hernia. He considered vaginal hysterectomy to be the only operation for cancer of the body of the uterus. The vaginal operation was appropriate for all simple ovarian cysts, no matter what their size, because after being tapped and allowed to collapse they could be easily removed. Retroversion of the uterus, being a condition which would not justify a dangerous operation, should be treated by operation through the vagina. Alexander's operation was very liable to be attended by infection, or followed by hernia, and was absolutely contraindicated when the retroversion was complicated by disease of the appendages or by the presence of adhesions. While ventral fixation would certainly cure retroversion, it necessitated an abdominal section, with the attendant weakening of the abdominal wall and tendency to hernia. Through the vaginal incision the malposition of the uterus could be rectified and the round ligaments shortened. Most of his vaginal work was done through the anterior fornix, and in order to secure the necessary space he makes a longitudinal incision as well as a transverse one. Myomectomy for tumors which do not reach above the true pelvis was perfectly feasible through the vagina; larger ones were best treated by abdominal section.

DR. WILLIAM R. PRYOR thought vaginal hysterectomy for cancer of the uterine body was an absolute failure, but he had found it possible to relieve a very large percentage of the women coming to him with fibroids by operating through the vagina. He preferred to make the incision in the posterior cul-de-sac, not only because it inflicted less traumatism but because better drainage was thereby secured. As he believed fibroids were connected with a diathesis, and that if operated upon at all they should all be removed most thoroughly; he did not favor myomectomy. The most important advantage of the vaginal route was the opportunity it offered for making exploratory incisions without detriment to the patient.

DR. A. BROTHERS said that he had done about one hundred by each of the routes under discussion, and as a result of this experience was inclined to think that operations done through the vagina were rather difficult, and should not be undertaken by other than experts. They must necessarily be done in a narrow space and in a field more or less obscured by blood. He did not consider the vaginal route the one of election in most cases of suppurative disease in the pelvis.

DR. EDEN V. DELPHEY remarked that the mere opening of the abdomen was attended by far more shock than an incision through the vagina.

### Penetrating Gunshot Wound of the Abdomen without Injury to the Abdominal Contents.

DR. HENRY ROTH in this paper briefly reviewed the literature, and reported a case of this kind coming under his observation in the hospital service of Dr. Parker Syms. His patient was a boy of 10 years, who had accidentally shot himself in the abdomen near the umbilicus with a revolver. On admission to hospital the next day he had had a temperature of 100.6 F., a pulse of 100, and 22 respirations per minute. An exploration of the abdominal wound had been made under ether, and a perforation discovered in the peritoneum, but the most diligent search had failed to show any wound of the abdominal contents. The boy did well and was about to be discharged, when a small swelling under the skin of the abdomen, about six inches to the left of the bullet wound, had attracted attention, and had proved to be the bullet. This was readily extracted. The speaker went on to say, that in civil surgery it was the rule that a bullet wound of the abdomen should be carefully explored as soon as possible, and after all preparations had been made for a laparotomy. The experience gained in the late Spanish-American war demonstrated that a large number of persons with gunshot wounds of the abdomen had recovered without operation, but it must not be forgotten that the large proportion of those so injured died on the field.

DR. J. W. S. GOULEY said that he had seen in a dissecting-room subject a bullet incysted in the mesentery without any evidence of injury to the coils of intestine.

DR. A. ERNEST GALLANT said that it had been his experience that the gunshot wounds that do badly are, as a rule, those which have been subjected to a good deal of previous probing. Abstaining from such interference, and the prompt application of antiseptic dressing would best promote quick and satisfactory healing.

## OHIO STATE MEDICAL SOCIETY.

*The Fifty-sixth Annual Meeting, held in Cincinnati, May 8-10, 1901.*

The president, Dr. Frank W. Bain, of Kenton, in the chair.

DR. E. GUSTAVE ZINKE, chairman of the Committee of Arrangements, made the address of welcome; Dr. Bain responding. After the nominating committee had been named, the society proceeded with the reading of the papers.

At the conclusion of the afternoon session a letter was read from the Dayton Academy of Medicine asking that that society be made an auxiliary of the State Society; another letter was read from the Ohio State Pediatric Society asking that their organization be absorbed by the state society.

### Limitations of Medical Therapeutics.

DR. FRANK BILLINGS delivered the address in medicine entitled as above, during the evening session. He stated that therapeutics had not shown the rapid advances of late years that had been made by her sisters, pathology and medical diagnosis. The practitioners of to-day, as far as the treatment of disease is concerned, could be divided into three classes: The therapeutic nihilist, who sees no virtue in any drug; the theorist, who treats diseases and not individuals; the rationalist, who bases his practice of therapy upon scientific knowledge with an ability to diagnose disease. In his closing remarks, the essayist spoke strongly against the use of drugs with copyrighted names, and inferred that the major portion of the sick could be more quickly benefited by a close adherence to sanitary laws in food, clothing and general surroundings than by drenching with medicines.

DR. C. A. L. REED, president of the AMERICAN MEDICAL ASSOCIATION, held a gynecological clinic at the Cincinnati Hospital on the second day.

The following officers were elected for the ensuing year: President, Dr. E. C. Brush, of Zanesville; first vice-president, Dr. E. Gustave Zinke, of Cincinnati; second vice-president, Dr. S. S. Halderman, of Portsmouth; third vice-president, Dr. J. C. M. Floyd, of Steubenville; fourth vice-president, Dr. W. S. Philips, of Belle Center; treasurer, Dr. J. A. Duncan, of Toledo; secretary, Dr. P. Max Foshay, of Cleveland. Dr. Foshay was also appointed editor of medical literature. The following committees were appointed: Finance, Dr. J. C. Oliver, of Cincinnati; ethics, Dr. F. W. Blake, of Columbus; publication, Dr. J. Snodgrass, of Kenton;; legislation, L. B. Tuckerman, of Cleveland, and T. C. Martin, of Cleveland; admissions and medical societies, Dr. T. M. Wright, of Troy.

DR. JOHN A. WYETH, of New York, delivered, during the afternoon session, the address in surgery: "A Surgical Operation."

The annual banquet of the society was held at the Phoenix Club, about three hundred physicians attending. Dr. Dan Millikin, of Hamilton, acted as toastmaster and addresses were given by the following: "Influence of the Physician in Public Affairs," by Dr. E. C. Brush; "Medical Legislation," by Dr. L. B. Tuckerman; "The Lawyer and the Doctor," by Judge Moses F. Wilson; "American Medicine," by Dr. C. A. L. Reed; "Social Amenities of Medical Societies," by Dr. W. C. Chapman; "Meditations on a Well Spent Life," by Dr. Thad A. Reamy.

The meeting was a success in every way, one of the unusual features being that with but three or four exceptions the papers were read as advertised. The next meeting of the society will be held in Toledo next May.

The following resolutions were adopted:

*Whereas*, The enormous increase in the Membership of the AMERICAN MEDICAL ASSOCIATION renders it increasingly difficult to transact the necessary legislative work of the Association in the General Sessions,

*Resolved*, That we recommend that the delegates of the Ohio State Medical Society use their best endeavor to secure such an amendment to the Constitution of the AMERICAN MEDICAL ASSOCIATION as shall transfer the business of the ASSOCIATION to a special section so constituted as to fairly represent the several State Societies, and the scientific Sections, and small enough to properly transact the business.

## AMERICAN ACADEMY OF MEDICINE.

*Twenty-sixth Annual Meeting, held at St. Paul, Minn., June 1-3, 1901.*

*(Continued from page 1654.)*

SECOND DAY.

### Abuses of Institutionalism.

DR. EUGENE G. CARPENTER, of Columbus, stated in regard to institutionalism that it is an outgrowth of organization and is the result of routinism. Routinism, it was declared, develops perfunctoryism, which in turn leads to automatism, differing little from that which is mechanical. That which is mechanical moves in fixed lines, and is consequently opposed to progress. Too often the institutionalist is dominated by the institution. The true institutionalist, however, remains the master of the institution. The executive of the institution sets the pace for the other participants of the organization. The policy, therefore, should be broad and liberal.

### Advantage of Civil Service Principles in the Conduct of State Hospitals for the Insane.

DR. GERSHOM H. HILL, superintendent of the Iowa State Hospital for the Insane, in this paper treated of the benefits resulting from the system and underlying principles in having a board of three in control of the state institutions of Iowa, in practice two and a half years. It was shown that the system was free from political influence. A careful supervision is had over the expenses of supplies. In the hospital under Dr. Hill's supervision, the personal element in the

treatment of patients is preserved, and there is no interference with individually approved ways of treating patients. A medical society is held in connection with the hospital, scientific papers are read and discussed and a quarterly bulletin published. Contributions are solicited from other institution men in Iowa and other states. Solicitation on the part of the board for the selection of an employe is counted a misdemeanor. It is the distinction of the board of control law to do the business of the state institutions on the same principles and methods used by the United States Government in buying supplies or by the up-to-date business man. The tendency is for the legislature to trust the board of control, to adopt their recommendations and to appropriate all the money asked for as the resources of the state will permit. Merit is the criterion in selecting help. The result under these civil service rules is to secure perfection as nearly as possible.

### Need of National Co-operation in the Establishment of Sanatoria for Tuberculosis.

DR. A. MANSFIELD HOLMES, of Denver, detailed the advantages of sanatoria in that they increase the chances of recovery, afford an opportunity for rigid sanitary regulations among patients, and furnish a means of educating those infected, and the public, against sources of infection. He divided the varieties of sanatoria into three classifications: for patients of limited means; for those of moderate means, and for the well-to-do. The methods of conducting sanatoria were outlined under the purely charitable institutions; coöperative institutions, and those conducted for profit. In considering the location of the sanatoria, there should be for the incurable cases sanatoria located near large centers of population regardless of climatic conditions; for the incipient cases the most favorable climatic conditions should be chosen for the location of the sanatoria. Coöperative sanatoria established on the proper plan would, in the author's opinion, overcome many of the present difficulties.

### Evils in Institutions.

DR. ALBERT GOLDSPOHN, of Chicago, spoke on "Evils in some Asylums, Hospitals, Infirmaries and Training Schools for Nurses that might be avoided by placing them under Civil Service Rules, and by Proper Requirements, Regulations and Inspections on the part of a properly constituted and authorized Board of Health in each State," contending that many of these institutions did not yield their intended degree of usefulness because of too exclusively lay management and lay selection and appointment of medical men, which very frequently resulted in the appointment of inferior men. A still greater evil frequently occurred in the public hospitals and asylums that were under political influence. Many governors, county commissioners, etc., regarded medical appointments, like all others, as something with which they had a right to reward their political henchmen, who among physicians were generally of an inferior grade professionally. He advocated giving the state boards of health the additional duties, powers and emoluments of a medical civil service board: that this board should select and submit all the candidates for political medical appointments; that it should oblige laymen trustees of private or denominational hospitals, etc., to have their candidates for medical positions selected by some creditable local medical society; that it should determine the fitness of all superintendents and matrons of hospitals and license them for such positions, and that a representation of such a board should examine or inspect every such institution at least once a year.

### Hospitals and Sanatoria Founded, Owned and Controlled by the Medical Profession.

DR. H. BERT ELLIS, of Los Angeles, stated that hospitals may be divided into three broad classifications: charitable, private, and hybrid class where private wards and free beds are mingled for the pecuniary gain of the hospital. The description of a hospital owned and controlled by physicians is given. It is the outgrowth of a corporation known as the California Hospital Company. The first building erected for the hospital was soon found to be inadequate, and was added to. At present the hospital owns a corner property 323 by 185½ feet. Patients select any reputable physician and pay him for services. Every physician prescribes for and operates upon his patients as if in the patient's own home, and prescriptions are filled at the drug store. Connected with the hospital is a training school for nurses. The absolute management of the hospital is vested in a board of nine directors, elected annually from among the stockholders. The plan of the management is recommended to Eastern confrères because the construction of the building and the hospital service are entirely in accord with the desires of the physicians; patients realize that they are in a hospital controlled and partially owned by their own physician, which insures confidence; and whatever profits accrue from the hospital revert to the physician, thus giving safe investments. In the opinion of Dr. Ellis it is as essential that the profession own and control the hospitals and sanatoria as that they should own and control their medical journals in order to keep them as free as possible from commercialism.

### A Suppressed Educational Problem.

DR. JAMES L. TAYLOR, of Wheelersburg, Ohio, urged in this contribution an enlightened "natural selection" in lieu of the ignorant, haphazard methods of selection among people, which result so generally in physical as well as intellectual deterioration.

### The Relation of the Clinical Laboratory to Its Hospital.

DR. HENRY W. CATTELL, of Philadelphia, presented a paper under this title, in which he takes for granted that the time has gone by when it is necessary to argue for the existence of a clinical laboratory in connection with a hospital. The questions to be considered in the internal administration of a hospital are the relations of the clinical laboratory to the board of managers, the medical and surgical staff, the chief resident physician, the resident physicians, the superintendent, the nurses, the out-patient department, etc. Questions such as these should be asked, discussed and answered. How shall the laboratory be built, equipped and conducted? Shall there be a laboratory attached to each ward, a general laboratory, or a combination of both? Shall the director and his assistants be paid for their work? What relations shall exist between the laboratory worker and the clinician. What are the usual causes of friction arising from the new state of affairs? Should the members of the staff be expected to bring urine, sputum, blood, etc., of their pay patients both in and out of the hospital and make the laboratory make these examinations free of charge? Shall original investigations be carried on in such laboratories? Shall the workers in the laboratory be permitted to perform and to charge for work received from their own patients or from those desiring such services for money?

From a personal experience extending over a period of twelve years, and from an intimate connection with a number of hospitals in various capacities, Dr. Cattell gives his personal views in regard to the answers to some of these questions.

DR. W. W. KEEN, of Philadelphia, said he was glad indeed to have heard the paper of Dr. Cattell. He was less interested, perhaps, in the clinical laboratory from the administrative point of view than from the scientific and surgical. He emphasized the statement that it was granted that at the present time every hospital, small and large, should have a clinical laboratory, and more than that, such a laboratory finds a large field of usefulness, which in ten or twenty years would be doubled or even tripled.

### Necessity for Revising Medical Fees.

DR. P. MAXWELL FOSHAY, of Cleveland, stated that the custom of charging a fixed sum for each visit was a relic of antiquity and illogical. Other callings are differently regulated, as is also the special practice in the profession. The author thinks there is every reason in the world for the general practitioner to proportion his charge in all cases to the value of the service rendered and to the ability of his patient to pay. The need of a "fee-bill" is stated to establish a standard agreed upon by physicians in their societies to which the profession can appeal when dealing with patients. This also is

of definite service in court when suing to recover the amount of a bill.

A greater object urged for this new method is its means of checking to some extent the pernicious custom of giving "commissions." No present retrogressive tendency in the evolution of the medical profession is at present so strong as this of the physician dividing fees behind the patient's back.

### Refraction.

DR. JAMES A. SPALDING, of Portland, Me., gave a personal experience of an ophthalmologist suffering from a sudden loss of vision and consulting first the optician and then the oculist for aid, showing the inefficiency of the former and the great help which the latter gave to him. In view of this Dr. Spalding asks, would it not be preferable for the profession to address the public through the public press regarding all sorts of ailments, thereby preventing them accepting the beguilements of charlatans. Physicians, too, ought to be careful in referring their patients only to those who have a proper knowledge of disease. An increase in the solidarity of the profession is needed.

DR. TUCKERMAN, of Cleveland, and DR. RISLEY, of Philadelphia, referred to cases in which grievous damage had been done through failure of the patients to be referred to an oculist rather than to the advertising optician.

### Election of Officers.

The following new officers were elected: President, Prof. V. C. Vaughan; first vice-president, Dr. James L. Taylor, of Wheelersburg, Ohio; second vice-president, Dr. W. A. N. Dorland, of Philadelphia; third vice-president, Dr. H. P. Ritchie, of St. Paul; 4th vice-president, Dr. H. Bert Ellis, of Los Angeles, Cal.; secretary and treasurer, Dr. Charles McIntire, of Easton; and assistant secretary, Dr. A. R. Craig, of Columbia, Pa.

# Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### Bromidrosis (Offensive Sweating).

Bromidrosis is usually confined to the axillæ or to the soles of the feet. This form of sweating generally occurs in patients who demand tonic treatment. When there is much sweating the following formula is recommended:

℞ Acidi sulphurici arom. ℥vi 24
Aquæ q. s. ad. ℥iv 128
M. Sig.: One teaspoonful in wineglassful of water three times a day.

The following is advised by Crocker:

℞ Pulv. cretæ comp. ℥vi 24
Pulv. cinnamomi comp. ℥ii 8
Sulphuris præcip. ℥i 32
M. Sig.: One teaspoonful to be taken twice a day.

### Treatment of Favus.

Dr. E. H. Moore states that when the patches are scattered it is advantageous to practice thorough epilation. The patches should be kept saturated for one or two days with oil of ergot, and then thoroughly sponged with a 25 per cent. solution of boroglycerid. In one or two hours the crusts will peel off, leaving a clean surface. If a discharge is present after removal of the crusts, the scalp should be cleansed with hot borax water, dried with a towel, and then rubbed with the following ointment:

℞ Cupri oleatis ℥ss 2
Vaselini ℥i 32
M. Sig.: To be well rubbed into the patches.

A diluted tincture of iodin may also be used. The surface must be kept clear of crusts, and the treatment is to be repeated until all the parasites have been destroyed. When favus affects the body or limbs, it can be easily removed by a few applications of the following:

℞ Tinct. iodi
Alcoholis, āā ℥i 32
M. Apply locally to the affected parts.

### Hyperidrosis.

The treatment of hyperidrosis must vary with the cause. Local treatment in the milder forms of hyperidrosis is of great use, and in many cases is all that may be required. While insisting upon the treatment of the general condition, the following prescriptions may be found useful, as recommended by Van Harlingen in "Twentieth Cent. Practice":

℞ Pulv. acidi salicylici
Pulv. zinci carb. præcip.
Pulv. magnesiæ ustæ ℥iv 16
Pulv. amyli ℥xv 60
Pulv. cretæ ℥xx 80
M. Sig.: For local application.

AS A LOTION.

℞ Acidi tannici ℥i 32
Alcoholis ℥viii 256
M. Sig.: Use as a lotion.

In hyperidrosis of the palms and soles he recommends washing them in carbolized solution, after which the following should be applied:

℞ Unguenti picis (U. S. P.)
Unguenti sulphuris (U. S. P.), āā ℥ss 16
M. Sig.: Spread upon cloths and keep in place with a bandage.

The following is recommended by Hebra in obstinate sweating of the soles of the feet:

℞ Emplast. diachyli
Olei olivæ, āā ℥ii 64
M. Sig.: Apply as an ointment after cleansing.

A formula similar to the following is recommended by Ishoppe in bromidrosis of the axilla:

℞ Zinci sulphatis
Ferri sulphatis, āā ℥ii 64
Cupri sulphatis ℥vi 24
Beta naphthol gr. iv 25
Essentiæ thymi m. x 66
Acidi hypophosphorici gr. v 30
Aq. destil O i 512
M. Sig.: Apply locally as a lotion.

The following has been recommended as one of the most efficient powders in hyperidrosis of the feet:

℞ Acidi salicylici gr. lxxv 5
Acidi boracici ℥iiss 10
Acidi tartarici ℥iiss 10
Zinci oxidi ℥vi 24
Talc. præp. ℥iss 48
M. Sig.: Wash the feet with medicinal soap, and dust the powder into the stockings in the morning before drawing them on.

The *Medical Press* recommends the following in hyperidrosis of the feet:

℞ Menthol gr. v 30
Acidi salicylici gr. xv 1
Acidi thymi gr. xv 1
Spts. lavendulæ ℥vi 192
M. Sig.: Wash the parts well, dry, and bathe well with the lotion.

AS AN ANTISEPTIC ASTRINGENT.

℞ Acidi salicylici gr. xv 1
Sodii biboratis gr. lxxv 5
Zinci oxidi
Talc. præparatæ, āā ℥iss 48
M. Ft. pulvis. Sig.: Sponge the parts well and apply the powder.
Or:
℞ Salol gr. lxxv 5
Aluminis gr. lxxv 5
Zinci oxidi ℥i 32
Talc. præparatæ ℥ii 64
M. Sig.: Apply locally.

### To Prevent Insect Bites.

Meuse, in *Pharm. Jour.*, states that a solution of quinin sulphate in glycerin is the best preventive against insect bites. Whether this is due to the bitter taste of the quinin or to its toxic action on the insects has not been established.

### Nitrites in Brain Syphilis.

Dr. W. Browning, in *Med. News*, states that the nitrites, being the most powerful vasodilators, are of great benefit in overcoming the tendency to the narrowing of the lumen of arteries, especially in disease of the arteries supplying the brain. After the vessels are dilated, specific medication has a much better opportunity to gain access to the diseased parts. He also finds the nitrites of value in diabetes of old syphilities in conjunction with specific treatment. He prefers to administer them by the mouth rather than hypodermically.

### Treatment of Asthma.

Jackson, in *Merck's Archives*, recommends the following, to be inhaled, to check the attacks of paroxysmal dyspnea:

| | | | |
|---|---|---|---|
| R. | Pulv. pot. nitratis | ℥v | 20 |
| | Pulv. stramonii | gr. lxxv | 5 |
| | Pulv. lobeliæ | ℥iss | 6 |
| | Pulv. belladonnæ | gr. xlv | 3 |
| | Pulv. grindeliæ | ℥iss | 6 |
| | Pulv. hydrastis canad. | gr. xv | 1 |

M. Sig.: Burn one teaspoonful in a small closed room, and inhale the smoke.

### Sodium Salicylate in Gonorrheal Epididymitis.

The internal administration of sodium salicylate is recommended by Pigot, in the *Ann. de Derm. et de Syph.*, in those cases in which there is much pain, without extensive involvement of the spermatic cord and tunica vaginalis. When the cord is involved, belladonna and mercurial ointment is more effective.

### Urticaria.

The following combinations are recommended by *Ther. Gaz.* in the itching of urticaria:

| | | | |
|---|---|---|---|
| R. | Liq. hamamelidis | ℥ii | 64 |
| | Salis maris | ℥ss | 16 |
| | Aq. destil | O i | 512 |

M. Apply locally.

Or:

| | | | |
|---|---|---|---|
| R. | Adipis benzoinatis | ℥iv | 128 |
| | Ceræ albæ | ℥ss | 16 |
| | Cetacei | ℥i | 4 |
| | Acidi borici | ℥ss | 2 |
| | Glycerini | ℥i | 4 |
| | Aq. Coloniensis | ℥iiss | 80 |

M. Sig. For local application.

In rheumatic subjects the following is of value taken internally:

| | | | |
|---|---|---|---|
| R. | Sodii salicyl. | | |
| | Potass. bicarb., āā | ℥iv | 16 |
| | Aq. menth. pip. q. s. ad | ℥iii | 96 |

M. Sig.: One teaspoonful after meals in water.

The following is recommended by *Merck's Archives* as a local application:

| | | | |
|---|---|---|---|
| R. | Acidi carbol. | gr. xv | 1 |
| | Spts. menthæ pip. | m. xv | 1 |
| | Zinci oxidi | ℥iii | 12 |
| | Lani | ℥iss | 48 |
| | Vaselini | ℥i | 32 |

M. Sig.: Apply locally.

Or:

| | | | |
|---|---|---|---|
| R. | Menthol | ℥ii | 8 |
| | Spts. etheris | | |
| | Spts. chloroformi | | |
| | Spts. camphoræ, āā | ℥vi | 24 |

M. Sig.: Spray the affected part and dust with zinc oxid powder.

### Saline Baths in Disturbances of the Menopause.

Gottschalk, as noted in *Brit. Gyn. Journal*, advocates the employment of hot saline baths at a temperature of 40 C., lasting for about twenty minutes, to be taken every evening at bedtime, as an excellent means of combating the night attacks of heat and sweating from which many women are troubled at time of change of life.

## Medicolegal.

**Seven Thousand Dollars for Death of Woman.**—The fourth appellate division of the Supreme Court of New York holds, in the case of Smith vs. the Lehigh Valley Railroad Company, where a woman 49 years old was killed by a train, and she left a husband 48 years old, and two sons, 21 and 18 years of age, respectively, who were entitled to share the verdict, that a verdict for $10,000 damages was excessive, and should be reduced to $7000, or a new trial would be granted.

**Sufficient to Support Verdict Against Firm.**—In the case of Till vs. Redus, where it appeared that near the place a firm conducted a store one member of the firm operated a gin in which an employe of his got caught and was so badly injured as to require the amputation of an arm, and the man who telephoned for a surgeon testified that both members of the firm directed him to say that the firm wanted him to attend the wounded man, the Supreme Court of Mississippi holds that this testimony offered a sufficient foundation for placing the surgeon's claim against the firm for services before the jury, and of supporting a verdict in his behalf.

**Attending Physician on Mental Condition of Testator.**—The Supreme Court of California says that under section 1881 of the Code of Civil Procedure of that state a physician is precluded from being examined as a witness only as to the information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient. Consequently, it holds, In re Black's Estate, where it clearly appeared that the testimony of the physicians as to the mental condition of the maker of the will which was being contested was not founded upon any such information, that their testimony was not improperly admitted although they had attended the testatrix professionally.

**Rebuilding and Enlargement of Hospital Permitted.**—In construing the act of 1899 prohibiting the establishment or maintenance of additional hospitals in the built-up portions of cities, the Supreme Court of Pennsylvania held, in a decision reported on page 685 of THE JOURNAL of March 9, 1901, that the word "additional" referred to new buildings not already established, and did not mean in addition to the total number then maintained in the whole of the city. But, in another decision, in the case of Commonwealth vs. the Charity Hospital of the City of Pittsburg, the court now holds that, under that act, not only may an existing hospital building be torn down and a new one constructed upon the same site, but that there may also be erected a larger building, so long as that is done in the location in which the hospital was maintained prior to the passage of the act.

**Competent to Testify as an Expert on Insanity.**—A physician called as a witness in the murder case of the State of Washington vs. Boyce said that he did not like the word "expert"; did not like to call himself an expert. On the other hand, he said that he considered himself enough of an expert on insanity to examine people, had even deprived them of their liberty in an asylum by his knowledge of insanity, and that he had done it a great many times, but that he was not a specialist on insanity. And his whole testimony showed that he drew a distinction between an expert and a specialist. In other words, while in the first part of his testimony he would not say that he was an expert, saying that he did not like the word "expert," he did say that he was competent to testify as an expert. The testimony, as a whole, the Supreme Court of Washington holds, did not show that he was not competent to testify as an expert.

**Sufficiency of Proofs of Cause of Physician's Death.**—A policy of accident insurance issued to a physician contained the following clause: "This policy covers septic poisoning resulting

from accidental incision or abrasion of the cuticle, and the simultaneous infection thereof, while the insured is performing a surgical operation or autopsy." It was conceded that the testimony produced at the trial was sufficient to sustain a finding by the jury that the insured died of septic poisoning, which resulted from an accidental abrasion of the cuticle while performing a surgical operation, and that the facts proved established a claim within the meaning of the policy. But it was contended that the proofs of death furnished the company were not in substantial compliance with the requirements of the policy. The Supreme Court of Pennsylvania says, however, case of Braymer vs. the Commercial Mutual Accident Company, that the only defect in the proofs which the most critical examination developed was that they did not show that the abrasion of the skin which made infection possible occurred during the operation, which objection was not raised, the only objection stated being that it did not appear that infection occurred during the performance of the operation, which objection was not well founded. Under these circumstances, the court holds the proofs sufficient, as it thinks it might well be inferred from but the one objection last mentioned being raised that in all other respects the proofs were accepted as sufficient.

**Five Thousand Dollars for Injuries to Foot and Leg.**—In the personal injury case of Perrette vs. the City of Kansas City, the former caught his foot in a hole in a sidewalk, was thrown upon the walk, his leg broken, the ligaments of his foot and ankle sprained and lacerated, and the bones of his foot and ankle dislocated. Bandages and splints were first applied, the swelling being so great that a plaster of Paris cast could not be put on. The inflammation around the injured parts became so great that gangrene set in, and he was compelled to keep his foot in ice water four or five days, during which time he suffered intense pain and was unable to sleep, except under the influence of opiates. A plaster of Paris cast was afterwards applied, which remained on about 40 days, and he was altogether confined to his bed 90 days, suffering constant pain and inability to sleep, while up to the time of the trial, which occurred nearly 14 months after the accident, he had not been able to stand. The reason of this result the physicians considered largely due to the tearing loose of the ligaments and to the displacing of the heel bone where it united with the bones of the foot, which had caused the axis of the foot and ankle to become perverted, the ankle to give way or turn out, and the arch of the foot to be destroyed, making a "flat foot," which condition they pronounced permanent. Under these circumstances, the man being 49 years of age, and earning about $21 a week, at a trade which required him to stand, when he met with the accident, the Supreme Court of Missouri, Division No. 2, does not think a verdict in his favor for $5000 excessive.

**Malpractice Liability—Expert and X-Ray Evidence.**—The physician sued in the malpractice case of Miller vs. Dumon, in which the Supreme Court of Washington has affirmed a judgment against him, was called in to examine an injury which the other party had sustained in an accident ten or twelve days before, which had been pronounced a fracture of the tibia of the left leg, by another physician, who had been attending him. As to what occurred during this visit, further than that he told the party that there was no fracture of the bones of the leg, but that he was suffering from a severe sprain, there was a square contradiction in the evidence. On the one hand, it was contended that he undertook the treatment of the injury, while he, on the other hand, denied it. At any rate, however, as a result of this visit, the physician first called was dismissed, the man got out of bed, procured crutches, undertook to use the injured limb, and, while so doing, the leg gave way in some manner, causing him much pain and suffering, and compelling him to retake to his bed, when he sent for the defendant, who, for some reason, did not answer the call, and the physician previously employed was recalled, and the final result of the whole matter was a permanent injury to the leg. Now, the court says that it may be that the weight of the professional testimony was to the effect that there had been no fracture of the bones of the injured limb, but the evidence was contradictory, and there was substantial testimony the other way, sufficient of itself to support the verdict of the jury for the party suing, in which case the verdict must stand. Then, the jury was instructed that, in order for him to recover damages, it must be satisfied by a preponderance of the evidence that his leg was in fact broken, and that the defendant, acting as a physician and surgeon, unskillfully and negligently treated the broken leg. Besides, it was instructed that the fact that a physician responds to a call for his professional services does not necessarily constitute an employment, unless some act is done or advice given by the physician which indicates an intention on his part to enter upon the employment. He may absolutely refuse this employment, if he sees fit. But when any act is done, or advice given, that may reasonably be construed into indicating an active entering upon the employment, then the liability of the physician attaches, and he may be held responsible for his negligence or lack of skill. These instructions, the court thinks, sufficiently covered the point that the physician sued contended that he had never undertaken to treat the injured limb, by way of directing the jury's attention thereto. The court further holds that a witness who has qualified as a physician and surgeon not only familiar with fractures, but with the *x*-ray process of determining whether a fracture has ever existed, is an expert as much qualified to express his opinion from an examination made by means of an *x*-ray negative taken by himself as are experts who make their examinations by means more commonly used by the medical profession. The method of examination does not affect the competency of his testimony. How much it affects its weight is entirely a question for the jury. Nor does the court think the introduction in evidence of the negative itself objectionable, it being shown to have been taken by an approved process and an approved apparatus, and the witness having testified to its being a correct representation of the bones of the leg. An *x*-ray photograph, it holds, is admissible as evidence when verified by proof that it is a true representation of an object which is the subject of inquiry.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

## Medical Record (N.Y.), June 1.

1 *The Diagnosis and Surgical Treatment of Prolapsed Kidney; with Demonstration of a Simple Method of Examination for Its Detection. Augustin H. Goelet.
2 The Climate of Long Island. Le Grand N. Denslow.
3 Superheated Air in the Therapeutics of Chronic Catarrhal Otitis Media. George W. Hopkins.
4 Three Cesarean Sections—Recovery. J. F. Baldwin.
5 *Ether as an Anesthetic. Edward Judson Wynkoop.
6 A Few Observations from the Lorenz Orthopedic Clinic. Leonard W. Ely.
7 A Case of Membranous Angina, Due to Streptococci, Followed by Paralysis of the Soft Palate. Moses Keschner.

## Boston Medical and Surgical Journal, May 30.

8 *The Diagnosis and Surgical Treatment of Renal Tuberculosis. F. Tilden Brown.
9 Asthma. F. P. Emerson.
10 A Case of Trichinosis. George G. Sears.

## New York Medical Journal, June 1.

11 *On Theories of Inheritance with Special Reference to the Inheritance of Acquired Conditions in Man. J. George Adami.
12 Appendicitis Perforativa in Irreducible Right Scrotal Hernia, with a Report of a Case. O. Thienhaus.
13 *Muscular Action of the Arteries. Andrew H. Smith.
14 Hyperacidity (Superacidity, Hyperchlorhydria, Superacidities, Chlorhidrica); A Clinical Study. (Continued.) H. Illoway.
15 A Case of Sarcoma in the Muscles of the Right Shoulder, with Perforation into the Spinal Canal and Paraplegia. Leonard Weber.

## Philadelphia Medical Journal, June 1.

16 Two Successful Cases of Secondary Suture, One of the Posterior Interosseous Nerve and One of the Median and Ulnar Nerves. W. W. Keen.
17 *Pancreatitis. A. W. Mayo Robson.
18 *The Examination of the Blood in Relation to Surgery of Scientific but often of no Practical Value, and may Misguide the Surgeon. John B. Deaver.

19 *Complicated Fractures, Their Diagnosis and Treatment. Thomas H. Manley.
20 *Pityriasis Versicolor, with Special Reference to Allen's Iodin Test. Jacob Sobel.
21 *Biceps Tendon-Jerk in Locomotor Ataxia. Moses Behrend.

### Medical News (N. Y.), June 1.

22 *Some Factors Relating to the Etiology of Prostatic Enlargement. J. Bentley Squier.
23 Gastric Ulcer and Muco-Membranous Colitis at the Paris Congress. James J. Walsh.
24 *Streptococcus Bronchitis in Influenza. F. Forchheimer.
25 *Fourth-of-July Tetanus. H. Gideon Wells.
26 *The Use of Methylene Blue Injections in Pleurisy with Effusion. Charles H. Lewis.
27 *The Appearance of the Soft Palate a Pathognomonic Symptom of Epidemic Influenza. Louis Kolipinski.

### American Medicine (Philadelphia), June 1.

28 *A Case of Antrum Infection and Sigmoid Sinus Thrombosis without present Middle-Ear Disease, Presenting the Symptoms of Facial Neuralgia and None of the Ordinary Symptoms of Disease in the Petrosa; Retropharyngeal Gravity Abscess, General Sinus Thrombosis without Much Impairment of Cerebration; Death after Three Months, Partial Autopsy, Presentation of Specimens. Bayard Holmes.
29 *Typhoid Fever and Pharyngeal Diphtheria. Morris Manges.
30 *Practical Thoughts on Pulmonary Tuberculosis. Howard S. Anders.
31 *The Recognition of Tabes Dorsalis. Theodore Diller.
32 Simplicity in Therapeutics. Edwin W. Pyle.
33 *The Radical Cure of Internal and External Piles by Excision. John A. Hawkins.
34 Rigidity of the Spine. (Spondylose Rhizomelique.) Max H. Bochroch.
35 Some Notes on a Case of Cerebral Embolism. Anna M. Littlefield.
36 Report of the General Hospital for the Treatment of Pulmonary Tuberculosis at Fort Bayard, N. M., for the Period Ended December 31, 1900. D. M. Appel.

### Cincinnati Lancet-Clinic, June 1.

37 Valedictory Address, Miami Medical College. E. W. Mitchell.
38 House-to-House Operating. Edmund C. Brush.
39 Phlyctenular Conjunctivitis. S. C. Ayres.
40 *Fistula and Consumption. George J. Monroe.

### Pediatrics (N. Y.), May 15.

41 Scarlet Fever. F. D. Millard.
42 Two Cases of Congenital Dilatation of the Colon. Theodore Fisher.
43 The Intra- and Extrauterine Periods of Stress as Pathologic Factors in Pediatry. James G. Kiernan.

### Virginia Medical Semi-Monthly, April 26.

44 Endocardiopathies Thomas E. Satterthwaite.
45 State Medicine. James Evans.
46 Intravenous Infusion of the Normal Salt Solution. Valentine Taliaferro.
47 The Significance of Running Ears. D. A. Kuyk.
48 Faradic Anesthesia, or Sedation and Galvanization Used Simultaneously. Alexander Irvine.

### Merck's Archives (N. Y.), May.

49 Glonoin: Its Pharmacology, Physiologic Action, Toxicology, and Therapeutic Uses. H. Edwin Lewis.
50 Chats on Every-day Therapeutics. Solomon Solis-Cohen.
51 *The Use of Suprarenal Gland in Peritonsillar Abscess. Lewis S. Somers.
52 Three Well-known Drugs (Quinin, Iodin, Sodium Sulphate). Harvey J. Chadwick.
53 Sodium Bromid in the Vomiting of Pregnancy. J. J. Trible

### American Practitioner and News (Louisville, Ky.), April 15.

54 True Greatness. J. Frank Crawford.
55 Four Stab Wounds of the Abdomen. H. Horace Grant.
56 Cystitis. John R. Wathen.
57 Varicocele and its Radical Cure. Harry C. Weber.
58 A Singular Case of Insect Bite. T. B. Greenley.

### Northwestern Lancet (Minneapolis), May 15.

59 The Present Status of the X-ray in Medicine and Surgery. J. E. Cross.
60 Some Cases of Lithemia. Mary Towers.
61 Leucocythemia and Pernicious Anemia in North Dakota. J. E. Engstad.

### Maryland Medical Journal (Baltimore), May.

62 Pregnancy in a Double Uterus. L. M. Allen.
63 *Rabies and the Pasteur Preventive Treatment in Germany. John Ruhrah.
64 A Case of Tetanus Treated with Antitoxin. J. W. Humrichouse.
65 A Review of Some of the Recent Work on the Physiology and Pathology of the Blood. Thomas R. Brown.

### Interstate Medical Journal (St. Louis, Mo.), May.

66 Clinical Lecture on Surgery. William L. Rodman.
67 Nephrectomy. C. E. Ruth.
68 The Eyes of Our School Children. Ellet O. Sisson.
69 The Practical Application of the X-ray in Fractures and Dislocations. J. Rudis-Jicinsky.

### Medical Examiner and Practitioner (N.Y.), May.

70 The Savings to Life Insurance Companies from Medical Discrimination at the Home Office. Frank Sargent Grant.
71 *The Urine in its Bearing on Life Assurance. O. J. Kauffman.
72 *Marriage in Relation to Life Insurance. J. M. French.
73 *Death-Rate of the United States. J. E. Cowgill.
74 Latest Investigations on Uric Diathesis. Otto S. Binswanger.
75 Benefit to Brain and Body from Bicycling in Moderation. Frank S. Grant.

### Indiana Medical Journal (Indianapolis), June.

76 The Radical Cure for Chronic Suppurative Otitis Media. L. C. Cline.
77 Report and Histological Study of a Case of So-called Pleurogenous Pneumonia. W. C. White.
78 Twins as Related to Obstetric Procedures. Hugh A. Cowing.
79 Nerve Resection as Applied to the Supra-orbital and Nasolachrymal Branches of the Fifth Pair. J. O. Stillson.
80 Pemphigus Vulgaris. George R. Green.
81 Formaldehyde Poisoning. James Wellborn.

### Quarterly Journal of Inebriety (Hartford, Conn.), April.

82 A Study of the Causes and Nature of Dipsomania. P. C. Remondino.
83 Management of the Victims of Drug Habits. David Paulson.
84 *The Actions of Morphin Upon Metabolism, with Especial Reference to Internal Secretion and its Bearing upon Toxicology. Edward T. Reichert.
85 Report on Heredity. T. D. Crothers.

### Clinical Review (Chicago), June.

86 Operation for Post-menopausal Complete Prolapse of the Uterus; Operation for Extensive Vesico-vaginal Fistula. J. Clarence Webster.
87 Abdominal Colopexy for Prolapse of the Rectum; Fibroma of the Mesentery; Excision of Twenty-four Inches of the Intestine; Use of the Button; Paraplegia from Pott's Disease of the Spine. John B. Murphy.
88 Goiter Complicated by Stenosis of the Trachea. William E. Morgan.
89 Gastrostomy; Umbilical Hernia; Strangulated Scrotal Hernia; Tendon Suturing; Nephrectomy for Malignant Disease; Renal Calculi; Tetanus; Cerebellar Tumor; Laparotomy for Intestinal Perforation. E. Wyllys Andrews.
90 Two Cases of Weak Heart. George W. Webster.

### International Medical Magazine (N. Y.), May.

91 A Case of Chronic Cystitis with Surgical Kidney, also Cystic and Prostatic Calculi. Israel Cleaver.
92 Hammonton, N. J., as a Health Resort. Charles Cunningham.
93 Appendicitis and Diseases of the Uterine Adnexa. Wilmer Krusen.
94 Incontinence of Feces. Samuel G. Gant.
95 The Management of Delayed Labor Due to Inertia Uteri. John C. Hirst.
96 The Treatment of Abscesses. Charles L. Leonard.

### Medical Bulletin (Philadelphia), May.

97 *Fangotherapy. W. C. Hollopeter.
98 *Clay Dressing in Skin Diseases. J. Frank Wallis.
99 The Scope of the General Practitioner. Jay G. Roberts.
100 Aristol in Gynic Hyperasthesia. Ephraim Cutter.
101 The Treatment of Epilepsy. Charles W. McIntyre.

### Medical Review of Reviews (N. Y.), April 25.

102 The Indications for and Limitations of Spinal Cocainization in Surgery. George Ryerson Fowler.

### Cleveland Medical Gazette, May.

103 Bacteriology and Pathology of Diphtheria. Roger G. Perkins.
104 The Differential Diagnosis of Diphtheria. Edward P. Carter.
105 *Antitoxin in Diphtheria. P. H. Sawyer.
106 *Laryngeal Intubation in Diphtheria. Joseph V. Kofron.
107 The Pulse, Temperature and Respiration after Operation: from an Analysis of 114 Consecutive Abdominal Sections without a Death. Hunter Robb.
108 Animate Bodies in the Auditory Canal. J. M. Ingersoll.

### The Woman's Medical Journal (Toledo, Ohio), April.

109 Blood and Nerve Supply of the Uterus and Their Relation to Hemorrhage. Rosannah Russell.

### Kingston Medical Quarterly, April.

110 The Science and Art of Surgery: Its Progress During the Nineteenth Century and its Prospects for the Twentieth. R. W. Garrett.
111 Prevention of the Spread of Infectious Disease by Isolation. A. Haig.

112 Dr. Horsey's Address at Medical Convocation.
113 Valedictory Address—Medical Convocation. M. R. Young.

Iowa Medical Journal (Des Moines), May 15.

114 Palpation of the Uterine Appendages. George Gray Ward, Jr.
115 Reception Hospital for Cases of Acute Insanity. Henry M. Hurd.
116 Relations of the Private to State Hospitals. J. H. Kulp.

Oklahoma Medical Journal (Guthrie), April.

117 Theories and Facts Concerning the Perception of Renal Impressions. John Ransom Hamill.
118 Brief Notes from Medical Practice. C. Hill.

Albany Medical Annals, May.

119 *The Diagnosis of Cancer of the Stomach. Andrew MacFarlane.
120 *Surgical Intervention in Carcinoma of the Stomach. Willis G. MacDonald.
121 *Report on the Gastric Secretion in Twelve Cases of Pulmonary Tuberculosis, Five of which Gave No Evidences of Tuberculosis when First Seen. Leo H. Neuman.

Dominion Medical Monthly (Toronto), May.

122 Malignant Disease Affecting the Fundus of the Uterus. James F. W. Ross.
123 Examinations for Life Assurance. W. H. Pepler.
124 Suggestive Therapeutics. J. M. Jory.
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## AMERICAN.

1. **Prolapsed Kidney.**—Goelet holds that this condition is more frequent than usually supposed, not always giving rise to symptoms directly referable to the kidney. It is often not discovered because by the usual methods of examination only an expert can detect it, unless the kidney is much enlarged or the subject is thin. Palliative measures are of no avail, and therefore useless and unwise. Lumbar fixation is the correct method of treatment, if there is no contraindication; the operating being simple and free from risk, and successful when properly executed, with due attention to the patient's condition prior to operation, and during convalescence for a period of several months. The object of his present paper is to call attention to certain special symptoms and the method of examination which he has adopted. Pain referable to the kidney region is very infrequent. The symptoms are usually what may be termed reflex. The method of examination which he has found best is as follows: The clothing is loosened about the waist, the corsets are removed, and the undergarments that are suspended from the shoulders are rolled up under the breast, exposing the ribs below the level of the ensiform cartilage, while the skirts are drawn down below the level of the crest of the ilium. The patient is directed to hold up the upper garments with the right hand and to support the skirts with the left to keep them from dropping off. This gets her hands out of the way. She is then placed with her back to the edge of a table for a brace, or against the wall or a door, but she must not be permitted to lean back against it. The legs must be perpendicular to the surface upon which she stands. She is now directed to incline her body slightly forward by flexing it upon the pelvis. If the abdomen is unduly rigid and is not sufficiently relaxed by this position, additional relaxation may sometimes be secured by directing the patient to bend the right knee and rest the toe of that foot only on the floor, throwing the weight mainly upon the left foot. The examiner sits in front of her a little to the right. He grasps the right loin with his left hand, with the four fingers behind the right lumbar region and the thumb in front just below the border of the ribs, and when this is done the patient is directed to take several deep inspirations and to expire to the extreme limit. When expiration is complete, he presses the thumb well into the abdominal wall under the ribs, depressing it as much as possible so as to reduce the space between it and the fingers posteriorly. If the kidney is out of position, it must be below his thumb, and he can feel the kidney slip under his thumb if it is pushed up into position. With the left hand flat against the abdomen, the examining physician then draws the relaxed abdominal wall downward and depresses it by pushing with the fingers inward, then upward. If he succeeds in getting the fingers under the kidney, it will be pushed up against and then under the thumb by this manipulation. It will require some little practice to maintain the necessary depression by the thumb while attention is diverted to the manipulation of the other hand. Sometimes it will be possible to engage the kidney between the tips of the fingers below and the thumb above, before it is pushed up into place, and by manipulation outline it distinctly. This is possible, however, only when the abdominal wall is thin or relaxed. When the abdominal wall is thick or cannot be made to relax in the standing position, the patient is made to recline on the back, with right leg flexed, and the examination made in the same manner in this posture. The patient is ordered to take several deep inspirations and to expire to the limit, and at this moment the thumb is pressed well up under the border of the ribs. If this does not dislodge the kidney, she is directed to cough several times. The article concludes with the technique of the operation for floating kidney.

5. **Ether.**—Wynkoop concludes that ether is the safest of anesthetics, but that more care is necessary in the primary examination and in regard to position and condition of patient during narcosis. A good inhaler, the simpler the better, is needed, with fresh ether, made by a reliable firm; small, quarter-pound cans are better than larger ones. The ether should be added in small quantities, beginning the narcosis with the inhaler a short distance from the patient's face and gradually bringing it down. A more detailed study of this subject should be given in our medical schools, and in all operations a trained anesthetist is required.

8. **Renal Tuberculosis.**—The recognition of renal tuberculosis is apt to be tardy, though the trouble is not uncommon. Brown insists on the importance of a routine search for tubercle bacilli in the urine and calls attention to possible errors in diagnosis from smegma bacilli. To avoid this, if the urine is collected from the bladder by a catheter, the then demonstrating the absence of these bacilli will correct the mistake. The subjective symptoms are sometimes pronounced and often absent. A dull, aching pain in the lumbar region is significant, as also is the more acute kind of pain referable to the kidney or ureter. In many cases symptoms resembling mild malaria occur, and he looks upon them as not infrequent precursors of the later localized ones. The frequency of urination does not usually appear until the lower segment of the ureter has been involved, with an irritable state about its mouth. The principal objective symptoms are large and tender kidney as well as all grades of pyuria and hematuria, besides a just

appreciable or very marked diurnal temperature variation, loss of color or weight, tuberculin reaction, and finally the presence of tubercle bacilli. He attributes much importance to tuberculin reaction, and advises the employment of tube cultures in all cases of ureteral catheterization to demonstrate the presence of other pathogenic micro-organisms. Nephrectomy for tuberculosis has been comparatively successful, but few deaths having been reported. In his experience persistent and exhausting vomiting has caused more deaths than any threatening anuria. If the disease is seen to extend down the ureter to a point below the first sacral vertebra he is not yet ready to advise total extirpation, since a considerable amount of tubercular ureter left in a functionless state may recover under subsequent treatment. If it were certain that the ureter was diseased from kidney to bladder it might improve the patient's chances to have a primary ureterectomy of the lower half, while the proximal end of the tube was given a cutaneous implantation to drain the kidney until an early favorable time for nephrectomy. Often in cases presenting tubercular vesical lesions where only one kidney is involved, nephrectomy, he thinks, is indicated as offering the best chances for extension of life and comfort. A number of histories of cases are reported illustrating the different points made in this paper. He concludes with the remarks that too great pains can not be taken by the physician and surgeon to demonstrate the location and extent of the disease before administering the treatment. The integrity of the other kidney, of course, has a great bearing on the surgical aspect of any case. In the ward hospital cases immediate operation appears to be the only alternative, but for those who can afford climatic changes and rest, a careful preliminary observation of the existing condition of the urinary tracts should precede their travels and be repeated in order to keep posted regarding the advancement of the disease.

11. **Inheritance.**—Adami's article is lengthy and too detailed to be abstracted in full. He suggests a sort of side-chain theory of heredity similar in some respects to the Ehrlich theory of immunity, and applies this to inheritance and atavism and the inheritance of acquired characters. He takes issue with Weissmann, maintaining that in certain ways acquired characters are inherited. The article must be carefully read to be properly appreciated.

13. **Muscular Action of the Arteries.**—Smith remarks on the muscular action of the arterial coats and its importance to the circulation in general; also the effects of calcification or sclerosis. He notices Dr. Daland's recent paper on arterial spasm, which he says throws a powerful light on the action of certain poisonous, or at least irritant, substances retained in the blood under conditions of renal insufficiency. What capsicum did in a high degree and for a brief period in Dr. Daland's case is done in a minor degree by excrementitious substances constantly remaining in the circulation.

17.—See abstract in THE JOURNAL of May 25, p. 1490.

18.—Ibid.

19. **Complicated Fractures.**—The methods of examination of fractures are first given by Manley, who insists on completeness of detail, inspection, posture, manipulation, narcotic relaxation of muscles, and lastly consultation with more skilled practitioners in this particular line. He summarizes the principles of treatment in: 1. Placing the limb in a comfortable position. 2. Securing an unhampered circulation. 3. Reduction of fragments and support. He criticises the time-honored rule of immediately reducing fragments and immobilizing them, and shows how this is impracticable in many fractures, and needless in some. It has been his practice to dispense with splints where marked displacements do not exist, and with the best results. With multiple fractures and general crushing injuries he would bolster up the fractured limb, relax the flexor muscles, leach, bathe and swathe the parts, await the subsidence of inflammation, of plastic union of fragments, and then splint, not so much to splice the fragments as to hold the joint and support the enfeebled parts. The open incision recommended by some he thinks is full of peril on account of the enfeebled circulation, though it would seem an ideal means in certain fractures of the femur with overriding of the fragments for example. The ambulant treatment of which we hear so much is not practicable in the great majority of lower-limb fractures, where pressure and rest in bed are indispensable after shock. With the patient under close observation, with the aid of antiseptics, anesthetics and aseptic precautions, we first endeavor to preserve the limb in the best shape we can. He advises practitioners to treat fractures at home, not send them to hospitals, and if they feel incompetent, to take a post-graduate course, or several of them, where there are ample facilities for instructions in this particular line.

20. **Pityriasis Versicolor.**—From his experience Sobel concludes that: 1. The old theory that only hidden parts are affected is no longer tenable. 2. Allen's iodin test is of marked value not only for class-room demonstration and for bringing into relief pale and hidden lesions of pityriasis versicolor, but also for differentiating parasitic or presumably parasitic skin affections from those of a non-parasitic nature. 3. Recurrences are in the main due to the overlooking and non-treatment of the supra-pubic region and to the use of desquamative agents to the exclusion of penetrating ones. Both must be combined if a cure is desired. 4. Phthisical subjects, while affected in great measure on account of the hypersecretion of sweat, do not form the greater part of these patients. It occurs in all degrees of health and disease, a marked hyperidrosis, however, predisposing towards it. 5. Children and the very old are occasionally, though rarely, attacked. 6. It may occur in all shades from a very light pink to almost coal black (pityriasis nigra), the color being influenced by the condition of cleanliness, the circulation of the skin, the occupation of the patient, and the color of the underclothing.

21. **Biceps Jerk in Tabes.**—From a number of observations, some of which are reported, Behrend concludes that ataxia in the arms is, as a rule, more marked when biceps tendon jerk is absent and usually co-incident with that of the legs. In the presence of biceps tendon jerk with slight ataxia of the arms, ataxia of the legs is invariably well marked. Sensation is usually normal in cases with normal biceps tendon jerk, and defective when it is absent. That arthropathies are present only in the marked ataxic. The loss of sense of position is almost constant in advanced tabes and the loss of weight sense is infrequent. The shooting pains in the arms do not bear any relation to the degree of ataxia. The intensity of the symptoms is not dependent upon the duration of the case, but rather upon the extent of the sclerotic process. Where biceps tendon jerk is absent, the sclerosis probably extended to the cervical region, but we must remember that this reflex may be absent in normal individuals.

22. **Prostatic Hypertrophy.**—Squier calls attention to the causes of prostatic hypertrophy, which he thinks are largely comprised in abnormal sexual practices partly due to deficient information on the subject.

24. **Streptococcus Bronchitis.**—This name is given by Forchheimer to a form of bronchitis following influenza in which the streptococcus seemed to be the prominent and often the only microbic attendant. It usually follows the respiratory type of influenza, though any form may precede it, and symptoms of influenza disappear when the bronchial trouble appears. It usually begins rather suddenly, with spasmodic cough, often simulating whooping-cough, occurring at night and in the day time, with sputum varying from merely serous to mucous and purulent. The larynx is seldom implicated, but it involves the medium-sized bronchi. The temperature is abnormal, ranging from 96 F. in the morning to 99 to 100 or more in the evening, thus having an abnormally great diurnal range. The pulse may be often slow, though it sometimes is rapid. In the rudimentary type of the disease is the shortest course, and the temperature is not typical for any length of time. The cough is not thoroughly developed and expectoration is limited. The excessive form takes the type of septicemia with intermittent fever, sweats, and occasional slight chilliness. Two cases are reported of septic pyemia originating in this condition. In patients where the cardiac condition

was such that heart weakness could be easily produced, it developed unless special care was taken. In the protracted cases the chief difficulty in differentiation will be from tuberculosis, and he thinks the rule has been given too rashly that subnormal temperature with evening increase is characteristic of tuberculosis. In the majority of cases there will be little difficulty. If there are general bronchial symptoms and no tuberculosis bacilli, but some other form of the streptococcal type, this condition can be diagnosed. He thinks for this condition the benzoate of soda in large doses, 1 dram every two to four hours, always every two hours in the beginning, is advisable. For the annoying cough, sedatives, and for excessive expectoration, atropin or belladonna are of advantage. In the severer forms unguentum Credé has been very serviceable, and, combined with antistreptococcic serum injections in special cases, has given him good results. In all cases we must bear in mind that we are dealing first with a local infection; secondly, with a general one: the concept of a septicemia, acute or chronic, must guide us in the therapy employed.

25. **Fourth-of-July Tetanus.**—Wells' article is summarized as follows: Tetanus is endemic in Chicago, the specific organism being present in the dirt of the streets. Every Fourth of July an epidemic occurs, because these bacilli are carried deeply into wounds before wads from blank cartridges, and are then under favorable conditions for multiplication. Epidemics which always occur in other portions of the country at the same time are presumably due to the same causes. Most of the cases occur in wounds that have been improperly cared for, the wads not having been removed or suitable drainage instituted. Therefore the first indication is to secure thorough surgical cleansing and drainage of the wound, preferably and almost necessarily under an anesthetic. As, however, tetanus sometimes occurs even in well-drained wounds, and considering the frequency with which it follows blank cartridge wounds, it seems to the writer that such cases should receive a prophylactic dose of, say, 5 c.c. of tetanus antitoxin as soon as possible after the wound is first seen. It seems certain that if antitoxin prophylaxis were adopted there would be no further Fourth of July epidemics, and this end justifies the means.

26. **Methylene-Blue Injections in Pleurisy with Effusion.**—Lewis has used methylene-blue, employing the serum itself as a solvent, after making a solution of it with the blue returning it into the cavity. The technique of his operation is described. His process is by using the aseptic syringe and introducing the drug after examination of the serum without withdrawing it. It does away with sterilizing the syringe and otherwise preserves it, for the action of the blue is rather destructive to valves. He has employed this method in twenty-four cases of pleural effusion, including suppurative case. The average duration of treatment of the twenty-three serofibrinous cases were a little under fourteen days. The quantity of methylene-blue employed was from 5 to 15 grains.

27. **Influenza.**—The new symptom described by Kolipinski consists in the appearance on the mucous membrane of the soft palate of small convex projections of a pearly whiteness or transparency. Their size is that of a grain of sand. They may be few or numerous, and are best displayed on the base of the uvula, median raphe, the lateral borders of the same, the anterior surface of the palato-glossal fold, about the outer border of the tonsil. A spatula rubbed over them gives a hard, rough sensation. Full illumination is necessary and direct or diffused sunlight is best. There are no subjective sensations connected with them.

28.—See abstract in THE JOURNAL of April 20, p. 1136.

29. **Diphtheria and Typhoid.**—Five cases are reported by Manges, showing that the Klebs-Loeffler diphtheria bacillus occurs sometimes in typhoid fever, and he maintains that this is not at all rare or absent as has been asserted by Curschmann. He also calls attention to certain peculiar ulcerations of the pharynx in typhoid that were first noticed by Bouveret and have been recently studied by Schaefer. They are situated in the anterior pillars of the fauces, are oval in shape, averaging from 6 to 12 mm. in length and 4 to 12 in width, the long axis parallel to the long axis of the tonsil, often surrounded by a small hyperemic halo. Their base is grayish-yellow or grayish-red, usually smooth, but sometimes granular. There is no false membrane or marked glandular enlargement. As a rule they are single, but several small ones may coalesce into one large one. The average duration of these, according to Schaefer, is about twelve days. In the case he reports here, there was an atypical whitish patch and Klebs-Loeffler bacillus was present on one day; the ulcers lasted over three weeks. He considers it a Bouveret ulcer with diphtheria infection.

30. **Pulmonary Tuberculosis.**—The points specially urged by Anders are the home treatment of tuberculosis, fresh air and sunlight, and he advises patients, when possible, to lie quite nude exposed to the sun's rays for one-half to two hours at a time. The prejudice against night air should be done away with, and respiratory exercises are recommended. He suggests as a relief to cough when it is aggravated by the recumbent position that the patient should assume this for short periods during the day, practicing the deep breathing exercises. This trains the lungs to be less irritable at night. Two drugs are mentioned as having been of special use to him, though seldom referred to. They are aromatic oils, the oils of sandalwood and erigeron. The first in 10-drop doses on sugar every three or four hours seems to very much relieve the cough. The latter in 5-minim capsules every two, three or four hours has been of decided benefit in the hemoptysis of tuberculosis. Chest strapping has been useful in several cases where the coughing has excited dry pleuritis, and he has found olive oil useful as a substitute for cod-liver oil. He concludes with a plea for the registration of tuberculosis.

31. **Tabes Dorsalis.**—The symptoms of tabes are discussed and the following ones named as cardinal by Diller: 1. Failure of knee-jerks. 2. Romberg symptom. 3. Argyll-Robertson pupil. 4. Lightning-pains. 5. Depression of the function of the bladder and genitals. With any three of these symptoms he believes the diagnosis may be made with certainty, and probably with any two of them, when evidence pointing to multiple neuritis, paralytic dementia or cerebrospinal syphilis is absent. The more important secondary symptoms or signs are: 1, parasthesia, anesthesia or analgesia of the legs; 2, locomotor ataxia; 3, transient ocular palsies; 4, ulnar paresthesia; 5, optic atrophy. Two of the cardinal signs and one of the secondary are sufficient for absolute diagnosis, and two of the secondary and one of the primary make tabes most probable.

33. **Hemorrhoids.**—The method recommended by Hawkins is the use of the clamp or hemostatic forceps, tightened and the entire mass cut off close. He then follows up with suture and sews up the stump, when the clamp is released. He says this operation is less objectionable than the ligature or clamp and cautery methods. He has done this in his office and allowed the patient to return immediately home. There is no danger from hemorrhage, very little pain, quick recovery and an absolute cure. The ordinary preparatory and after-treatment is employed.

40. **Tuberculous Fistula.**—Monroe describes the different symptoms of tubercular from other fistulas. They are a general run-down condition in the tubercular variety, with a cough, and he finds as a rule the anus surrounded with long, silky hair, which always leads him to suspect tuberculosis. The anus also appears to be depressed and drawn inward. In tubercular fistula the external opening is large and ragged, differing in this from the ordinary type. The pain is slight as compared with the ordinary fistula. The discharge as a rule is profuse, but much thinner and watery. He advises operation in tubercular fistula; it is easy on account of the lack of pain, but if an anesthetic is used, chloroform is advisable as not irritating the air passages. There is usually little hemorrhage. In place of curetting he is in the habit of using carbolic acid 1 to 4 of water, swabbed over the ulcer and cut surfaces, and then he packs lightly with borated gauze. The usual treatment of fresh air, sunlight, etc., is

advisable in the after-management of these cases, and out-door life is to be recommended to patients of this class.

51. **Suprarenal Gland and Peritonsillar Abscess.**—Somers recommends the use of suprarenal gland in 5-grain tablets, fairly chewed and held as far back in the pharynx as possible as a remedy for embarrassment of respiration, etc., in peritonsillar abscess. He prefers this method to a spray, and reports cases. When the pus is superficial it may discharge itself under this treatment, but when it is deep, operation, of course, will be required. In this case, however, the use of the drug is good, as it reduces the excessive swelling and enables the surgeon to get at the spot more safely and easily.

63. **Rabies in Germany.**—The results of the Pasteur preventive treatment in German are reviewed by Ruhrah, and he finds that in Prussia, while there is a definite increase in the disease in animals, with consequent increase in the number of people bitten, the mortality percentage has been distinctly lowered by the Pasteur method. In the untreated cases during 1899 the deaths amounted to 6.9 per cent., while in the treated cases, even including two doubtful ones, it was only 0.52 of 1 per cent.

71. **Urine in Life Assurance.**—Kauffman sums up as regards albuminuria, that Bright's disease nearly always is accompanied with albuminuria, but that we should not always hold that albuminuria means Bright's disease. The examination for renal casts is most important, and should never be omitted unless other evidences of Bright's disease are absent. The so-called physiologic albuminurias are not to be lightly recommended for acceptance. As regards the finding of sugar in the urine, no case of glycosuria can be unhesitatingly recommended. Only in instances where it is due to known and temporary causes, such as when from laughing gas or some exceptional dietary error, should it be passed over.

72. **Marriage and Life Insurance.**—While marriage in both sexes tends to longevity, insurance companies are inclined not to take female risks, largely on account of the special perils of child-birth and also the moral risk. They claim that it is not the proper order of things for a married woman to provide benefits and insurance for others. She should be the recipient. French suggests these points and gives the practice of several insurance companies in regard to this question. The line is not drawn at marriage per se, but at some of the conditions which accompany it. Only one of the distinctions has any reference to longevity, and that relates to the child-bearing period. All the others deal mainly with the moral hazard, and are applicable only to women.

73. **Death-Rate of the United States.**—Cowgill's statistics show that the actuary records show the death-rate per 1000 of the population is lowest in the Northwestern states, including all of those states north of California and Colorado and east of Iowa and Minnesota. In the Northeastern division, which includes the New England states, New York and New Jersey, the death-rate is highest, being 20 per 1000 as compared with 8.26 for the former division. The next lowest to the Northwestern division is the North Central, which includes Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Pennsylvania and Wisconsin, being 12.58 per 1000. In the Southeastern division, including the South Atlantic states, it is next highest, being 13.20, while the South Central, which includes the Gulf states, with Kentucky and Arkansas, it is 13.17; in the Southwestern division, including Colorado and Utah, as well as California, Nevada and New Mexico, it is 12.70. These differences indicate to him the impracticability of having one standard mortality table for the whole country where the localities and conditions so widely differ.

84. **Morphin.**—Our knowledge of the physiologic properties of morphin is fragmentary and unsatisfactory, and the importance of the subject has led Reichert to experiment on a number of dogs to study not only the general metabolism but the bearings upon toxicology. The calorimetric method was chosen. It is based on the fact that heat produced in any structure is proportionate to the degree of metabolic activity of that structure; therefore, the heat produced by the entire organism during any given period is an index of the mean degree of the activity of metabolism in all the tissues. However, as each structure is largely independent in its chemical processes, this index can be applied as a standard to any organ only in conjunction with what special evidences exist regarding metabolism in that organ. Twelve experiments were performed. In each the heat processes were studied before giving the morphin and after. The results were decided and quite uniform, and heat production was decreased in every experiment, but its effects were decidedly more marked, as a rule, during the first two hours after morphin. The average decrease in the ten experiments in which the dose was .01 gram per kilo was 59.2 per cent. Heat dissipation was also decreased in every experiment and the average for the same experiments was 41.7 per cent. The amount of depression of heat production was about 20 per cent. greater than that of heat dissipation. The cause of the decrease of heat dissipation is chiefly due to compensating action of the thermolytic mechanism to conserve the body heat and to a direct depression of the circulation. The cause of the decrease of heat produced is theoretical, and the author concludes that the profound depression produced in the metabolism is not thoroughly shared by the metabolic processes concerned in internal secretion. The most important indication in morphin poisoning is not merely to administer specific excitants to the respiratory center, but to reach the cause of the depression and direct some measure to the processes concerned in internal secretion and repair. It is probable that most agents proven of value are so because of their action on these processes, though this has been hitherto unrecognized. Atropin, he claims, can not be held a reliable respiratory stimulant in morphin poisoning. There is very little evidence that it is to any marked degree a metabolic excitant. It is probable that it is almost a universal depressant, and its reputed value in opium poisoning is due largely to circulatory and cerebral excitation, coupled at times with a more or less important increase of the rate or depth, or both, of the respiratory movement. Caffein, besides its value as a direct respiratory, cardiac and psychic stimulant, is probably of indirect value by affecting internal secretion through the nervous, muscular and secretory structures. It increases body temperature by increasing heat production, and in some obscure way affects general nutrition, lessening the quantity of urea formed, facilitating assimilation, furthering chemical processes in the muscles. Strychnin did not particularly seem a valuable antidote, but aside from its direct action on the respiratory center it may be of value because of its tonic powers on trophic and allied centers. That it affects internal secretion is shown by stimulation of the salivary glands and increase of heat production and effect on the nutritive processes generally. Cocain is one of the most powerful respiratory stimulants and very general and potent metabolic stimulant. The other agencies mentioned are faradization, cold douches, prolonged hot baths, etc.

97.—See abstract in THE JOURNAL of April 13, p. 1062.

98. **Clay Dressings.**—Wallis has for six years employed wet clay as a dressing in skin diseases. It has the mechanical property of holding water, thereby assisting osmosis, and he attributes to it also certain therapeutic effects from the mineral salts contained. It is preferable to sterilize it by baking in the oven for several hours before using. He applies it in the form of paste under several layers of gauze, which must be kept constantly wet by covering with a wet towel several times a day. Clay dressing should be removed every forty-eight hours. The most forms of inflammatory skin diseases do well under this treatment; he notices especially the rapidity of healing in ulceration. It admits of many forms of modification and medication, and he suggests the use of bichlorid of mercury, phenol, boric acid, the soluble alkalies, and glycerin.

105. **Diphtheria Antitoxin.**—Sawyer has had within two years eight cases of laryngeal diphtheria all treated with antitoxin; three were *in extremis* and were intubated, and he thinks that if the one which died had been intubated he, too, would have lived. The nose and pharynx were also seriously involved. Five recovered without sequelæ; two, in whom the

administration was delayed, had some streptococcal poisoning; one had a certain amount of paralysis, and the other suffered with bronchitis and extreme cardiac weakness. He believes the value of antitoxin lies in the immediate arrest of formation of membrane, the healthy condition in which it leaves the mucosa, rapid convalescence and the absence of sequelæ. The largest dose he used was 5000 minims in a little girl 4 years old. In the other cases from 1000 to 3000 units were used.

106. **Intubation in Diphtheria.**—Kofron believes that one is justified in intubating when there is dyspnea with dry, stridulous, embarrassing, suffocating cough, or when the cough becomes suppressed; also when dyspnea is not relieved by previously administered antitoxin and whenever it is increasing in intensity; when the dyspnea is accompanied by an irregular, rapid, easily compressible pulse, or when the pulse becomes imperceptible; when restlessness is increasing, even if dyspnea is not alarming; if spasmodic attacks of dyspnea occur, and if cyanosis occurs. If we have a combination of these symptoms, the operation becomes imperative and no delay should be tolerated. He notices some of the opinions in regard to the comparative value of tracheotomy, and maintains that intubation has a great advantage over the latter in that there are usually few objections on the part of the parents to intubation, while there would be many to tracheotomy.

119. **Gastric Cancer.**—The methods of diagnosis of gastric cancer are noticed by MacFarlane. The general constitutional symptoms are not at all pathognomonic of malignant disease of the stomach, but are characteristic of cancerous growths anywhere. The local vary with the extent of the disease and the mechanical depend upon the position of the disease in the stomach. The loss of appetite and the absence of hydrochloric acid indicate catarrhal conditions of the stomach due to the growth and its toxins, but where the cancer is developed on the basis of an ulcer and is limited, hydrochloric acid is not usually absent. Lactic acid exists in the absence of free HCl and characteristic coffee-ground hemorrhage is diagnostic. The mechanical signs are the result of obstruction at the pylorus or cardia. The tumor, when it exists, of course, is important and its motility is diagnostic. Pain is rarely absent. Three symptoms are of special significance: the absence of hydrochloric acid, presence of lactic acid, and the occurrence of motor disturbances. The question arises, how can the general practitioner who sees the case at its very inception make a probable diagnosis of malignancy? He could easily determine disturbance of nutrition by finding food two hours after an Ewald test breakfast or six hours after a Riegel test meal. If the patient states that he has vomited food taken the day before, the passage of the stomach tube is not even necessary. This does not prove, of course, that the patient has cancer, but it does prove that one has to do with no simple indigestion or dyspepsia and that the case should be given a thorough examination.

120. **Gastric Cancer.**—The surgery of gastric cancer is considered by MacDonald, who thinks there is little justification for total extirpation and that the old rule of cutting one centimeter beyond all evidence of infiltration is not enough; that three centimeters should be the limit, and in the duodenum at least two centimeters from the most dependent portion of the growth. He uses and illustrates here the more recently devised clamps of Kocher, and points out their advantages. For two years he has employed the von Hacker method of attaching the jejunum to the posterior gastric wall with re-anastomosis between the duodenum and the jejunum; the results have been satisfactory. During the past year he employed it 8 times with 7 recoveries. He used the suture mostly for the gastric jejunal anastomosis, and for the secondary one the Murphy button. While the technique of the method is rather complicated, he thinks the whole operation can be done in forty minutes, including the closure of the abdomen. Its advantages are, freedom from contamination of the wound by the stomach contents, accessibility of the neighboring lymphatic nodes, no subsequent danger from suture perforation, freedom from hemorrhage and saving of time. There is no embarrassment from the amount of tissue removed, as no effort is made to bring the duodenum and the remainder of the stomach in apposition.

121. **Gastric Secretion and Tuberculosis.**—Twelve cases are reported by Neuman, pointing out the gastric disturbance which precedes the onset of tuberculosis. In five of the cases there were neither physical nor subjective symptoms of tuberculosis when first seen.

128. **Cancer Distribution and Statistics.**—Lyon's article is an analysis of the statistics of cancer from the original board of health data of the City of Buffalo for a period of twenty years, 1880 to 1899 inclusive. The results are tabulated and discussed at length and the principal facts and results summarized in substance as follows: 1. The mass distribution of cancer on the map shows a particular concentration in the German wards. No other relation than that of race can be demonstrated to exist between this area of concentration and local conditions. 2. That there is a real relation between this local concentration and race is further indicated by the race table, which shows that cancer is many times more frequent among the foreign born, and particularly the Germans, than the native born. This latter fact is also in accord with the census statistics for twenty-eight large cities. The cancer rate of foreigners in general in Buffalo was 4.59 times the rate of the native born, and the corresponding rate of Germans and Poles was still higher, 4.81. 3. The Germans and Poles are further distinguished by the high rate, 43.8 per cent., of involvement of the stomach, or 2.8 times the rate shown by the native born. Cancer of the stomach, therefore, was ten times more frequent in Germans and Poles than in the native born in Buffalo for equal numbers of each. These figures seem hard to explain on the embryonic theory, and tend to support the parasitic theory by assuming that the peculiar diet of the Germans is more liable to be contaminated with cancer parasites than the ordinary diet of other classes. Cancer of the uterus and breast in Germans and Poles is correspondingly low, being hardly one-half as frequent as in the native born. This seems to be a further argument for the parasitic as opposed to the embryonic theory, since the birth-rate and habit of nursing their children is greater amongst the Germans than Americans. 4. The ratio of males to females, the latter taken as 100, was 93 for the Germans and Poles and from 51 to 61 for all foreigners except Germans and Poles. The high German male rate is probably directly dependent on the frequency of gastric cancer and the infrequency of mammary and uterine cancer in the Germans. For all classes the ratio of males to females was found to have increased during the twenty years covered by the investigation. This rise was very slight for the native born. 5. An increase in general cancer rate from 32 to 53 per 100,000 of the population (65 per cent.) took place from 1880 to 1899. A similar increase has been shown in other countries, and is partly real, not entirely apparent. The rate of increase is shown to depend on changes in the proportion of foreign born, because the cancer rate is so much higher than in the native born.

130. **Tibial Cysts.**—The importance of diagnosis between benign cysts of the long bones and sarcoma is emphasized by Beck, but it is not very difficult to confuse the two diseases. Both are alike in their slow and painless onset, often following trauma, and gradual bulging of the area and their preference for youthful age. The fact that the contents of cysts are different from sarcoma would show that an exploratory incision would clear the question, but he has found the Roentgen rays decidedly useful in this diagnosis. In osteosarcoma the outline of the bones appears more or less abnormal or indifferent, some areas seeming translucent, while in osseous cysts the cortex appears thin and narrow, but well marked and regular. The fluid center of the bone is entirely translucent, adjacent epiphyses are normal. This regularity of the texture of the walls of the cavity in skiagraphs, seems to be the characteristic skiagraphic feature of the osseous cyst in contradistinction to the irregular texture of the osseous sarcoma. The vicinity

of the epiphyses is also in favor of cysts for histologic reasons. He reports two cases.

132. **Nitrous Oxid and Oxygen Anesthesia.**—The advantage of combined nitrous oxid and oxygen anesthesia are described by Goldan, who illustrates the apparatus and calls attention to points which he has noticed in administration: "1. The apparatus must be in perfect working order and always tested by the administrator himself. 2. A sufficient supply of both gases at hand. 3. Atmospheric air must be rigidly excluded. In patients with beards the nostrils may be closed; the mouth tube may be used instead of the face-piece or the beard thoroughly moistened with water. 4. The patient should be prepared as for any surgical anesthetic. 5. The gas-bags should never be fully inflated, but between one-half and two-thirds full. In this way the pressure of the gases is kept more nearly equal. 6. Oxygen should not be turned on immediately the administration begins, but sufficient nitrous oxid inhaled to replace the oxygen existing in the blood; three to six breaths will be sufficient. Oxygen should be admitted gradually and in quantity determined entirely by the patient's condition, remembering cyanosis calls for more oxygen; evidences of excitement and returning consciousness meaning that less oxygen is required. In using the gases in long narcosis the taps of especially the nitrous oxid cylinders are apt to freeze, owing to the transition of the gas from the liquid to the gaseous state, the cylinders becoming covered with frost; to avoid this a towel wrung out of boiling water should be placed about the tap, but not about the cylinder itself. The patient should always be placed upon the operating-table in the position in which the operation is to be performed; any position may be employed, providing it will not interfere with the anesthesia. The preferable postures, in my experience, have been the dorsal and Sims." The sensations from this kind of anesthesia are much the same as with gas alone, but the oppressive ones are usually absent. There is more or less sensory anesthesia while consciousness still lasts. Insensitive conjunctivæ and snoring respiration are signs of anesthesia in dental cases. The snoring should be permitted from three to five minutes before removing the mask, which gives a longer period for operation. The cyanosed condition seen in using gas alone is never observed with this. Consciousness returns immediately. The shock from this method is less than from ether and chloroform and after-symptoms are not especially troublesome. Headache may occur, and also nausea and vomiting, but rarely persistent. The method is more expensive than the others, which may be to some a disadvantage.

133. **Croupous Pneumonia.**—This article is a clinical study of 500 cases from the recent records of the Pennsylvania Hospital. Norris' analysis indicates a large increase in the admission of cases of pneumonia in the last two years, over two-thirds of the cases occurring in the last one-half of the period. Out of 500 cases, 125, or 25 per cent., died; 7 became phthisical. The mortality was highest among the Germans and lowest among the Russians, though the numbers are comparatively small. He attributes the lessened mortality among the Russian Jews to temperate habits in regard to alcohol. Of the cases known to have occurred in drunkards the mortality was 67 per cent. The greatest number of cases occurred in the earlier decades of life and among teamsters and others employed in outdoor occupation. The lower lobes were the most frequent seat of the lesion and the highest mortality was when both lower lobes were alike affected. The apical pneumonia occurred most frequently in the young. In the complicated cases the mortality was about 40 per cent.; in uncomplicated cases only about 10 per cent. The study illustrates the fact that the highly febrile cases are less dangerous than the slightly febrile ones, the former being an index of vital force. The greatest frequency of the disease was in the spring months, which agrees with other statistics. A chill occurred at the beginning in just one-half of the cases; 301 cases ended by crisis; 74 by lysis. Pseudocrisis was observed in 54 cases at varying periods from the 7th to 21st days. Previous attacks were known to have occurred in 57 cases. Both albumin and casts were present in nearly one-half of the cases. In fatal cases they were absent in a very small proportion. The complications were various, jaundice, typhoid fever, delirium tremens, and pleural effusion being the most important. The mortality was highest with jaundice and delirium tremens. Inequality of the pupils was found in only a very small proportion of cases and would seem to be rare. It is not infrequent in healthy persons. Norris does not seem to consider Sighicelli's observation as regards this point as being very much confirmed. Relapses occurred in only three cases. The treatment was expectant and symptomatic; a specific treatment has not yet been discovered.

134. **Heart and Circulation in the Feeble-Minded.**—In the study of the circulation of 72 cases of feeble-minded in the Pennsylvania school at Elwyn, Taylor and Pearce found a great number of varied cardio-vascular signs altogether out of proportion to mental defect, so much so as to warrant assuming vascular heart disease to be an important etiologic factor in continuing the downward course of imbeciles. They urge careful anthropometric studies and observations of somatic diseases other than those of the nervous system in these cases, and are impressed by the fact that many high-grade cases would be bettered by more attention being paid to the heart and circulation. A careful study of the blood and excretions will be a valuable aid. The action of certain alkaloids needs study and experimentation. The use of specially directed regulated movements will greatly help these unfortunates. They urge also that over-exercise should be carefully avoided in their training.

## FOREIGN.

### The Lancet, May 25.

**The Pathology and Diseases of the Thyroid Gland.** WALTER EDMUNDS.—Edmunds' third lecture discusses chiefly the pathology of goiter and Graves' disease. As regards myxedema and cretinism he passes them with briefly saying that the working out of the nature and treatment of these diseases is one of the most brilliant advances in medicine. In cases where goiter is the only trouble, he thinks it well established that the administration of thyroid is the best treatment and mentions two cases cured by this method. Complete excision of the goiter formerly practiced is now abandoned, though partial excision is still practiced and sometimes causes a satisfactory diminution of the remaining portion. Under Graves' disease he includes all cases of goiter with symptoms not explained by pressure. The question whether the primary lesions is in the nervous system or in the thyroid is discussed and the theory of hypersecretion of the glands as the cause of the trouble is mentioned as supported by the marked contrast between this condition and myxedema. He, however, holds that it does not follow that the secretion is the same as in health. There is proportionately less colloid and in some cases no colloid at all in Graves' disease. The changes that are found are practically identical with those of compensatory hypertrophy as seen in animals after partial removal experiments. In fact, the resemblance leads to the conclusion that these changes are also compensatory in character; that they are secondary to some defect elsewhere in the system, possibly in the parathyroid, but there is no evidence either way. The treatment of exophthalmic goiter is briefly noticed, and the effects of thyroid administration, in some cases attended with benefit, often has made patients worse. Pregnancy is said to benefit it, but the disease sometimes originates in pregnancy. Operative methods have been employed. They are mainly three: operation on the cervical sympathetics; operation for diminishing the blood supply by ligating some of the supplying arteries, and operation for the removal of portions of the goiter. The first of these is based on the idea that these nerves are the starting point of the disease, but Edmunds thinks the probability is that if the nervous system is the starting point the fault lies rather with the cerebrospinal system and not with the sympathetic. Still the latter may be involved in some of the symptoms, the exophthalmus for example. Tremors and mental excitement would be connected with cerebrospinal symptoms. The results of operation on the sympathetic are rather dubious; as Boisson says, they have no constancy, and are as much confused therapeutically as physiologically. The ligation of the arteries to the thyroid has been done with some success, but

the operation is one of some difficulty. The removal of portions of the gland has been combined in some cases with sudden death accountable for by no other cause and the chief theories in regard to this point are noticed. He thinks, however, notwithstanding this danger it need not turn us wholly from the operative treatment of the disease, and reports cases where decided benefit has followed. In two cases in his own experience there was great improvement. The lesson possibly to be learned from the fatal cases is not that operation should not be performed, but that they should be performed earlier.

Journal of Hygiene, January.

**Pathogenic Microbes in Milk.** E. KLEIN.—In an examination of 100 samples of milk collected and analyzed at the instance of the medical office of the London County Council, Klein obtained the following results: 1. Seven per cent. of the samples of "country" milk produced typical true tubercle in the guinea-pig. 2. Eight per cent. of the samples of "country" milk produced typical pseudo-tuberculosis (non-acid fast bacillus of pseudo-tuberculosis A. Pfeiffer). 3. One per cent. of milk samples produced diphtheria in the guinea-pig, yielding the typical true B. diphtheriæ. 4. One per cent. of milk samples caused a chronic disease (in most cases with fatal results) due to a pathogenic torula apparently differing in cultural and physiologic characteristics from the torula (pathogenic blastomycetes) obtained by Sanfelice, Plimmer and others from human cancer. 5. Out of the secretions of the cow's udder two pyogenic microbes were obtained: B. diphtherioides and streptococcus radiatus (pyogenes).

**Artificial Modifications of Toxins with Special Reference to Immunity.** JAMES RITCHIE.—The general conclusions of Ritchie's article in regard to this subject are as follows: 1. Tetanus toxin under the influence of hydrochloric acid loses with comparative readiness its virulently poisonous properties. It does not, however, so readily lose its capacities of producing immunity, and when all trace of toxicity has disappeared the capacity of producing immunity still remains. The less poisonous substances produced in the modified toxin are probably of the nature of toxoids. 2. Tetanus toxin is also susceptible to the action of alkalies such as sodium hydrate and sodium carbonate, under which it again loses its toxicity. 3. Ricin is very resistant to the action of hydrochloric acid. There is evidence here also that when the toxicity is destroyed the capacity of producing immunity also remains. 4. Abrin is also resistant to the action of hydrochloric acid, but it is relatively susceptible to that of sodium hydrate. 5. Diphtheria toxin is very resistant to the action of hydrochloric acid, but it is relatively susceptible to the action of sodium hydrate. In the case of toxin which through the latter agent has had its toxicity destroyed there still remains evidence of the capacity of producing immunity.

Annales de Dermatologie (Paris), April.

**Potassium Permanganate in Lupus.** HALLOPEAU.—Four patients were treated with potassium permanganate applied as a dry powder or in a 2 per cent. solution. The lupus was rapidly improved and the lesions healed. Hallopeau believes that besides the caustic action, the permanganate has also something of a specific effect on lupus. He suggests that it might be advisable as a preliminary measure to phototherapy, but Finsen has stated that phototherapy has much better chances of success when the lupus has not been treated before with other measures. Leredde believes that the better the results from the treatments which merely "improve" without effecting a radical cure, the more dangerous for the patient, as in the case of carcinoma.

**New Chemico-Electric Treatment of Lupus.** DANLOS.—For three years Danlos has been experimenting to derive electricity for the treatment of lupus directly from chemical action. He finally succeeded in producing what he sought by a combination of a saturated solution of copper sulphate and pulverized zinc. The zinc is stirred into the copper fluid until the color changes. The result is a limpid fluid—a solution of zinc sulphate—and a black sediment consisting of zinc and copper. This sediment is washed clean and is the substance applied to the lupus in the form of a salve, with a compressing bandage above, until the lupus is destroyed. The sound skin is not affected by the electro-chemical action of the metals and after the lupus is eaten out, cicatrization proceeds normally under the salve. Usually the application does not cause pain, but if there is much ulceration there may be severe pain and tumefaction. He has applied this method of treatment to twenty patients with most satisfactory results in every case of tubercular lupus. He considers it almost the equal of Finsen's phototherapy and a good substitute therefor when circumstances render the latter impossible. When the lupus affects the natural orifices phototherapy is the only resource, but on extensive, flat surfaces Danlos' method will be found much more rapid and fully as effective, and it is within the reach of every practitioner. The curette and a concentrated solution of zinc chlorid are preferable, perhaps, for very extensive, deep lesions, unless the patients shrink from the curette, as often happens.

**Simplified Finsen Apparatus for Phototherapy.** GASTOU. Two professors at Lyons, Lortet and Genoud, have devised an apparatus to take the place of Finsen's complicated electric light arrangement for the treatment of lupus. They first spent weeks at Copenhagen studying Finsen's plant, and by approaching the source of the electric light to within two or three centimeters of the radiator and suppressing other mechanism, they have succeeded in producing an apparatus which generates the active rays as effectively as Finsen's while it requires no more than the ordinary electric light power and has a much larger photochemical zone of action. Leredde reports after six months of constant experience with this new apparatus, that it is a revolution in the treatment of cutaneous affections by the chemical rays, as it brings phototherapy within the reach of every physician who has access to an electric light service. Ten to 12 amperes are ample, while Finsen uses 60 to 80. The time of exposure is fifteen minutes instead of the hour required by Finsen, and four patients can be treated at the same time. As the surface exposed can be much larger, the number of applications can be correspondingly reduced. The apparatus consists of an arc lamp of 10 to 12 amperes, a compressor of rock crystal and an interposed vessel, in both of which there is a double circulation of water. A sheet of tin is placed between the two latter, in which an aperture is cut exactly the size and shape of the lesion to be treated.

Annales d. Mal. d. Org. Gen.-Urin. (Paris), April.

**Preservation of Genital Function After Resection of the Epididymis.** SCADUTO.—After resection of the epididymis is it possible to restore the function of generation by establishing a new route for the spermatozoids? Scaduto replies in the affirmative to this question as the result of successful experimentation on dogs. He found that an anatomic and functional anastomosis between the vas deferens and the mediastinum of the testis could be readily accomplished, thus re-establishing the route destroyed by resection of the epididymis. His experiments on large dogs were more successful as the size and shape of the testicles resembled more the human organ. The result in one dog was a complete success, spermatogenesis continued normal and the new canal allowed the passage of the spermatozoids. Some of the other dogs escaped and in others the new canal was not entirely permeable. The conditions are much more favorable for the operation in man, he observes in conclusion.

**Calculi in the Prostate.** C. PASTEAU.—Urinary calculi are frequently found in the prostate and may develop in the prostatic portion of the urethra or its diverticula, or find their way from the upper urinary passages. There is another variety of calculi which develop in the prostate itself, true prostatic calculi, which owe their existence to some attenuated infection of the gland. Ten specimens are illustrated.

**Oxycyanid of Mercury in the Urethra and Bladder.** F. L. GENOUVILLE.—With the sole exception of the abortive treatment of gonorrhea, the oxycyanid of mercury is at least fully as effective as potassium permanganate in treating gonorrheal affections, and is decidedly superior to it in the tolerance displayed by patients. It is not a specific for gonorrhea, but is

more effective than other drugs and deserves more general appreciation. A 1 per 1000 solution is the average strength, but 1 per 500 is useful in certain cases.

Bulletin de l'Acad. de Med. de Paris, May 14.

**Musical Sensations in Surgical Anesthesia.** J. V. LABORDE.—A Paris dentist, Drossner, called Laborde's attention to the fact that as his patients succumbed to the influence of an anesthetic he had noticed that the hallucinations were invariably connected with the sounds from the street below. The auditory sensations seem intimately connected with the anesthetic sleep, and the idea occurred to him to substitute for the discordant, terrifying sounds of the street, harmonious, musical sounds. He arranged a musical phonograph with a receiver for each ear. As the patient took his seat the receivers were placed in his ears and the nitrogen gas administered while he could hear nothing but the music from the phonograph. The operation terminated, the patient rouses himself with none of the hallucinations from the street noises, but calm and cheerful as before, and says that he has heard and felt nothing except the music. Patients return for a second operation, if necessary, with none of their previous apprehensions, declaring that they have nothing but an agreeable musical memory of the previous operation.

Bulletin Medical, Paris, April 13.

**Renal Insufficiency in the Aged Revealed by the Respiration.** MEYER.—When an elderly person is being palpated and examined generally, the respiration is more or less voluntary and normally regular. But when he is at rest, if the sphygmograph is applied and the respiration becomes automatic, the tracings frequently reveal an unsuspected tendency to an attenuated Cheyne-Stokes character. Incipient renal insufficiency can thus be determined and impending symptoms averted.

Bulletin de la Soc. Med. des Hop. de Paris, May 16.

**Epidural Analgesia in Treatment of Visceral and Intercostal Pain.** WIDAL.—Sicard's announcement in regard to the value of epidural cocainization as a means of curing the pain of sciatica, lumbago, etc., has been fully confirmed by Widal's experience. The pain is arrested at once and usually permanently. In a few cases the pains recurred after a few hours, but always much less severe. The intense pain in the stomach accompanying an ulcer, with violent exacerbations following the ingestion of even one swallow of milk, was completely cured in one case in ten minutes. The patient could rise, eat and attend to her duties, free from pain. This analgesia has persisted six days to date. A single injection of 2 cg. of cocain in another case in which the patient had been a victim of severe sciatica without respite from the pains for six months, resulted in the immediate banishing of the pain. The cocain is injected into the epidural space, external to the meninges, inserting the needle through the sacrococcygeal ligament, between the two small knobs of the apex of the sacrum. The injection is simple and harmless. The analgesia induced is not sufficient for surgical intervention but proves ample for therapeutic purposes.

Progres Medical (Paris), May 11.

**Hydrosulphuric Acid in Smallpox.** NOKOWSKI.—Several cases are described to demonstrate the benefits of rectal injection of an aqueous solution of hydrosulphuric acid in smallpox. The dose varies from 10 mg. to 10 cg., according to age. In forty to fifty cases the complete development of the pustules and suppuration occurred the third or fourth day and the scabs dropped off the eighth to the tenth. Some of the patients were cured on an average of five days, with large doses. The most serious case was treated with four injections a day for five days and was cured in eight. The acid transforms aerobic into anaerobic micro-organisms, which alters them in various ways and apparently renders them harmless. It is interesting, Nokowski adds, to see how the eruption spares the abdomen and neighboring regions after these injections are made, as if a local protection were thrown around this zone.

Revue Mens. des Mal. de l'Enfance (Paris), May.

**Diagnostic Value of Leucocytosis in Measles.** RENAUD.—A hyperleucocytosis commences with the infection, and attains its maximum eight to nine days before the exanthem appears, that is, four to five days before the contagious period. If the leucocytosis is found normal a supposed contagion is a mistake. The diagnosis is correct if the number of leucocytes is found increased with no other plausible reason for the increase. In one observation, for example, the leucocytes were 16,200 more than the normal number, and of these 13268 were polynuclears.

**Pathogenesis of Night Terrors.** J. G. REY.—The cause of the so-called night terrors is always some obstacle to respiration and hematosis, either direct or reflex. Both are due to slow, protracted intoxication with carbon dioxid.

Berliner Klinische Wochenschrift, March 25.

**Treatment of Varicose Phlebitis.** KAREWSKI.—A small incision at the fossa ovalis exposes the saphena vein, which is divided betwen two ligatures. The vein is then isolated downward and detached from its bed in the subcutaneous fat. Another incision is then made 20 cm. lower down and the vein is again divided between two ligatures, when the entire trunk between these incisions can be pulled out. The side branches bleed as this is done, but this bleeding is always easily checked by brief compression. A third incision at the knee allows more of the vein trunk to be resected if necessary. After this, the varices are extirpated in turn. By this technique a long wound is avoided and scar formation is reduced to the minimum. It is peculiarly adapted to fresh varicose phlebitis. Six patients thus treated were restored to their occupations in a surprisingly brief time.

April 1.

**Prognosis of Brain Disease in Childhood.** H. OPPENHEIM.—Six years ago Oppenheim described a cerebral affection in children—acute hemorrhagic encephalitis—which usually terminates in complete recovery. He now describes another affection, the symptoms of which simulate a tumor in the motor zone, and yet it can be considered curable, the patient rapidly recovers under iodin, bromid or other measures. The same symptoms in an adult would suggest a syphilitic neoplasm or syphilitic meningo-encephalitis: the Jacksonian epilepsy, monoplegia, motor aphasia, headache, vomiting, slightly retarded pulse and disturbances in sensibility, with the protracted course and the absence of fever. There were no syphilitic antecedents in any of the six cases he describes, and all recovered with no recurrence during the five to six years since. A tendency to local spasms persisted in one patient for a time, but this, too, finally disappeared. He is inclined to consider the affection a tubercular meningo-encephalitis—the "meningite en plaque tuberculeuse" studied by Chantemesse on adults who had died from general tuberculosis or other diseases, that is, only in its severer, fatal and complicated forms, never in children. He found it always limited to the vicinity of the fissure of Rolando. Oppenheim's six little patients, therefore, must have had and recovered from either a hitherto undescribed, chronic, non-suppurative encephalitis, or some yet unknown brain affection, exhibiting the symptoms of a cerebral tumor in the motor zone, or else this "meningite en plaque tuberculeuse."

April 22.

**The Freezing Point of the Blood in Diagnosis.** A. VON KORANYI.—When the kidneys are working normally the freezing-point of the blood varies between 0.56 and 0.58 C. If the freezing-point is at 0.59 it is evidence of renal insufficiency, that is, of a disturbance in the functions of both kidneys, in the absence of acetonuria and of interference with the respiration. The disturbances in the renal function may be of reflex origin, caused by pain in one kidney, while the other may be sound. There is also a mechanical renal insufficiency, due to compression of a kidney by a tumor anywhere in the abdominal cavity. Both the reflex and the mechanical forms of renal insufficiency must be excluded, of course, before assuming the existence of a bilateral kidney affection from the variation in the freezing-point of the blood. Other writers claim that the normal range of the freezing-point is from 0.56 to 0.60, but Koranyi shows that their results are erroneous, owing to their

failure to eliminate all the carbon dioxid in the blood, which is an indispensable preliminary to determining the freezing-point for diagnostic purposes. It is easily accomplished by shaking it up with oxygen or even with ordinary air. The oxygen is more effectual. The freezing-point of the blood is normal or subnormal in typhoid fever in the absence of renal complications, and when the increased amounts of carbon dioxid in case of severe bronchitis are removed. It is impossible to determine the freezing-point with accuracy with less than 10 to 15 c.c. of blood. It is unnecessary to separate the serum, as the freezing-point of the blood and the serum is the same. Beckmann's apparatus is the only one to use and the directions accompanying it should be scrupulously followed. Fifteen minutes are ample for the test and even with an error of .01 it is sufficiently accurate for all practical purposes. (See THE JOURNAL, p. 475.)

May 6.

**Alkaline Treatment of Pernicious Anemia.** T. RUMPF.—Comparative investigation of the blood in a number of cases of pernicious anemia, other affections and in health, demonstrated that in pernicious anemia the blood contains an exceptional amount of water and chlorin, while it is very deficient in potassium and iron. If pernicious anemia is due to an excessive destruction of blood corpuscles and a relative insufficiency of the blood-forming organs, as some maintain, it is possible that the resulting toxic substances in the blood may have an affinity for the potassium found normally in the corpuscles. As the potassium is attracted out of the corpuscles by this affinity, destruction of the corpuscles may be the direct result. The same affinity may also draw out the potassium from other portions of the body and prevent its assimilation, and certain clinical facts sustain this hypothesis. The inference follows that the administration of potassium might arrest or favorably influence the course of this disease. Rumpf, reasoning from these premises, applied this treatment in four cases of progressive pernicious anemia, and reports that each patient was improved to the point of actual recovery in consequence. His formula was: potassium bicarbonate and ferratin, each .5 gm. a day, or a combination of quinin hydrochlorate .2, ferratin .5 and potassium tartrate and potassium citrate, each .75. In four other more advanced cases the anemia progressed to a fatal termination unchecked. It is therefore not a specific, but the results attained certainly justify further attempts in the treatment of pernicious anemia with easily assimilated potassium.

Dermatologisches Centralblatt (Berlin), May.

**Success of Refrigeration in Treatment of Ulcus Molle.** F. V. POOR.—Spraying the ulcer with methyl ethyl or ethyl chlorid—kelene—proved the most effective means of curing ulcus molle in Poor's experience. He states that twenty-five cases thus treated healed like an aseptic wound in ten to twelve days with an entire absence of complications of any kind. He applies the spray for one to one-and-a-half minutes a day until the suppuration ceases and then heals the lesion with the usual antiseptics, iodoform, dermatol or airol. He concludes that the brief, repeated refrigeration of the tissues has a destructive action on certain bacilli, especially Ducrey's, or at least checks their development by the hyperemia produced. The cure is much more rapid and complications are prevented by this method of treatment.

Zeitschrift f. Hygiene u. Infect. (Leipsic), April.

**Diphtheria Bacilli in Convalescents.** H. PRIP.—Careful search was made for the bacilli in 100 convalescents from diphtheria who returned every week for months after their dismissal. In 25 per cent. the bacilli vanished before the false membranes. The bacilli were found in 60 of the convalescents: in 3 after twenty-two, eleven and eight months; in 2 after five months; in 5 after four; in 6 after three and in 11 after two months. A large number failed to return after the second month. In 18 convalescents the bacilli reappeared after an absence of one to three weeks and then vanished again. In 5 the bacilli suddenly made their appearance in the nose and persisted one to four weeks before they finally vanished. The nose had not been involved in the diphtheritic process in any of these cases. In one case complicated by otitis media, virulent bacilli were found seventy-three days after the membranes had disappeared. None of the patient's numerous children contracted the disease. In three instances infection of other members of the family followed the return of the convalescent. The dismissal occurred after two culture tests had resulted negatively on two consecutive days. Prip asserts that no patient should be declared free from bacilli until after months of examination of all the cavities communicating with the throat.

Zeitschrift f. Heilkunde (Vienna), March.

**Auto-Enteroplastic Surgery.**—TRNKA.—The skin is the best substitute for the mucous coat and walls of the intestines, as has been long established. The only flap that ensures absolute solidity to the resistance of the abdominal pressure is a bridge flap containing muscle. Trnka operated on a young man, according to these principles, closing a large ragged defect near the iliac fossa, resulting from a typhlitic perforation. He first cut a slightly curved bridge flap above it, including a portion of the rectus muscle. The inner edge was sutured to the edges of the intestine and the flap isolated in silk for two weeks. A semicircular flap was then cut below the primary defect, with which its base was parallel. This flap was then turned over and drawn through beneath the bridge flap. The defect was thus closed with a skin flap, held in place and reinforced by a strong bridge flap, and the results have demonstrated the great solidity and permanence of the plastic operation.

Zeitschrift f. Klinische Med. (Berlin), xxiii, 5 and 6.

**Laceration of Cardiac Valve by External Violence.** F. STRASSMANN.—The aorta is involved in two-thirds of the rare cases of traumatic laceration of a valve. Symptoms may appear at once, or months or years may intervene. The physical signs are the same as for a spontaneous valvular affection but the murmur is frequently longer, stronger and has a peculiar tone. There is no compensation in these cases and death usually follows in one to three years, but 2 instances have been known of survival for ten, 1 for eleven and 1 for fifteen years, and there are a few cases of complete recovery on record. In Strassmann's case a robust man was kicked in the ribs by a horse. Two were fractured; the aorta and one of its valves were torn and a chronic pericarditis developed.

**Bactericidal Action of Bile.** S. TALMA.—This article asserts as the conclusion of much research, that the bile contains a substance which checks the development of most of the colon, typhoid and diphtheria bacilli. The susceptibility of different bacteria varies and their virulence is not synonymous with the power of producing infection in the biliary passages. The bactericidal power of the bile varies at different times and with different animals. The epithelium of the biliary passages and the liver cells offer a powerful resistance to the invasion of micro-organisms, especially to diphtheria bacilli.

**Acute Articular Rheumatism and Trauma.** R. BERNSTEIN.—The connection is evident between a traumatism and the development of acute articular rheumatism in the seven cases described. An infected wound in a joint may cause pyemia, but articular rheumatism was never known to result from such an injury. Pyemia may likewise follow a skin wound, and exceptionally, articular rheumatism may result. Subcutaneous injuries are very rarely followed by pyemia while they have frequently been noted in the immediate antecedents of acute articular rheumatism. The incubation is comparatively brief and the trauma can not be incriminated if more than two weeks elapse before the appearance of the articular rheumatism.

Grece Medicale (Syra), April.

**Pathogenesis and Treatment of Albuminuria.** KELAIDITIS.—Two factors co-operate in the production of every albuminuria: 1, the antitoxic insufficiency of the liver, and 2, the irritating action on the kidneys of the exogenous organic and microbian poisons eliminated without having undergone any preliminary transformation in the liver. Whenever from any cause the antitoxic function of the liver is diminished or the amount of toxins is too large for it to manage, then there is hepatic insufficiency, and the untransformed toxins, as they

are eliminated by the kidneys irritate and injure these organs. The first indication in treatment is to restrict the patient exclusively to a milk diet, and Kelaiditis supplements this by administering liver extract to substitute the deficient liver function. He reports very encouraging results from this combination, although his experience has been limited to two patients with Bright's disease, one with glycosuria and three with tuberculosis.

**Uncontrollable Vomiting of Pregnancy Cured by Suggestion.** TRIANTAPHYLLIDES.—A woman of 30 had suffered from uncontrollable vomiting during her two last pregnancies, and it has been arrested only by premature delivery. The vomiting occurred again with another pregnancy, but Triantaphyllides performed a sham abortion, gave her some bread pills and the vomiting ceased as she was convinced the pregnancy was terminated.

Upsala Laekarefoerenings Foerhandlingar, April.

**Acute Suppurative Peritonitis.** K. G. LENNANDER.—Any disturbance in the circulation or slight enteritis, may allow the microbes in the intestines to penetrate into the walls and pass thence into the blood or the lymphatics under the serosa. All varieties of solid and fluid exudates may be found in a single abdominal cavity. Peritonitis is the result of the reaction of the organism to the infection. The greater the amount of fluid exudate, the greater the dilution of the toxins and the less they are absorbed. Bacteriologic investigation of the urine is useful in peritonitis as the microbes causing it usually find their way also into the bladder. The rectal temperature is always much higher than the axillary in this variety of peritonitis. Lennander recommends the subcutaneous injection of .75 to 1 cg. of morphin and local anesthesia while the skin and aponeurosis are being incised, then ether or chloroform while the peritoneum is being opened and the cavity examined. The ether or chloroform is then suspended while the intestines are being resected or sutured, as the abdominal viscera and their peritoneum do not possess any pain-nerves. The anesthetic is resumed while the intestines are being replaced and the tampon or drain inserted. The incision must never include any motor nerves. Every effort should be made to recognize the phases of the infection and inflammation of the serous membrane preceding perforation, so as to forestall the latter. In all cases of paralysis of the ileum, a temporary fistula should be made in the cecum, inserting and fastening a drain, and in general peritonitis, in which paralysis of the intestines is threatened, the cecum should be arranged between tampons so that it can be opened at a moment's notice if the tension of the abdominal wall increases. In the after-treatment, saline infusion is extremely important, subcutaneous if the heart action is good and otherwise, intravenous. As the peritoneal cavity is a great lymph-pace, copious saline infusion, he thinks, increases the secretion of lymph in it, dilutes the toxins in unoperated cases, and after operation, drains the cavity much more effectively, sweeping the toxins away. He injects 1200 to 2000 c.c. in two portions during the day. Opium he administers by the rectum, about 5 cg. in a suppository. The relief from pain enables the patient to lie still on his back, which favors recovery. Local application of ice is also useful. If the patient is hungry he injects 100 to 175 c.c. of olive oil under the skin. Every case in which there is reasonable certainty of an abscess or contusion should be operated on. To prevent thrombosis in the lower extremities, he raises the foot of the bed 10 to 40 cm.

**Bacterial Endocarditis.** S. E. HENSCHEN.—Three cases of endocarditis of bacterial origin are described. One patient was a girl of 12 who had passed through an acute urinary infection two years before. The acute endocarditis of the aorta developed consecutive to tonsillitis, and the staphylococcus albus was found in the cerebrospinal fluid during the acute stage. The diagnosis was dubious at first, suggesting typhoid and then meningitis. There were no symptoms of articular rheumatism. The case terminated in comparative recovery, the third case of endocarditis on record in which recovery occurred after invasion of the blood by bacteria. It is the only one in which the staphylococcus was found. In his second case a typical articular rheumatism and chorea were accompanied by endocarditis and pure cultures of the staphylococcus albus were derived from the blood, pleuritic effusion and the fluid in the joints. The rheumatism and chorea he is inclined to attribute to the action of the bacterial toxins. The patient was a boy of 12, with a history of a first attack of articular rheumatism two years previously. He died eight days after the acute endocarditis developed. The third patient was a man of 48, healthy until June, 1899, when he contracted a cold and evidences appeared of an intestinal infection, chills, persistent diarrhea and vomiting. These symptoms gradually subsided but recurred again in December and he entered the hospital in January. The diagnosis from the symptoms then presented was ulcerative endocarditis and septicemia, with aortic insufficiency and acute dilatation of the heart. Acute nephritis and bronchitis followed, and patient died in February. The colon bacillus was derived pure from his blood during the first weeks in the hospital, but after the administration of salol and salicylic acid, a similar, but non-motile bacillus was found in its place and toward the last, the streptococcus. This case demonstrates anew the possibility that an intestinal infection may spread to involve the endocardium and cause an ulcerative endocarditis of a comparatively chronic course. There are very few similar cases in the literature—not more than four and some of these are dubious. None of the cases published indicate that the colon bacillus infection has any peculiarly characteristic features.

**The Iodipin Test of the Functions of the Stomach.** O. V. PETERSSON.—The iodipin test was tried on nearly fifty persons to investigate the motor function of the stomach, determining the reaction in the saliva with nitric acid and chloroform. The other usual tests were also applied to control the results, ascertaining possible retention of the stomach contents with the sound. In every instance it was found that when the stomach emptied itself normally, the iodin reaction was evident in thirty minutes on an average. In gastric affections with normal motor function, the reaction was also prompt, but in every case in which the existence of more or less retention was ascertained by sounding the stomach, the iodin reaction was correspondingly retarded or did not occur at all. It was pronounced in three cases of carcinoma in 45 minutes; in two others in 90 minutes, and in one case not even after four and a half hours.

Brazil-Medico (Rio de Janeiro), April 22.

**Cold Baths in Yellow Fever.** A. FERRARI.—Three months of experience with cold baths in the treatment of yellow fever have convinced Ferrari of their great efficacy. The mortality was reduced to 39.45 per cent. and 63 out of the 104 patients thus treated left the hospital completely cured in ten to fifteen days. He administers strontium lactate as the best means of controlling the albuminuria, in the dose of 2 to 4 gm. a day. Rectal injection of water at 15 C. is also a valuable hydrotherapeutic measure, promoting diuresis and lowering the temperature.

# Queries and Minor Notes.

MEDICAL PRACTICE ACT.

NEW BUFFALO, MICH., May 24, 1901.

*To the Editor:*—Will you please inform me what states recognize the certificates of the Michigan State Board of Registration in Medicine as fulfilling all requirements for a certificate to practice in the particular state? H. D. R.

ANS.—We can not say what states recognize the certificates of others, as it is a matter which is regulated by each board of examiners or registration and no published statement of their rules is available. It is safe to say, however, that there are comparatively few states under the present laws that recognize the certificates of other states.

QUESTION OF ETHICS.

SUMMIT STATION, OHIO, June 3, 1901.

*To the Editor:*—Would it be ethical for a regular physician to consult with a physician who has graduated from a regular school and afterwards taken a course in homeopathy, and who now claims to practice either, according to the patient's desire? C. H. W.

ANS.—We should say not, according to the spirit of the Code.

# Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN, for the Use of Students and Practitioners. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, and Frank Hugh Montgomery, M.D., Associate Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College. Sixth and Revised Edition. Illustrated with 107 Engravings and 27 Plates in Colors and Monochrome. Cloth. Pp. 828. Price, $4.50. Philadelphia and New York: Lea Brothers & Co. 1901.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other than Drug-Giving, Useful in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Volume XI, Electrotherapy, by George W. Jacoby, M.D., Consulting Neurologist to the German Hospital, New York City; in two books: Book II, Diagnosis; Therapeutics. Illustrated. Cloth. Pp. 323. Eleven volumes. Price, $22 net. Philadelphia: P. Blakiston's Son & Co. 1901.

A TREATISE ON ORTHOPEDIC SURGERY. By Royal Whitman, M.D., Instructor in Orthopedic Surgery and Chief of the Orthopedic Department of the Vanderbilt Clinic in the College of Physicians and Surgeons of Columbia University. Illustrated with 447 Engravings. Cloth. Pp. 650. Price, $5.50 net. Philadelphia and New York: Lea Brothers & Co. 1901.

COAKLEY ON THE NOSE AND THROAT. The Diagnosis and Treatment of Diseases of the Nose, Throat, Naso-Pharynx and Trachea. For the Use of Students and Practitioners. By Cornelius G. Coakley, M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York. Second edition. 103 Engravings and 4 Colored Plates. Cloth. Pp. 556. Price, $2.75 net. Philadelphia and New York: Lea Brothers & Co. 1901.

APPENDICITIS: ITS PATHOLOGY AND SURGERY. By Charles Barrett Lockwood, F.R.C.S., Assistant Surgeon and Lecturer on Descriptive and Surgical Anatomy in St. Bartholomew's Hospital. Cloth. Pp. 287. Price, $2.50. London and New York: MacMillan & Co. 1901.

HEALTH AND HYGIENE FOR THE HOUSEHOLD. By John Joseph Nutt, B.L., M.D., Member of the American Medical Association. Cloth. Pp. 69. Price, 50 cents. New York: The Abbey Press.

TRANSACTIONS OF THE TWENTY-SECOND ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. Held in the City of Washington, D. C., May 1, 2 and 3, 1900. Cloth. Pp. 235. New York: Carey Printing Co. 1901.

THE EXTRA PHARMACOPEIA. By William Martindale, F. L. S., F. C. S., Late President and Examiner of the Pharmaceutical Society, and W. Wynn Westcott, M. B. Lond., D.P.H., Coroner for Northeast London. Tenth Edition. Cloth. Pp. 688. Price, 10 shillings, 6 pence. London: H. K. Lewis. 1901.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. April. Paper. Pp. 56. Price, 15 cents per copy. Philadelphia: Published by the Society.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. May. Paper. Pp. 35. Published by the Society. 1901.

ANNUAL REPORT OF THE BOARD OF HEALTH OF THE CITY OF WINONA, MINN., for the Year Ending March 31, 1901. Paper. Pp. 10. Winona, Minn.: Joseph Leicht Press.

EIGHTH ANNUAL REPORT OF THE STATE CHARITIES AID ASSOCIATION to the State Commission in Lunacy. November 1, 1900. Second Edition. Paper. Pp. 27. New York: United Charities Aid Association.

EIGHTEENTH REPORT OF THE STATE BOARD OF HEALTH OF WISCONSIN. September 30, 1900. Paper. Pp. 289. Madison, Wis.: Democrat Printing Co. 1901.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 23-29, 1901, inclusive:

Thomas C. Chalmers, major and surgeon, Vols., leave of absence from the Department of California extended.

Matthew A. DeLaney, contract surgeon, member of a board at Fort Monroe, Va., vice Contract-Surgeon Charles N. Barney relieved, to examine enlisted men for commissions.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., member of a board at San Juan, P. R., to examine officers of the Army as to their fitness for promotion.

Herbert W. Hatch, contract surgeon, from the Department of Alaska, to San Francisco, Cal., for annulment of contract.

Louis T. Hess, lieutenant and asst.-surgeon, U. S. A., from the General Hospital, Presidio of San Francisco, Cal., to duty at the General Hospital, Fort Bayard, N. M.

Francis J. Ives, major and surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine officers of the Army as to their fitness for promotion.

William R. S. Jones, contract surgeon, member of a board at San Juan, P. R., to examine officers of the Army for promotion.

William P. Kendall, major and surgeon, U. S. A., now in New York City, to proceed to Washington, D. C., on official business and thence to Fort Slocum, N. Y.

R. Albert Lieberman, major and surgeon, 33d U. S. Infantry, honorably discharged from the service of the United States, his regiment having been mustered out.

Charles B. Mittelstaedt, contract surgeon, from San Francisco, Cal., to Fort Ethan Allen, Vt., for post duty.

Arthur B. Smith, contract surgeon, from the General Hospital, Fort Bayard, N. M., to Ravenna, Ohio, for annulment of contract.

Frederick H. Sparrenberger, captain and asst.-surgeon, Vols., leave of absence from the Department of California extended.

Frank P. Stone, contract dental surgeon, from Washington, D. C., via San Francisco, Cal., to Manila, P. I., for assignment in the Division of the Philippines.

Samuel S. Turner, contract surgeon, member of a board at Fort Sheridan, Ill., to examine officers of the Army for promotion.

## Navy Changes.

Changes in the Medical Corps of the Navy for week ended June 1, 1901:

Dr. J. H. Iden, appointed asst.-surgeon in the Navy, from May 4, 1901.

Medical Director W. S. Dixon, commissioned medical director from April 28, 1901.

Medical Inspector C. G. Herndon, commissioned medical inspector from April 28, 1901.

P. A. Surgeon E. V. Armstrong, detached from *Vermont*, and ordered to Key West Naval Station for duty at Dry Tortugas.

Asst.-Surgeon T. M. Lippitt, ordered to the Washington Navy Yard, June 1.

Asst.-Surgeon R. B. Williams, detached from duty at Dry Tortugas, and ordered home to be in readiness for sea duty.

Asst.-Surgeon J. H. Iden, ordered to Naval Hospital, Chelsea, Mass., for duty.

P. A. Surgeon J. F. Costigan, detached from the *Yorktown*, and ordered home. Resignation to be accepted after arrival.

Asst.-Surgeon W. M. Garton, detached from the Washington Navy Yard, June 1, and ordered to the *Indiana*.

Asst.-Surgeon H. O. Shiffert, ordered to the *Nashville*.

Asst.-Surgeon E. Thompson, ordered to the *Solace*.

Asst.-Surgeon R. K. McClanahan, ordered to the *Culgoa*.

Pharmacist J. Cowan, detached from the Manila and Cavite Naval Station and ordered to Naval Hospital, Yokohama, Japan.

## Health Reports.

The following cases of smallpox, yellow fever and plague have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended June 1, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: San Francisco, May 11-18, 5 cases.
Illinois: Chicago, May 18-25, 7 cases.
Iowa: Clinton, May 18-25, 2 cases.
Louisiana: May 18-25, New Orleans, 7 cases, Shreveport, 1 case.
Maryland: Baltimore, May 18-25, 2 cases.
Massachusetts: May 18-25, Boston, 3 cases; Fitchburg, 1 case; Marlboro, 1 case; New Bedford, 2 cases.
Michigan: Detroit, May 18-25, 67 cases.
Minnesota: Minneapolis, May 18-25, 9 cases; Winona, May 11-18, 1 case.
Nebraska: Omaha, May 11-18, 9 cases.
New Hampshire: Manchester, May 18-25, 5 cases.
New Jersey: May 18-25, Camden, 1 case; Newark, 2 cases, 1 death; Passaic, 1 case.
New York: New York, May 18-25, 134 cases, 13 deaths.
Ohio: Cincinnati, May 17-24, 4 cases; Cleveland, May 18-25, 39 cases, 1 death.
Pennsylvania: May 18-25, Erie, 1 case; Lebanon, 8 cases; Philadelphia, 3 cases; Williamsport, 1 case.
Tennessee: May 18-25, Memphis, 6 cases, 2 deaths; Nashville, 2 cases.
Utah: Salt Lake City, May 11-18, 5 cases.
Washington: Tacoma, May 12-19, 1 case.
West Virginia: Huntington, April 13-May 24, 48 cases.
Wisconsin: Green Bay, May 19-26, 6 cases.
Philippine Islands: Manila, March 23-April 13, 35 cases.
Porto Rico: Ponce, April 27-May 4, 5 cases.

SMALLPOX—FOREIGN.

Austria: Prague, April 27-May 4, 3 cases.
Brazil: Rio de Janeiro, April 1-15, 5 deaths.
Belgium: Antwerp, April 27-May 4, 5 cases, 2 deaths.
China: Hongkong, April 6-13, 6 cases, 6 deaths.
Ecuador: Guayaquil, March 30-May 11, 3 deaths.
Egypt: Cairo, April 15-May 16, 4 deaths.
France: Paris, April 27-May 4, 5 deaths.
Gibraltar: May 6-12, 2 cases.
Great Britain: England—Liverpool, May 4-11, 2 cases; London, May 4-11, 1 case. Scotland—Dundee, April 27-May 11, 10 cases; Glasgow, May 3-11, 4 deaths.
Italy: Naples, April 30-May 12, 296 cases, 57 deaths.
Mexico: Mexico, May 11-18, 1 case.
Nicaragua: May 16, Grenada, present; Massaya, present; Managuas, present.
Russia: Moscow, April 21-27, 9 cases, 2 deaths; Odessa, April 27-May 4, 5 cases, 2 deaths; St. Petersburg, April 20-May 4, 21 cases, 4 deaths; Vladivostock, Oct. 1-31, 1 case; Warsaw, April 20-27, 7 cases.
Spain: Malaga, May 4-11, 1 death; Valencia, April 27-May 11, 2 deaths.
Straits Settlements: Singapore, March 30-April 13, 3 deaths.
Uruguay: Montevideo, March 16-23, 5 cases.

YELLOW FEVER.

Brazil: Rio de Janeiro, April 1-13, 31 deaths.
Colombia: Panama, May 6-20, 7 cases.
Cuba: Havana, May 11-18, 3 cases.

PLAGUE—INSULAR.

Philippine Islands: Cebu, April 4, 1 case; Manila, March 23-April 13, 76 cases, 64 deaths.

PLAGUE—FOREIGN.

Japan: Formosa, April 21-28, 170 cases, 111 deaths.
Turkey: Baara, May 13, 3 cases.

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## Addresses.

### THE CAUSE OF DIFFUSE PERITONITIS COMPLICATING APPENDICITIS AND ITS PREVENTION.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON SURGERY AND ANATOMY, AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., AT ST. PAUL, MINN., JUNE 4-7, 1901.


A. J. OCHSNER, M. D.
CHICAGO.


Every surgeon who treats patients suffering from acute appendicitis must be impressed with the fact that an unfavorable outcome in any given case means that the infection which was originally confined to the small space occupied by the vermiform appendix itself has first invaded the tissues immediately surrounding this organ and has then been distributed over the entire peritoneal cavity. In other words, in fatal cases the patient practically always dies as the result of a diffuse peritonitis.

Other conditions may arise which may result in a fatal issue. There may be a septic thrombosis of the vessels in the vicinity of the appendix or an empyema, or even pyemia, but by far the greatest number of deaths occurs from diffuse peritonitis, and if it is possible to prevent this, the mortality from appendicitis must at once fall enormously. In order to plan a means for the prevention of this condition, it is well to study the progress of the disease from its onset.

There is danger of the occurrence of diffuse peritonitis in the following classes of cases: 1, in gangrenous appendicitis; 2, in perforative appendicitis; 3, in cases in which the cecal end of the lumen of the appendix is closed and the distal portion so thoroughly distended with septic material as to make its walls permeable to micro-organisms; 4, in the very rare cases in which there are small abscesses in the walls of the appendix not directly connected with its lumen, and 5, in cases in which there is a septic thrombosis of some of the vessels, but not sufficient to cause gangrene.

The first, second and third conditions are so common that every surgeon who operates frequently during the acute attack has seen them many times.

Were it possible to keep the septic material in these cases within the circumscribed area in which it occurs primarily, it is plain that the condition would remain comparatively harmless.

#### ANATOMICAL CONDITIONS INVOLVED.

The appendix is virtually surrounded on all sides excepting in the direction of the median line by relatively fixed tissues. Above we find the lower end of the cecum and the cecal end of the ileum; to the right and in front is the parietal peritoneum; behind the peritoneum covering the iliacus muscle, and toward the median line it is surrounded by loops of small intestines. Moreover, the omentum extends far beyond its lower end.

It is true that the appendix may be displaced downward, but in this case it will again be surrounded by fixed tissues which seem especially adapted to dispose of septic material. Again in this case there is an enteroptosis affecting the cecum, and always with this a marked lowering of the transverse colon and stomach and with these the omentum.

Thus we see that the natural anatomical arrangement for the protection of the general peritoneal cavity is extremely efficient. There is but one weak point in the anatomical provision for this protection, namely, in the direction of the median line, because the great mobility of the small intestines naturally favors the distribution of septic material to all parts of the peritoneal cavity.

If we can prevent the small intestines from doing harm in this direction, we will have accomplished our end, theoretically at least.

At this point I wish to direct your attention to another important anatomical condition. The blood supply of the omentum is so enormous that it will readily dispose of a very severe infection by walling off the surrounding structures if it is permitted to give its physiological attention to a single area.

It is a well-known fact which every one who frequently operates during the acute attack of appendicitis has had many opportunities to observe, that the omentum crowds itself about any inflammatory or traumatic lesion within the peritoneal cavity the moment the latter occurs, and if left undisturbed, a few hours will suffice to cause efficient protective adhesions.

These adhesions become stronger every hour and the blood supply in the omentum becomes greater, so that if no disturbance arises one can reasonably expect efficient protection to the general peritoneal cavity from the omentum.

Another important fact must not be lost sight of in this connection. The fact that the surrounding structures are relatively fixed in position favors the condition of rest of the inflamed part and permits the omentum to act after the manner of a splint applied to an inflamed joint. The value of rest as a preventive to the extension of an infection in any part of the body can not be overestimated. Consequently if it is possible for us to secure this condition of rest we have gained another important point in the right direction.

In case the appendix is displaced upwards its position is even more favorable, because the available amount of omentum is thus increased. Again, if the appendix is retrocecal in its position, which is very frequently the case, the infection of the general peritoneal cavity is more easily prevented than when in its normal location. If anteriorly misplaced, it is likely to be fastened to the anterior abdominal wall by the adherent omentum.

PERISTALTIC MOTION OF THE SMALL INTESTINES.

It is plain, then, that the infection of the general peritoneal cavity must occur from a disturbance on the part of the small intestines, and must be due to their peristaltic motion.

It is significant that in almost all cases of severe acute appendicitis the obstruction to the passage of gas and intestinal contents through the ileo-cecal valve is one of the early symptoms. Nature is trying to prevent this very dangerous disturbance by closure of the ileo-cecal valve. We have a condition corresponding to the contraction of the muscles surrounding an inflamed joint, to the closure of the eyelids in conjunctivitis, etc. Moreover, the muscles overlying the appendix become tense. Everything tends toward the establishment of conditions of rest in the vicinity of the inflamed organ.

THE EFFECT OF THE INTRODUCTION OF ANY KIND OF FOOD OR CATHARTIC INTO THE STOMACH.

It is a fact which has been demonstrated a great number of times that peristalsis does not occur unless food or cathartics are introduced into the stomach. If the attack occurs shortly after a meal and before all of the food has passed through the ileo-cecal valve, its presence may cause peristaltic motion in the small intestines. Upon reaching the ileo-cecal valve the latter may prevent its passage into the cecum, causing return peristalsis, and the intestinal contents are forced back into the stomach, whence it may be expelled by vomiting or be again forced into the small intestine, giving rise to further peristaltic motion. Moreover, it will give rise to the formation of gas, which must cause disturbance and pain in its attempt to pass the ileo-cecal valve.

This motion, it is plain, will be harmful primarily from the fact that it gives rise to pain by disturbing the sensitive inflamed tissues; and secondarily from its likelihood of carrying infectious material with which it has come in contact in the vicinity of the inflamed appendix to other parts of the peritoneal cavity.

Besides this the physiological attention of the omentum can now no longer be directed to the single area of infection, because other parts of the peritoneal cavity require its protection, and such portions of the omentum as are not yet thoroughly adherent about the inflamed appendix are likely to be diverted from this point.

Theoretically, then, the disturbance which is to be feared to so great an extent is caused by the presence of food or cathartics in the stomach, and its logical remedy would be to absolutely prevent the introduction of any form of food or cathartics into the stomach and the removal by gastric lavage of any portion of food which may be retained in the stomach at the beginning of the attack. It may be necessary to perform gastric lavage twice or at most three times in order to entirely remove remnants of food which may have regurgitated into the stomach from the small intestines by reason of return peristalsis.

That this is not only true theoretically, but also in practice, I have demonstrated in a large number of cases; and many other surgeons who have followed the same plan of treatment have informed me of the fact that their experience has agreed with mine.

It is true that a few surgeons have reported failures with this method, but an investigation of their treatment in each instance has shown that they disregarded one of the three cardinal points in the treatment. They either gave just a little liquid food by mouth, or they gave some form of cathartics, or disturbed the rest of the intestines by giving large enemata, or they neglected removing the stomach contents by gastric lavage.

Of course, the slightest amount of food is sufficient to start peristaltic motion of the small intestines, and the same is true of cathartics, and consequently if either of these features in the treatment is omitted one can not hope for the same results.

It does not matter what form of appendicitis may be present in any given case it seems clear that this form of treatment must be useful, because in the milder cases it will result in rest of the affected part, and consequent rapid resolution; while in the severe cases it will guard against mechanical distribution of infectious material, and in all cases it reduces the tendency to meteorism and stops the pain.

There is, however, one class of patients in which I have found this treatment of the greatest value. I refer to the class in which the appendix is gangrenous or perforated and in which there is already a beginning general peritonitis. These patients give the impression of being extremely ill. There is complete obstruction to the passage of gas or feces. There is nausea or vomiting and marked meteorism; the pulse is small and quick; usually there is high fever, but the temperature may be subnormal; respiration is rapid, and the abdominal muscles overlying the appendix are tense. The patient is in a condition in which I formerly operated at once, day or night, as a last resort, only to find that it was too late in more than one-third of the number of cases, the mortality increasing with the time that had elapsed since the beginning of the attack. In this class of cases there is still a recovery of over 90 per cent. if the principles laid down above will be thoroughly applied.

If peristalsis is absolutely inhibited, as it can be, the infection will still become circumscribed and the pus can be evacuated with safety. Moreover, the condition I have just described is in itself the result of the administration of food and cathartics. Had these patients received neither food nor cathartics from the beginning of their attack, the condition would never have advanced to this dangerous point. This refers particularly to a class of cases which Richardson has so well described as being "too late for an early and too early for a late operation."

If the plan I have outlined above is carried out, the following changes are likely to occur: The nausea and vomiting will cease after one or two, or at most three, gastric irrigations. The meteorism and the pain will decrease greatly during the first twelve hours and will almost completely disappear in twenty-four hours. The pulse becomes slower and firmer and more regular, the breathing deeper and the patient's general appearance improves to an astonishing extent. If the temperature was high, it will go below 100 F. the first twenty-four hours, and in three days it will be practically normal. The abdominal muscles will become soft as soon as the stomach contents have been removed by gastric lavage.

Usually the improvement is so rapid that one is tempted to spoil everything by giving nourishment by mouth, because the patient's condition does not seem serious enough to warrant such severe measures.

That this form of treatment, which I have employed since 1892, at first only in selected cases, and later more and more generally, is really of great value is shown by clinical results. My mortality in cases of perforative or gangrenous appendicitis with beginning diffuse peritonitis is less than one-fourth as high as it was in the cases operated at once upon making the diagnosis, and even in advanced cases of diffuse peritonitis there has

been a marked decrease in the mortality in my experience.

It might be said that these cases were not due to perforative or gangrenous appendicitis, but that they were simply severe catarrhal cases, which are known to result favorably under any form of treatment. To this I would respond, that I have later removed the appendices in many of these cases and have almost invariably demonstrated the correctness of the diagnosis

In my statistics I utilize only the cases which I have operated in the Augustana Hospital, because of these I have full and accurate records, while of those operated in other hospitals and in private homes my records are not accurate, because there the patients and assistants are not so completely under my control.

From Jan. 1, 1898, to May 1, 1901, I have operated in this hospital upon 565 appendicitis cases, which I have divided into three groups: 1, those who entered the hospital suffering from diffuse peritonitis; 2, those who entered the hospital suffering from gangrenous or perforative appendicitis, and 3, those who entered the hospital suffering from recurrent appendicitis in the interval between attacks or at the beginning of a recurrent attack when the infectious material was still confined to the appendix. Of the first class I treated 18 cases, with 10 deaths, 55.5 per cent. mortality; of the second class I operated 179 cases, with 9 deaths, 5 per cent. mortality; of the third class I operated 368 cases, with one death, 1/3 per cent. mortality. Total, 565 cases, with 20 deaths, 3.5 per cent. mortality.

These statistics contain all patients who entered the hospital suffering from appendicitis; even those who died few hours after admission. from general peritonitis, a

Of classes 2 and 3, all were operated, so there can be no doubt concerning the diagnosis. Of class 1 all but 4 were operated, and these were in an absolutely hopeless condition when they entered the hospital. I will state also that during this time no patient suffering from appendicitis was refused admission into the hospital.

Judging from the authorities upon this subject, our mortality of 55.5 per cent. in diffuse peritonitis is as low as that recorded by any of the authors whose statistics contain a considerable number of these cases, while some authors with less than half this number report as low as 20 per cent. mortality. Krogius has compiled the statistics of 58 authors whose combined mortality is a little over 70 per cent.

As compared with my own experience in former years, when all of these cases were treated surgically at once, my experience in this series of cases of diffuse peritonitis following appendicitis is quite encouraging.

It is in the second class, however, in which the greatest benefit from the treatment is found. In this class, according to most modern authorities, Murphy, Mynter, Porter, Lennander, Bull, and many others, there is a mortality of at least 20 per cent. This in my cases has been reduced to 5 per cent.; and had the treatment been instituted at the beginning of the attack, I am certain that the mortality could easily have been reduced to one-half of this. In class 3 there should have been no death. Many of these cases had been treated through their acute attack by the method I have described, before being sent to the hospital. But as not all of the cases I treated outside of the hospital came later to operation, it is not fair to utilize these in demonstrating the value of the method.

Again, I have treated a large number of cases through the acute attack of appendicitis with this method which have never been operated and which I have not included in my statistics, because the correctness of the diagnosis could not be established by actually demonstrating the condition present in the appendix.

However, the fact that there was a mortality of less than one-third per cent. in so large a number of cases is significant. It shows the value of a method by which cases of acute appendicitis in whom an operation is bound to give a high mortality at best, can be changed to chronic appendicitis in which the mortality following operation is almost nothing.

It would require too much space to tabulate all the cases treated by this method, but in order to give a clear idea of the character of these cases I have appended the histories of the cases suffering from perforative or gangrenous appendicitis which were treated through the acute attack during the past four months in the Augustana Hospital by means of the method I have described, and in which the correctness of the diagnosis was subsequently demonstrated by removing the diseased appendix during the operation.

In the same time I have treated many cases of acute perforative or gangrenous appendicitis in consultation with other physicians in private houses, but as these diagnoses have not been proven by the removal of the diseased organs they cannot be included in this list, although they corresponded with those who were operated both as regards the outcome and the conditions present during the attack, and there can be no reasonable doubt regarding the diagnosis.

It is, of course, not possible to come to any definite conclusions from a collection of statistics, because there are so many differences which can not be balanced.

One hospital may be largely filled with patients from the lowest and least intelligent classes, which would indicate that the patients enter only after they are in an exceedingly serious condition. Another hospital may have a more intelligent class, and hence the cases are in a more favorable condition at the time of admission. Again, as an institution becomes known for the treatment of these cases, a larger number of relatively hopeless cases will be sent there, hence I believe it is practically impossible to draw fair conclusions from statistics, and one must depend largely upon personal experience.

Among these cases, No. 8896 is especially instructive, because it illustrates the danger of operating too early. The patient entered the hospital five days after the beginning of the attack. His condition was exceedingly grave, as indicated in the history. With an immediate operation I should have expected his death within thirty-six hours.

The diagnosis was made of gangrenous appendicitis. He was placed on exclusive rectal feeding. Within twenty-four hours his pain had entirely disappeared, his general appearance improved greatly, the meteorism subsided, his temperature fell 3 degrees, his pulse came down forty beats per minute, his abdominal wall became soft, and twenty-four hours later I began to doubt my diagnosis. At the end of the fourth day his condition had improved so much that, upon his request, I concluded to operate, because he was normal in every respect with the exception of a slight induration in the region of the appendix and pain upon deep pressure. It seemed to me as though the process must have stopped just short of a perforation. Had he been left without an operation there could be no doubt but what he would recover temporarily from his attack. It seemed perfectly safe to operate.

Upon opening the abdomen I found a perforated gan-

grenous appendix surrounded by a small abscess completely walled off by the omentum. I removed the appendix and the surrounding pus with great care and drained the cavity, expecting the patient to recover, but a diffuse peritonitis developed, from which he died five days later. This case impresses the lesson, that it is not wise to operate until the patient has fully recovered from the acute attack. Of course, he should be cautioned as regards his diet in order to prevent a recurrence, but I am confident that the mortality in my practice will be still smaller in the future, especially because I shall wait longer after the acute attack before removing the appendix.

The danger of rupture of a circumscribed abscess into the general peritoneal cavity has been the cause of great anxiety. My experience has led me to conclude that this practically never happens unless food or cathartics are given by mouth. In my entire experience it has happened but once, in a child 7 years old, which was brought to the hospital on the fifth day after the beginning of an attack of gangrenous appendicitis with beginning diffuse peritonitis. It had received food and cathartics constantly since the beginning of the attack, and although its condition seemed hopeless either with or without an operation, it improved slightly from day to day under exclusive rectal feeding, but never became well enough to make drainage of rather an extensive infection of the entire area between the umbilicus and pubis and right anterior superior spine of the ilium safe, and still, had I anticipated the likelihood of a rupture into the remaining portion of the peritoneal cavity, I should certainly have made the attempt with the hope of bringing about a recovery.

On the fifth day the abscess suddenly ruptured. I anesthetized the boy within half an hour, made a free incision, washed out the peritoneal cavity, drained freely, but the child died in six hours.

In this case gastric lavage had not been employed because the child was very nervous and we feared the effects of the fright.

I have frequently seen cases in which food and cathartics were given in whom this accident occurred.

Aside from the benefit to the patient of increased safety there are other advantages to be derived from this plan of treatment, which are well worth considering. Being able to operate during the quiescent state, drainage is not indicated, and consequently there is no likelihood of the occurrence of post-operative ventral hernia. With the reduction of the area of infection, the amount of peritoneal adhesions must necessarily be reduced. As a matter of experience, I can say that fecal fistulæ almost never occur in cases treated by this method.

Of course, all these advantages, as well as the prevention of diffuse peritonitis, can be accomplished if the appendix is removed during the very beginning of the attack, before the infectious material has passed beyond the walls of the appendix, but unfortunately it is but very seldom that a patient enters the hands of a surgeon at so early a stage.

The following consecutive histories illustrate the class of cases in which the form of treatment is indicated and also the progress of these cases under this form of treatment. The number at the beginning of each history is for the purpose of identification in the Augustana Hospital records.

No. 8573.—Master Harold B., school boy, 7 years of age, operated on Jan. 9, 1901, gave the following history: He had whooping cough at 3 weeks of age, otherwise he had been well. Fifteen months ago patient was taken with headache, vomiting, pyrexia 100 F., and pain in abdomen only on pressure in right inguinal region. Then perfectly well until six weeks ago, when patient was again taken with headache, vomiting, pyrexia and tenderness in right inguinal region. The abdomen was severely distended with gas. The attack was much more severe than the first one. Patient placed upon exclusive rectal alimentation for two weeks. Headache and vomiting left him in a day, but tenderness has persisted, and he has usually had slight evening rise of temperature of about 100 F.

*Present Condition:* Well developed, fairly well nourished, slightly anemic, temperature 99.4, pulse 90, regular and strong. Appetite good, bowels constipated, heart and lungs normal. Abdomen slightly distended, quite tympanitic, except lower portion of left inguinal region. At times tenderness at right inguinal region.

*Treatment:* McBurney's incision 6 cm. long. Appendix 7 inches long, curved on itself back behind to cecum, is adherent to posterior surface of cecum. Appendix is ulcerated to an extent approaching perforation, contains several concretions. The lymphatics in the mesentery are enlarged to size of army bean. Appendix crushed with strong forceps at cecal end. Stump inverted with silk purse-string suture. No drainage. Wound closed. Dry dressings. Straps. Patient recovered normally, leaving hospital Feb. 5, 1901.

No. 8582.—Master Jerome R., 8 years of age, operated on Jan. 28, 1901, gave the following history: Patient experienced the ordinary diseases of childhood. At the age of 1½ years he had peritonitis and was very ill for three weeks. On Jan. 1, 1901, he felt indisposed, having eaten an unusual amount of nuts the night before, and on the following morning he suffered from severe pain in the abdomen, accompanied with vomiting and diarrhea. The pain was paroxysmal in character, became located in the right inguinal region on the second day. The bowels became distended with gas, and after the first day there was complete obstruction to the passage of gas and feces. Vomiting persisted for five days, until patient absolutely refused to take food, when the vomiting ceased. Entered hospital Jan. 9, extremely ill with diffuse peritonitis. The abdomen was greatly distended with gas and extremely tender. Temperature 102 F., pulse 120. He was placed on exclusive rectal alimentation, whereupon he improved rapidly. On January 17 his pulse and temperature were normal, his abdomen was but very slightly distended, his complexion and facial expression were good. There was slight tenderness in the hypogastric and right inguinal region. His heart, lungs and kidneys were normal. He was now given beef-tea by mouth, but the rectal alimentation was continued. There was an area of induration in the vicinity of McBurney's point which persisted. Exclusive rectal feeding was continued for three weeks.

On Jan. 28, 1901, four weeks after the beginning of the attack, an abdominal section was made through the right rectus abdominis muscle 6 cm. long, opposite McBurney's point. The peritoneum was found congested, the intestines empty. In front of the right iliacus muscle was found a mass, consisting of the cecum, the omentum and the cecal end of the ileum, surrounding a circumscribed abscess containing the perforated appendix and a number of fecal concretions. The appendix was removed, the stump inverted, the wound drained with gauze and glass drains. The appendix contained a perforation 3 cm. from its end. The peritoneal cavity contained a considerable quantity of sero-sanguinous fluid. The patient left the hospital well April 2, 1901.

No. 8589.—Mr. Anton N., a fireman, 23 years of age, entered the hospital Jan. 10, 1901. He gave the following history: Aside from having experienced the diseases of childhood, he had always been well. In May, 1900, he experienced a mild attack of acute appendicitis continuing for five days. Felt well after this until 18 days ago when patient again experienced severe pain, first in the epigastric region, which became localized in the vicinity of the appendix. He suffered from diarrhea and vomiting for one day.

Under treatment with exclusive rectal diet the pain, which was at first very severe, decreased rapidly and disappeared in

five days, leaving only soreness for ten days longer. The rectal feeding was continued for two weeks.

*Present Condition:* The patient is well nourished, the tongue is clean, appetite good, bowels constipated, heart, lungs and kidneys normal, temperature 98.6, pulse 80, regular and strong. There is some tenderness and resistance a little below McBurney's point.

*Operation:* January 11. McBurney's incision 5 cm. long. Appendix coiled upon itself and adherent throughout between cecum and iliacus muscle, perforated 2 cm. from end into cecum. The wound in the latter had healed. The appendix was exceedingly brittle, edematous and congested and its lumen was almost completely obliterated at the cecal end. The appendix was removed and its stump inverted into the cecum and the space closed by purse-string suture. The abdominal wound was closed. The patient recovered normally, leaving the hospital on Feb. 12, 1901.

No. 8630.—Mrs David B., 46 years of age, was operated on Jan. 23, 1901. The patient is so deaf that it was difficult to obtain a history. She has been married for 22 years, has had seven pregnancies, the last one 10 years ago. Has had two miscarriages. For several months she has suffered from incomplete intestinal obstruction, accompanied with nausea and eructation of gas and indefinite pain in the abdomen. A diagnosis of chronic appendicitis had been made, but during the past two weeks her condition has been more serious, her deafness, however, makes it impossible to obtain a definite history except that she is and has been very ill. Her facial expression is bad, her abdominal walls tense. She complains of pressure over the entire abdomen, but especially over the region of McBurney's point and in the region of the sigmoid flexure of the colon. She had traveled a distance of 400 miles by rail and was extremely exhausted. She was placed in bed and given exclusive rectal alimentation for four days. Her heart, lungs and kidneys were normal and her general condition improved under this treatment, under which she had been for a week before entering the hospital. An exploratory incision 5 inches in length was made in the median line and the appendix was found surrounded by omentum. The former was perforated a short distance from its distal extremity and at this point was found a small abscess containing a dram of pus and an enterolith. The appendix was removed, together with the portion of the omentum containing the abscess. The patient developed a pneumonia four days after the operation from which she recovered as well as from her operation. She left the hospital March 9, 1901.

No. 8699.—Miss Freda W., 20 years of age, operated on Feb. 3, 1901, gave the following history: Patient has experienced all of the children's diseases. At the age of 9 she injured her knee-joint by falling upon broken glass. The wound became infected and patient was extremely ill for several months, recovering with an ankylosed joint. Menstruated at 13, regular and painless for two years, since then has suffered considerable pain, more especially in the right side, lasting from two hours to two days at each period. For the past four years, patient has been anemic, nervous and not very strong. Seven months ago she began to have occasional pains in the region of McBurney's point at intervals of about two weeks, most severe, however, during menstrual period. Her appetite was bad, her digestion impaired, her nervousness increased. About Nov. 1, 1900, the pain became persistent and was accompanied with nausea and eructation of gas.

On December 16 patient suffered from an exceedingly violent, acute attack of appendicitis, characterized by extreme pain, nausea, vomiting and a distinct chill, pulse increased to 130 per minute, temperature 100 F. No food of any kind was given after the beginning of the attack. She was kept on exclusive reetal alimentation for ten days. One hypodermic injection of one-fourth grain morphia was given the first day. The pain subsided within twenty-four hours, but the patient's general condition was bad on account of the severeness of the attack. There was tenderness in the vicinity of McBurney's point for two weeks, which continued upon pressure until the time of the operation. Ten days after the beginning of the attack she was given beef-tea by mouth for four days, then liquid diet for two weeks, then light diet until the time of the operation.

*Present Condition*: Fairly well nourished, but anemic, appetite fair, bowels regular. Eructations of gas after eating. Heart, lungs and kidneys normal. Slight pain in the region of McBurney's point upon deep pressure. Ankylosis of right knee at angle of 165 degrees.

*Treatment*: McBurney's incision 6 cm. long. Appendix found severely congested, its lumen reduced to one-fourth its normal size at the cecal end. The distal end somewhat club-shaped, contained four fecal concretions. The mucous membrane of the appendix was ulcerated. The appendix was universally adherent, the adhesions being soft and due to the recent attack. Appendix removed, stump buried with purse-string suture. Abdominal wound closed. The patient recovered normally, leaving the hospital three weeks after the date of operation.

No. 8757.—Master Herman M., 5 years of age, operated on March 1, 1901, gave the following history: At 3 years of age he had measles and scarlet fever. In August, 1900, he was sick for several weeks with pyrexia and pain in the region of the umbilicus. Fairly well after this until two weeks ago patient had a slight attack of diphtheria; antitoxin was immediately administered and child became well in a few days. One day before admission, patient was dull, sleepy and feverish. That night he vomited some. Magnesia was given, this was followed by colicky pain in abdomen. Pain in region of umbilicus persisted.

Feb. 19, 1901. Since admission temperature has ranged from 100 to 104 F. Patient has had the appearance of being extremely ill.

*Present Condition:* Considerably emaciated. Sordes of teeth. Teeth badly decayed. Tongue slightly coated. Quite hungry. Temperature 102, pulse 130, regular and strong. Heart and lungs and kidneys normal. Complains of pain in region of umbilicus. Some tenderness there and in right inguinal region. Spleen not enlarged.

*Treatment:* Exclusive rectal alimentation for three weeks. McBurney's incision 5 cm. long. Appendix found bent by two bands of adhesions. Appendix congested and filled with dark, bloody fluid. Appendix removed in usual manner and stump buried with purse-string suture. Wound closed. Patient recovered normally, leaving the hospital March 29, 1901.

No. 8767.—Mr. Andrew B., a laborer, 36 years of age, admitted Feb. 19, 1901, gave the following history: At 13 he suffered from an attack of diphtheria, otherwise he has been well, with the exception of having occasional slight stomach disturbances. In December, 1900, he had pain in lumbar region, which patient thought was rheumatism. He stopped work for a few days. On Jan. 23, 1901, he began to feel ill, an hour later had a chill followed by vomiting and abdominal distention. Diffuse abdominal pains. January 28 pain became localized in right inguinal region and on the 29th he had marked pyrexia. Confined to bed about two weeks, since then quite well, except some soreness in right inguinal region.

*Present Condition:* Fairly well nourished, 30 pounds under weight, tongue slightly coated, appetite good, but if he takes nourishment there is an increase in the pain and gaseous distention and patient experiences nausea. Patient has the appearance of being very ill, although he has been out of bed and able to walk about a little. Heart and lungs normal. Abdominal wall thick. Considerable resistance and marked tenderness in right inguinal region. Considerable gaseous distention.

*Treatment:* Patient placed on reetal alimentation for three days, mainly for the purpose of overcoming the gaseous distention, previous to performing the operation. Operation February 22. McBurney's incision, which was lengthened by extending incision along outer border of rectus abdominis. Appendix found adherent in a mass, and perforated 3 cm. from cecum. Appendix loosened from adhesions and removed. Stump buried with purse-string suture. Primary incision closed. Counteropening made opposite anterior superior spine and glass tube and gauze drainage inserted. Wet dressings. Patient recovered normally and left the hospital April 8, 1901.

No. 8836.—Mr. Chas. A., an engineer, 33 years of age, ad-

mitted March 5, 1901, gave the following history: He had experienced the diseases of childhood, otherwise he had been quite well. Twelve days ago was taken with a diffuse pain in abdomen, not very severe, able to be about, no vomiting or constipation, but nausea. Ten days ago was taken with severe pain, colicky, all over abdomen, severe nausea, but no vomiting. About one day later, pain localized in right inguinal region. Improved slowly under treatment with exclusive rectal alimentation and four days ago was able to be up. Two days ago pain recurred after eating a little, whereupon nourishment by mouth was again prohibited for five days.

*Present Condition:* Fairly well nourished, tongue thickly coated. Temperature 98.3, pulse regular and strong. Heart and lungs normal. Considerable resistance and tenderness in right inguinal region.

*Operation:* March 8, 1901; McBurney's incision. The appendix was found adherent to the lower end of the cecum and the anterior surface of the iliacus muscle and surrounded by the omentum. It was bent upon itself in the form of an interrogation point, club shaped at its distal end and perforated near its end and surrounded by a slight amount of pus. Appendix removed, wound drained. Patient recovered normally, leaving the hospital April 12, 1901.

No. 8872.—Maurice R., 13 years of age, school-boy, entered hospital March 13, 1901, giving the following history: The family history is good with the exception that father has suffered from an attack of appendicitis, one sister was operated for recurrent, non-perforative appendicitis and one brother for acute perforative appendicitis complicated with diffuse peritonitis. The patient has always been well with the exception of having an attack of typhoid fever two years ago, and one year ago had a severe pain in right inguinal region with slight pyrexia. Pain severe for about two days, since then has not felt very well, having a constant grumbling pain in right side. About twenty-four hours ago was seized with a sudden pain in right side. Pain very severe up to present time. Being under the direct care of his sister, who had experienced severe attacks of recurrent appendicitis, feeding by mouth was at once prohibited.

*Present Condition:* Fairly well nourished, general condition good. Considerable rigidity and tenderness in right inguinal region.

*Treatment:* McBurney's incision. Proximal end of appendix constricted, distal end enlarged, curved on itself in the shape of a question mark. Surface covered with lymph. Removed; stump buried; wound closed. The end of the appendix contained a hard fecal concretion and pus. The mucous membrane was ulcerated and the end of the appendix appeared as though it were about to perforate. The appendix was surrounded by the omentum, which had already become attached by a fine layer of plastic lymph, completely separating the infected organ from the remaining portions of the peritoneal cavity. The patient recovered normally and was discharged from the hospital April 2, 1901.

This case is interesting especially because it shows how early after the beginning of an attack the general peritoneal cavity will be protected against infection.

No. 8879.—Miss Hanna J., a housemaid, 26 years of age, came under my care March 14, 1901, giving the following history: Two brothers and father had stomach trouble, otherwise family history was good. She had had the ordinary children's diseases, otherwise well. Began to menstruate at 14, regular and painless. For several years patient has complained of bilious attacks, coming one to four times a year. During these attacks she was taken with fever, vomiting and some pain in epigastrium, lasting from one to three days, leaving a soreness in epigastrium. About one year ago, patient had a more severe attack than usual. Patient was taken with vomiting, pain, pyrexia and pain in epigastrium, which radiated to right inguinal region, leaving a soreness there. The attack lasted three days. October, 1900, had a similar attack, but not so severe. Eight weeks ago, patient was taken with pain in stomach, about five hours later began to vomit the pain becoming more severe. A few hours later radiated to right inguinal region. No pyrexia. This lasted about three days, then patient got up and was around for four days when she began to feel badly again but was not compelled to go to bed for three days after this, when she was confined to bed for two weeks with pyrexia. Was given no food by mouth for ten days. Pain and soreness in right inguinal region. She said she could feel a mass in right inguinal region the size of a goose egg.

*Present Condition:* Well nourished, slight coat on tongue, appetite good, bowels regular, temperature 99, pulse 62, regular and strong. Heart and lungs normal, abdomen not distended, no abdominal dullness on palpation, slight tenderness and resistance in right inguinal region.

*Operation:* March 15; incision through right rectus abdominis muscle 19 cm. long. Appendix perforated and universally adherent. Appendix removed and wound closed. Recovery normal, patient discharged from hospital April 9.

No. 8896.—Mr. Oscar L., a factory worker, 21 years of age, came under my care March 18, and gave the following history: He had had measles as a child, and at 12 had some trouble with left hip which confined patient to bed for thirteen weeks. March 21, 1901, nine days ago, had slight diffuse pain in abdomen for two hours, after that felt perfectly well until five days ago when supper did not taste very well and at 10 p. m. that night began to have slight pain in abdomen, then severe vomiting, then pain became very severe, more pronounced in right inguinal region. Vomited all first night and following morning after taking coffee. Since then has had nothing by mouth. Vomited only once, but is still nauseated. Temperature 103 F., pulse 110 per minute.

*Present Condition:* Well nourished, but has appearance of being extremely sick. Tongue thickly coated, face flushed, quite thirsty. Heart and lungs normal. Abdomen considerably distended, considerable tenderness, more pronounced in left inguinal region. No dullness, quite tympanitic.

Exclusive rectal alimentation for four days. After the second day the temperature and pulse were nearly normal and at the end of the fourth day his general condition was so much improved that it seemed likely that he was suffering from a catarrhal instead of a perforative appendicitis. Hence I consented to operate instead of continuing the treatment.

*Operation:* March 22; McBurney's incision. Peritoneum and intestines inflamed. General peritoneal cavity packed away with a large pad. Cecum and appendix loosened and a large abscess opened into. This sponged out, and perforated appendix containing a large fecal stone removed subperitoneally, clamped, ligated, removed, not covered in by purse-string suture, as cecum could not be brought up. Glass and iodoform gauze drainage. Wet dressings.

The patient died on the fifth day after the operation from diffuse peritonitis.

There is no doubt in my mind but what this patient would have recovered fully had his operation been postponed for a few weeks. When he entered the hospital his condition was so serious that it seemed certain that he would die were he operated upon at once. His general appearance was exceedingly bad. His abdomen was greatly distended with gas and exceedingly tense. His condition improved so rapidly after applying gastric lavage and prohibiting all oral feeding, that it seemed likely that our first diagnosis of perforative appendicitis must be wrong. Hence too early operation with disastrous result.

No. 8963.—Mr. Alex. S., a boy 16 years old, admitted April 1, 1901, gave the following history: He had had children's diseases, otherwise he had been well until four years ago when he had typhoid fever. Shortly after convalescence he took a severe cold, followed by pneumonia, then by empyema on right side. He has had two operations for empyema. Has been perfectly well except slight discharge from sinus on right side of chest, until two weeks ago. At this time patient's stomach troubled him a little. Six days ago in the evening after eating heartily he was taken with pain and vomiting (pain in epigastrium). Pain continued during night and then felt fairly well for next two days. Two days ago ate a hearty dinner, four hours later was taken with severe pain over lower portion of abdomen, then followed a few hours later by vomiting, which was extremely violent. The abdomen became greatly distended

with gas and patient was in a condition of severe shock. The pain at this time was diffuse and it was not possible to determine the cause of the intestinal obstruction positively. Gastric lavage and exclusive rectal alimentation were employed. These symptoms persisted about thirty-six hours, for past twelve hours has had no pain.

*Present Condition:* Fairly well nourished; hungry, bowels constipated, tongue coated. Pulse 104, regular and strong, temperature 99. Nothing abnormal on percussion of abdomen. Slight tenderness in median line about two inches below umbilicus.

*Treatment:* Exclusive rectal alimentation was employed for two weeks. Operation April 17, 1901. Incision through right rectus abdominis muscle 8 cm. long. Peritoneum found studded with tubercles and intestines adherent. The appendix and cecum are in a mass of tubercular tissue to such an extent that it was not possible to remove the appendix without leaving large raw surfaces. Consequently none of the tissues were disturbed. The free peritoneal fluid was sponged away and the abdominal cavity closed. In these cases our results have been very satisfactory whenever we have simply closed the abdominal cavity, while they have been the reverse whenever we have removed portions in cases in which it was not possible to cover the raw surfaces thus produced. The patient made a normal recovery, leaving the hospital May 17.

No. 8984.—Mr. Andrew G., 36 years old, laborer, came under my care April 7, 1901, giving the following history: Family history good. Was healthy during childhood; had diphtheria at age of 18, inflammatory rheumatism at 28 for a period of three months; had a recurrence at 31 for one month. Eighteen months ago had a varicocele operation. Nine days ago he noticed a diffuse abdominal pain, which came on slowly and continued for six days, being less severe at night, especially if the patient lay on his right side. It became localized in the region of McBurney's point. Two days ago, after taking a cathartic, the pain increased greatly and nausea and vomiting occurred and the patient became seriously ill, indicating the diagnosis of perforative appendicitis. Feeding by mouth was at once prohibited and the patient began to improve at once. The nausea and vomiting disappeared, the abdominal walls became less tense, gaseous distention decreased and his general appearance improved.

*Present Condition:* Well nourished; patient feels hungry; tongue is coated; flatus is expelled; temperature and pulse are normal; heart and lungs and kidneys are normal. The abdomen is asymmetrical. In the right inguinal region there is a mass the size of a hen's egg which is firm and tender upon pressure. Result of varicocele operation perfect. The improvement in the condition is attributed to the fact that no food has been given for two days. The patient was placed on exclusive rectal alimentation for eleven days. In the meantime the induration has decreased, so that now it is only the size of a walnut and not tender. In every way the patient's condition is good.

*Operation:* April 18, incision five inches in length through outer border of right rectus abdominis muscle. Cecum and ileum adherent to omentum. Appendix adherent behind cecum, perforated in a small abscess cavity, containing a dram of pus. Appendix very brittle, breaking several times during manipulations. Abscess cavity sponged out and drained. Wound closed. Patient recovered normally. Left hospital May 19.

No. 9000.—Mr. L. C. H., teamster, 19 years of age, came to the hospital April 9, 1901. He gave the following history: He had always been well. On April 7 he was taken with frontal headache, slept fairly well that night, but awoke feeling worse, and began to have a diffuse abdominal pain. After taking some medicine began to vomit and could not get bowels to move. Vomiting persisted, until all mouth feeding was stopped the following day. Pain persisted and became localized in right inguinal region on second day. Bowels moved with simple enema on the 10th.

*Present Condition:* Patient appears and feels very ill, face anxious but flushed. Well nourished, tongue coated, hungry, and especially thirsty. Heart and lungs normal. Abdominal muscles held rather tense, a little more so in right lower quadrant. Tenderness at McBurney's point, abdomen distended with gas. Temperature 101 F., pulse 90. Patient was placed on exclusive rectal alimentation for six days. His condition improved from day to day, all the serious symptoms disappearing by the end of the third day.

*Operation:* May 15, incision through right rectus muscle 10 cm. long. Appendix severely congested, shortly bent and constricted at its cecal end, tied down in a bed of adhesions its entire length to posterior surface of cecum. Mesenteric glands enlarged, the largest the size of a bean. Appendix removed by separating base first and then dissecting towards apex of appendix. Apex of appendix extended up behind the gall-bladder. Wound closed. Appendix contained ulcerated areas of the mucous membrane, a fibrous constriction near the cecal end, and its lumen contained pus and fecal material. Patient recovered normally, leaving hospital on May 13, 1901.

No. 9002.—Mr. Simon Q., an iron-worker, 40 years of age, came under my care April 10, 1901. He gave the following history: One brother died of carcinoma of the stomach and mother of asthma. He has twelve brothers and sisters and father, living and well. From four to six he was troubled with some infection of neck. Between 14 and 19 he was troubled with dyspepsia. Four weeks ago was taken with severe pain in region of umbilicus, vomiting and chill. Ingestion of food or water aggravated vomiting, pain became more diffuse, but patient continued to work until two weeks ago, when he became too weak to work. About this time pain became localized in right inguinal region, pain and vomiting persisted.

*Present Condition:* Somewhat emaciated, tongue thickly coated, dentine on every tooth exposed. Appetite poor, bowels constipated, heart and lungs normal. Abdomen considerably distended, but soft. No abdominal tenderness, temperature 99 F., pulse 62, regular and strong. No history of jaundice or vomiting before this attack. Has been constipated for years. Patient placed on exclusive alimentation for five days. Gastric lavage employed. Nausea and vomiting subsided and gaseous distention disappeared. April 14, patient's general appearance has improved greatly. Abdomen scaphoid. Tympany has subsided almost completely. Some tenderness under left costal arch, where there is a slight swelling, which moves downward on inspiration. Has had bleeding from hemorrhoids for several years. A few hemorrhoids, otherwise rectal examination negative.

*Operation:* April 15, incision through right rectus muscle. Appendix severely congested, as the result of acute inflammation, club-shaped and adherent; constricted at cecal end, contains gas, fecal material and mucus. Its mucous lining is obliterated. An apparent old tear in serous covering of cecum sutured. Appendix removed in usual manner. A carcinoma, size of goose egg, involving transverse colon, just to right of splenic flexure. The lymphatic glands in the mesentery are secondarily involved. Adherent small intestines loosened and tear sutured by silk Lembert sutures. An anastomosis with needle and thread made between sigmoid flexure and transverse colon 7 cm. long. Wound closed. Patient recovered normally. Left hospital May 15.

These histories comprise all of the cases of acute perforative appendicitis I have operated in the Augustana Hospital during the past four months. There is but one death among them, and that must be credited to a lack of judgment. The histories, although necessarily much abbreviated, give a clear idea of the progress of the disease in such cases whenever this form of treatment is employed. I am positive that the mortality would have been at least four times as great had all these patients been operated at once, upon admission. There are three cases which do not properly belong in this group, because perforation had not actually taken place, but I am confident that this was only prevented by the treatment. Moreover, each one of these cases had quite advanced peritonitis at the time of admission, which would undoubtedly have progressed rapidly had not peristalsis

been inhibited. In each of these cases the attack was exceedingly violent until this form of treatment was instituted, but subsided very promptly after commencement of this treatment.

CONCLUSIONS.

As a result of my clinical observations I am prepared to formulate the following conclusions:

1. Peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis.

2. This can be prevented by prohibiting the use of every kind of food and cathartics by mouth, and by employing gastric lavage in every case in which there are remnants of food in the stomach or in the intestines above the ileo-cecal valve, as indicated by the presence of nausea or vomiting or meteorism.

3. The patient can be supported by the use of concentrated predigested food administered as enemata not oftener than once in four hours and not in larger quantities than four ounces at a time.

4. This form of treatment, when instituted early, will change the most violent and dangerous form of acute perforative or gangrenous appendicitis into a comparatively mild and harmless form.

5. Cases of perforative or gangrenous appendicitis, with beginning general peritonitis, can usually be carried through the acute attack safely with this method.

6. In all cases of this class gastric lavage should be practiced in order to prevent the absorption of decomposing material from the alimentary canal.

7. In cases of doubtful diagnosis this form of treatment should always be employed.

8. This treatment will prevent a large proportion of the most troublesome complications and sequelæ of appendicitis, such as ventral hernia, fecal fistulæ, extensive adhesions, etc.

9. The patient should be permitted to recover fully from his acute attack before an operation is performed, except in cases encountered within the first thirty-six hours after the beginning of an attack or in case of the formation of a superficial circumscribed abscess.

10. It often requires but a small amount of any kind of food to change a harmless circumscribed into a dangerous diffuse peritonitis.

11. The treatment does not protect the patient against a subsequent attack.

12. It does not contraindicate the removal of a diseased appendix before the septic material has extended beyond this organ.

13. It is indicated in all intra-abdominal conditions in which it is desirable to prevent the distribution of septic material by means of peristaltic motion.

14. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases.

710 Sedgwick Street, Chicago.

**Rhus Toxicodendron Poisoning.**—This is the season of the year when all physicians resident in a large area of the United States are interested in a remedy of utility in case of rhus toxicodendron poisoning, when a patient presents himself with the usual symptoms of ivy or oak poisoning which are nearly all visible to the naked eye. Dr. R. S. Patterson, of Oakdale, Pa., uses glyco-phenique and aqua, equal parts; apply on lint without stint. If the case is a little chronic or two or three days old use glyco-plenique and olive oil, equal parts, locally. Neither of the above combinations of glyco-phenique will remove the stain of rhus tox. from the patient's clothing, but the tumefaction will fade out under its influence in a few hours.

## SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

ADDRESS OF CHAIRMAN DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

HENRY P. NEWMAN, A.M., M.D.

CHICAGO.

Members of the Section and Guests: I am deeply sensible of the honor of the responsibility you have conferred upon me in selecting me to preside over the session of a body such as this, and in thanking you most sincerely, I wish also to thank you for having selected an aid so proficient as our secretary, Dr. Bonifield. Largely to his efforts is due a program which would do credit to any association of specialists in the world of medicine, and in spite of the fact that the work of your secretary is particularly difficult. Since we have no organization as a Section, and no connected existence beyond these annual meetings, there is lacking the stimulus of historical association. Beyond the papers and other scientific contributions which are read in session and then published only in part and scatteringly in THE JOURNAL, the record of our proceedings is lost from year to year, and there is no continuous and organic relation such as there should be between the periods of our work. This, it seems to your chairman, is where lies greatest need for improvement, and my suggestion to this meeting would be that permanent organization be effected, that a permanent secretary be appointed who shall keep the minutes of meetings and attend to the publishing in a suitable volume of the entire proceedings, including papers.

With the growth of the Association it has become necessary, or at least expedient, to propose a reorganization of the work of the general body, thus saving to the members the valuable time now consumed in the general meeting.

The establishment of the proposed House of Delegates will give opportunity for a closer and more permanent organization of the different Sections, and will result, I am convinced, in more efficient work. As the list of papers and participants shows, this gathering of gynecologists and obstetricians has assumed proportions and an importance second to none in existence and worthy of more thorough and reliable organization than the haphazard annual method now in vogue.

SCIENTIFIC PROGRESS.

In calling your attention to the year's progress in gynecology and obstetrics, as required by the By-Laws of the Association, it is only necessary to mention briefly such events as seem to have the most direct relation to the growth and development of this branch of science, leaving it to time and your good judgment to determine their value.

ANESTHESIA BY LUMBAR PUNCTURE.

Among the most noteworthy and widely discussed of such events is the clinical adoption by some of our leading authorities of the method known as cocainization by lumbar puncture.

Testimony as to its usefulness is of the most conflicting nature. The procedure originated with Dr. Leonard Corning, of New York, who proposed it as long ago as 1885, but did not practice it except in laboratory experiment. Bier, of Germany, made the first injection into the cephalo-rachidian liquid. Tuffier next became a supporter of the method and, after one or two former papers, has just brought out a most favorable report

covering 400 cases. He reviews carefully the literature of the subject, and subjects the reported mortality, 6 in 2000, to severe analytical criticism. He claims that in no case could death be properly attributed to the injection. He is just as positive that there is no danger of permanent nervous affections following the operation. Reclus, of France, however, is a vigorous and logical opponent, and makes statistics put a discouraging aspect upon the experiments so far conducted.

Our own writers seem to agree in preferring general anesthesia by chloroform or ether, except where, for any reason, these are positively contraindicated and a substitute must be found. The limits of this operation are, therefore, somewhat restricted, and it will probably never be as popular on this side of the Atlantic as with our foreign colleagues.

Tuffier claims that with a perfect technique and practical operator there would be no failures and no danger, but it is being recognized more clearly every day that in such a proceeding the patient plays a very important part. Already it has been conceded quite generally that it is not applicable to children or to extremely sensitive adults, particularly women, or where major pelvic or abdominal operations are required.

It would appear that perfect consciousness, even with freedom from pain, is not an advantage to the patient, and it is easy to understand the unpleasant impression described by Morris Richardson on seeing women, in a foreign clinic, pallid, ghastly, and with every evidence of profound mental and physical shock, consciously undergoing major operations upon their own viscera and witnessing all the details of the occurrence. In obstetrical operations the method has been found unreliable on account of the difficulty of timing the anesthesia to correspond with the moment of greatest necessity, several injections being sometimes required. There is no relaxation of muscular tissue as in chloroform and ether narcosis, and its use seems rather to retard than hasten the delivery. For the latter reason the method is contraindicated in operations which demand such relaxation and in difficult laparotomies.

It is probable that before you listen to another report from this chair the position and limitations of lumbar anesthesia will be definitely fixed.

### PROTOZOON OF CANCER.

If the experiments of Gaylord, of Buffalo, prove that the organism which he has successfully isolated and reproduced by culture inoculation is the protozoic parasite of cancer, our conception of the dread disease and our established therapy will need to be reconstructed. If these parasites invade the general circulation quite early in the disease, a proposition now occupying the attention of Dr. Gaylord and his associates, it would, on hasty observation, seem futile to attempt to cure by the knife. There remains, however, so much laboratory and clinical work yet to be done before the exact relation between the parasite recognized in the circulation and the local manifestation of the disease, that it is yet too early to acknowledge discouragement with methods so far the best at our command, and to which many a sufferer apparently owes health or positive amelioration. These findings, if indisputably established, should only stimulate us to greater zeal in palliative efforts and in the endeavor to recognize and eliminate the local nidus before the period of circulatory contamination. And until a specific shall be discovered, to destroy the parasite itself, the new theory of the disease will not prevent surgical interference up to the eleventh hour of the patient's need. It should, however, substitute enthusiasm in early diagnosis for that of late radical surgery, and would militate against the employment of two extreme methods. In the early recognition of suggestive symptoms by the patient, and of the first pathological changes by the physician, are we to find our most certain relief. The rapid increase of uterine cancer as certified to the best authorities, can, according to our present knowledge, only be curtailed by early correction of all lesions of epithelial surfaces about cervical, urethral, vaginal and rectal orifices. In the cervical area we have most simple and effectual means of eradicating such danger points. When the indications exist, "trachelorraphy" contemplates and accomplishes the entire removal of the cancer-bearing tissue, if we may speak as we do of "pile-bearing areas."

The presence of submucous or cervical fibroids subject to continual irritation is, directly or indirectly, a menace, and calls for ablation.

### REMOVAL OF LYMPHATICS.

In reference to the attempted removal of the whole lymphatic system of the pelvis as advised by Ries, Clark, Prior, Werder and Bovée in our own country, and by Rumpf, Chalot, Wertheim and Freund abroad, Jordan, of Heidelberg, at the Thirtieth Congress of the German Surgical Society, stated his belief that the glands become affected only at a late stage and in rare cases, that it is impossible to remove them all, and that partial removal has no object. He recommends the vaginal route in removal of the cancerous uterus, and the employment of Schuchardt's para-vaginal incision. Olshausen, of Berlin, agrees with Jordan, and considers only such cases operable in which the cancer has not gone beyond the boundaries of the uterus. He does not think Schuchardt's incision called for in more than three quarters per cent. of all cases, and considers the abdominal route admissible only in cases where the vaginal is technically impossible. Martin, of Greifswald, holds the same opinion as Jordan, while Wertheim, of Vienna, takes the opposite view. He prefers always the abdominal route, and removes the connective tissue surrounding the uterus and the lymphatic glands, having found them affected in 36 per cent. of early cases.

### OVARIAN TRANSPLANTATION.

The past year has done much to establish the operation of ovarian grafting or transplantation as a logical procedure and one worthy of careful and conscientious experiment. The honor of the original idea is given abroad to Knauer, of Germany, whose first publication was dated in May, 1896. As R. T. Morris, of New York, had already published in October, 1895, the results of his first experiments, we may be pardoned for laying claim to a division of priority for our American confrère. As the work of Knauer had continued for a year before his results were given out, it would be profitable to take cognizance of his early experiments. To recall briefly the end in view, the technique followed and the results obtained, we have the following: The object of Knauer was to ascertain if, in animals, ovaries extirpated and then transplanted in any other portion of the peritoneal cavity were still capable of living and functionating normally, that is, to form and expel regularly fructifiable ova. His experiments consisted in removing, under strict asepsis, the two ovaries of certain rabbits and then grafting them in some other part of the peritoneal cavity. Most often the organ was placed in a sort of pocket created in the serous membrane in the neighborhood of the tubes, and where the organ,

only partly buried, kept a portion of its surface free in the peritoneal cavity. The results were such as to warrant the author in affirming that in the rabbit ovaries can be transplanted into any region whatever of the peritoneal cavity and that they will continue not only to live, but to functionate, that is, to produce ova and carry them to maturity. These conclusions were confirmed and extended by Gregorieff, who, out of twelve rabbits submitted to ovarian grafting, succeeded in fecundating four. Morris has gone still further; having extirpated the diseased ovaries of a patient, he took a healthy portion of one of the glands and grafted it in the vicinity of one of the tubes. One month after leaving the hospital the woman became pregnant, but aborted, unfortunately, at three months. The possibility of pregnancy after transplantation of the ovary was thus demonstrated. It remained only to prove that gestation could proceed normally and result in accouchement at term. This proof has been furnished by Knauer. On Sept. 8, 1896, he practiced transplantation of ovary in a rabbit in the manner before described. He opened the animal thirteen months afterwards to observe the state of the glands. One was completely atrophied, but the other had preserved its normal volume and aspect and contained three follicles almost at maturity. The abdomen was closed, and two months afterward the animal was put to the male. On Jan. 3, 1898, she gave birth to young, a male and a female, perfectly developed.

A. Palmer Dudley reported at the Amsterdam meeting of the International Congress of Obstetricians and Gynecologists a striking case of transplantation of the ovary into the cavity of the uterus, and the Italian Marchese bases the following conclusions upon eight experiments upon dogs followed by autopsies and microscopic examinations: 1. Transplantation of the ovary is possible in animals. 2. It is always preferable to abandon the ovary in a free cavity or near lax tissue rather than where the tissues are muscular or robust. 3. One should prefer the grafting of an entire ovary to that of simple fragments. 4. The ovary should be furnished with a small pedicle from the neighboring tissues, which will serve to fix it in its new position. 5. If all the conditions are realized, one can be sure that, even in an abnormal situation, the ovary will continue to functionate

Mauclaire concludes that the experiments so far conducted prove that auto- and hetero-grafting will be successful if properly performed and the ovary is aseptic. Such grafts should result in modifying menstrual troubles and those consecutive to ovariotomy. In his opinion, it is advisable to make such grafts even after the menopause, with the object of conserving the internal secretion of the ovaries, which, according to the physiologists, is not lost with the external secretion.

### TUBAL EPITHELIUM.

Mention should be made of the exhaustive work of M. Voinot, of the faculty of Nancy, who has studied the modifications of the tubal epithelium during the entire life of the woman. Studying the tube first before and after the period of genital activity, he has seen that during these two phases of life, contrary to that which has generally been accepted, there are ciliated cellules on the epithelium constant before puberty, quite eventual after the menopause. Before puberty these ciliated cellules are encountered for the most part at the pavilion, less often in the ampulla and in the isthmus very exceptionally in the interstitial portion. After the menopause it is only in the ampulla that they can be found. At a very advanced age they disappear even in situations where the epithelium remains freely cylindrical. Both before and after the menopause, the tubal epithelium presents great irregularities, but the irregularity is not the same in both cases. Before puberty it affects principally the constitution of the cellular protoplasm and nucleus. After the menopause the irregularity is observable principally in the form and elevation of the cellules. The characteristics of tubal epithelium during genital life is the presence of curiously repeated groups of ciliated and non-ciliated cellules. At the pavilion and the interstitial portion the cellules are almost all ciliated. In the ampulla and isthmus they are ciliated.

LeCount, in his study of the genesis of carcinoma of the Fallopian tube in hyperplastic salpingitis, has shown that gynecologists have taken but little cognizance of an inflammation of the lining of the tube associated with polyp-like or villous growths, such as occur on other mucous membranes. He cites nine cases of hyperplastic salpingitis that have been variously reported as examples of carcinoma or papilloma of the tube. Five of the twenty-two cases of carcinoma gathered from the literature were removed during the transition that occurs between this form of salpingitis and carcinoma. His study of the subject resulted from the examination of a tubal carcinoma removed by Newman, of Chicago, which is the third so far reported in this country.

The value to the gynecologist of researches of this kind can not be overestimated in connection with his study of the important lesions to which these organs are subject.

### PERMEABILITY OF THE AMNION.

The permeability of the amnion has been demonstrated by the experiments of Moisseney upon female guinea-pigs.

His conclusions coincide with those of Bar, that the amnion is "not a closed sac which receives always and gives out nothing," that the internal membrane of the amnion is permeable and under certain conditions permits the passage to the mother of soluble substances contained in or injected into the amniotic fluid. The degree of permeability varies with the different periods of gestation, the rapidity of passage depending principally upon the epoch of fetal development, being slower as gestation advances, appearing very difficult near term.

A weak solution of cazluenoe red, 1 in 3 to 2 in 3 cubic centimeters, was employed in the experiments.

### PARAFFIN INJECTIONS.

In further experimental research, we have the report of Gersung on his work with injections of paraffin for incontinence of urine due to traumatism. He succeeded in accomplishing the desired result by forming a valve whose rigid walls consisted of tissue impregnated with paraffin. A second injection was necessary, but three months later the patient treated was able to hold her urine five to six hours when active, ten hours when recumbent. Meyer, acting upon Gersung's claim that paraffin could be injected subcutaneously, would remain permanently, cause no reaction nor be absorbed, injected animals with various quantities, and found that a considerable portion was removed by absorption and could be found in the lymph glands. In one animal 20 per cent. of injected mass was lost after four weeks, and in another 50 per cent. after eight weeks. Halban has recently used the same medium in four cases of cystocele with satisfactory results. He injected the paraffin between the walls of the vagina and the bladder, then in-

serted a pessary for twenty-four hours so as to allow the mass to harden in the proper position.

CESAREAN SECTION.

Cesarean section for placenta previa is advocated by A. P. Dudley on the ground that it offers a method of saving two lives in place of risking one or both, and is practically free from danger if certain conditions are fulfilled. These are that an antepartum diagnosis shall have been made, and the operation done under aseptic conditions before the patient has become exhausted. The conservative Cesarean operation becomes more popular as perfection of technique and asepsis daily lessens the dangers of the procedure in comparison with other elective operations which endanger the child. Its limitations are broadening until we see its employment in placenta previa and in eclampsia as well as for the older indications. Hillman gives a favorable review of the history of Cesarean section for eclampsia. He adds one case in his own practice to 40 others already reported, and finds that 19 mothers and 17 children have been saved by this method. Knapp, of Prague, tabulates 19 cases of his own, 4 fatal treated by other than section.

The frequency of eclampsia is about 5 to 1000; 41 cases with 6 deaths gives a maternal mortality of 14.6 per cent. Child mortality is 31.8 per cent. Knapp agrees with Dührssen that Cesarean section is contra-indicated in eclampsia, the mortality from this operation being too high.

According to Cestan and Peyran, to operate quickly, simply and cleanly is the most certain method of preventing hemorrhage, shock and infection, the three dangers possible in Cesarean section.

In this connection, Alain, of the faculty of Bordeaux, predicts the disappearance of feticide as a therapeutic measure.

ENTEROPTOSIS.

Glenard, of Lyons, who, in May, 1886, published his interesting observations upon neurasthenia and enteroptosis, attributing to prolapse of the intestinal mass a large percentage of the gastric symptoms which are always to be found, marked or veiled, in cases of neurasthenia, gave his name to a disease which is of late attracting much attention. Glenard stated his belief that neurasthenia is most often the syndrome of enteroptosis, and that there should be opened in nosology a special chapter on the subject in which shall enter as varieties of the disease the different splanchnoptoses such as floating kidney, movable liver and spleen, dilatation and descent of the stomach. This chapter is now being written by the work of Dock, of Ann Arbor, Illoway, A. K. Stone, J. J. Putnam and others.

Formerly what was known as the "vital theory" attributed the cause of this condition to a relaxing of the ligamental supports of the viscera. More lately it has been considered due to a lax state of the abdominal walls with decrease of the intra-abdominal pressure.

The recent work of Harris calls attention to such physical defects as narrowing of the mid-zone of the body which tend to displace the viscera downward for want of room. This may be considered the physical theory. In cases where appreciable separation of the recti muscles occurs, Webster's operation would seem to promise correction of the anatomical fault. Treatment by exercising the abdominal muscles by gymnastics or by means of a specially designed apparatus, as recommended by Turck, seems not only of value in correcting the anatomical defect, but in restoring physiologic conditions.

UTERINE FIBROIDS.

The subject of uterine fibroids and retro-displacements will be so well presented during the progress of this session, according to the promise of our program, that it would be encroaching upon valuable time to add more than that the advancement in the treatment of these common and always interesting affections has been gratifying, and that the experience of many years in many methods of treatment for the latter affection have brought the profession to a realization of the value under definite indications of the shortening of round ligaments as proposed by Alquie, Adams and Alexander.

It is especially gratifying to your chairman to note this rehabilitation of a proceeding so well adapted to its purpose but so slowly acknowledged, for the reason that he was one of its earliest advocates and in face of its early unpopularity.

Our foreign colleagues are growing more enthusiastic as time goes on, and are placing themselves on record with us as supporting it in suitable cases over all other elective operations.

Of special value in the treatment of bleeding fibroids, as well as in shock incident to the radical operations for their removal, is the popular employment of saline solutions by endemic or colonic injections. The necessity for improved methods of hemostasis and the value of conservative surgical interference grow upon us as we recognize the danger of the exsanguinated condition due to hemorrhages at or near the menopause. We have outgrown the mischievous theory that because fibroids may atrophy and disappear after the menopause it is safe to leave them to nature even where there is a possibility of such disappearance, the waiting is too hazardous, the hemorrhages themselves often producing such anemic conditions as to imperil the after-health of the patient.

Among the improved agents for surgical hemostasis should be mentioned the angiotribe, whose claims for recognition rest upon certain advantages: facility of use, greater certainty of hemostasis, more rapid and smooth convalescence, and the avoidance of such objectionable after results as hematoma, granulating and sloughing stumps, adhesions and cicatricial tissues. The progress of obstetrical technique and modern asepsis has been so great as practically to eliminate the problem of puerperal infections from consideration except as it is related to adventitious circumstances or to that sociological error, the ignorant midwife. Further advancement in this direction must be by way of educating others rather than laboratory research.

FUTURE OF GYNECOLOGY.

And it is in this aspect of gynecology that its greatest hope for the future lies, its place as guardian and educator of the patient rather than simply surgical referee in diseased conditions.

Nothing could be more disastrous to the worth and dignity of this specialty, which has occupied for so long so honorable a place in medicine, than to allow itself to be considered and spoken of as one of the surgical specialties.

We are but just arriving at the threshold of the greatest era in our history, in which the full value of prophylaxis is being recognized, and gynecological knowledge and experience are to be the re-creator and conservator of health in women. It is quite true that the skill of the competent general surgeon may guide him successfully into the pelvic cavity and out again without any recognition on his part or the part of his patient of lack

or incompetence, but surgery is not all of gynecology. It is a very brilliant department of the branch, but relatively unimportant when compared with the wider possibilities of gynecic science.

In this day, when the complexity of civilized social life makes such demands upon the physical constitution of the race, the public has come to recognize that the very existence of the species depends upon an improvement of its physical standards. Boards of health, public interest and encouragement are helping us on in our national and municipal efforts, but to whom shall be left the intimate and personal problems that pertain to the life of the girl and woman?

Only gynecology can rightly determine the importance of the developmental period and the relation between education, social habits and environment and the diseases from which so many women suffer; can estimate the individual need for functional development and teach women the relative advantages of prevention and cure in pelvic disease.

Whatever he may call himself, surgeon or general practitioner, he is a true gynecologist who takes this view of his work and becomes the prophet and propagator of prophylaxis. It is itself too broad a specialty to be merged into any other, and along this line it must grow, on the one hand perfecting its knowledge of pathology and etiology and its curative methods and on the other working to eliminate from modern life causes of disease in women.

### THE OBSTETRICIAN.

In this the obstetrician has his part, and it is due to the importance of his work that he be given more time and consideration upon the programs of deliberative bodies such as this. An effort has been made by your chairman to give the obstetrical division of this session its due prominence by soliciting papers on practical topics from some of our leaders in the specialty. There has been too much neglect of obstetrical science as a specialty, a condition that worked harm both ways, upon the innocent patient and upon the physician. The belief among the laity that anyone who is graduated from a medical college is competent to conduct a case of obstetrics is still too prevalent. The results are often disastrous in the extreme to mother and child, and to practitioner because depreciation discourages professional growth. Growth there has been in spite of discouragement, as witness, for instance, the advancement of Cesarean section to its rational place in modern obstetrics. Its application to placenta previa might seem to the ultra conservative in the light of former practice as a most radical and uncalled-for innovation. We must, however, consider that the improved technique in abdominal and pelvic surgery renders what might seem bold and heroic methods safer than the delay and expectant treatment in so dangerous a condition as placenta previa with its estimated mortality of 50 per cent. At all events, in view of our modern aseptic and technical advancement, the classical indications for capital obstetrical operations need recasting, bearing always in mind that it is the conservation of life and health in both mother and offspring that is to be sought for in each individual case, remembering also that grave obstetrical operations demand the same environment as other surgical cases. In all cases the trained obstetrical nurse should supplant the monthly nurse; in all complicated cases the appointments of the modern hospital should be preferred to the makeshifts of home treatment. We should also remember that as we ascend in the scale of civilization we have a more highly organized individual to deal with, usually with greater departure from physiological standards and requiring greater skill and delicacy in management.

The connection should be as firmly established between obstetrics and gynecology in fact as in theory, and the benefit will be mutual. With progress in the right direction the former will outlive the latter specialty. There will always be need for intelligent obstetrics, while intelligent gynecology should eliminate itself at last by eliminating those conditions which are the cause of disease in women and its only excuse for being. Nothing but gynecology can eliminate gynecology.

## Original Articles.

### ORAL MANIFESTATIONS AND ALLIED STATES.

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CHICAGO.

Scurvy is a disease characterized by simple inflammation of the gums which gradually becomes chronic and deep-seated, and extends throughout the alveolar process causing its absorption and exfoliation of the teeth. This disease has passed under various designations: salivation, bromidism, plumbism, iodism, pyorrhea alveolaris, phagadenic pericementis, ptyalism and interstitial gingivitis. These terms merely define local manifestations in connection with other symptoms. The term interstitial gingivitis defines the precise pathologic change which occurs in the tissues.

Pathologic material for the study of scurvy in man is obtained with such difficulty in the recent state as to necessitate research upon animals. As the first step in investigation, two practitioners of comparative medicine, with an extensive hospital practice, were consulted as to the frequency of this disease in animals. All animals under their care suffered from it more or less, but 80 per cent. of dogs over 8 years of age had the disease. Nearly every dog in the hospital under their care was so affected. These dogs comprised all breeds. I found every phase of interstitial gingivitis in the mouths of these dogs, from its inception to the loss of the teeth. The roots of the teeth of some were covered with deposits and so exposed that the teeth could be removed with the fingers. Such badly diseased mouths are rarely, if ever, present in human beings. The outer plate of bone was absorbed, the roots entirely exposed, pus was oozing from around them and the mucous membrane was badly inflamed.

The mouth of a Scotch terrier is shown in Fig. 1. The molar and premolar had been removed with the fingers. The cuspids and incisors are quite loose. There are large deposits of tartar. The gum and alveolar process have been absorbed nearly one-half the length of the roots of the teeth. In Fig. 2 is seen the mouth of a Boston terrier with the incisors and premolars removed. There is extensive pyorrhea. There are calcic deposits upon the cuspids and molars. There is recession of the gums and alveolar process. In it one premolar in the upper and one in the lower jaw have been extracted. There is extensive inflammation of the gum about the molar, cuspid and incisor with large calcic deposits about the teeth. In Fig. 3 are shown teeth covered with calcic deposit the entire length of the root.

These teeth were removed by the fingers from the mouths of two dogs, one of whom was later obtained for scientific study. This was all the material to be obtained from the hospital, since the dogs were pets and had been placed under treatment by their owners.

Other necessary material was obtained from the dog pound. Ninety-five per cent. were mongrel curs leading a street life, hence neither luxurious diet or care could be charged with any disease in them. They have, at least, plenty of outdoor exercise and fresh air. In a general way, it was found that inflammation of the gums, especially about the canine teeth, was almost always present in dogs over one year. About 25 per cent. of these dogs at 4 years of age had the disease, 80 per cent. from 8 to 10 years, 95 per cent. over 12 years of age. Since I commenced my investigations (four

Figure 1.

years ago), I have examined quite a large number of dogs about homes, but I have never found a dog over 4 years without this disease to a greater or less extent. Many house dogs at one year had inflammation of the gums. Dogs for infection and those for mercurialization were picked up in the streets.

Most of the dogs exhibited at dog shows are young, ranging from 1 to 4 years of age. About 25 per cent. would range from 4 to 8 years. A casual examination of their mouths revealed interstitial gingivitis. Occasionally recession of the gums and pyorrhea alveolaris occurred. On a more careful examination, 25 per cent. of dogs between the ages of 1 and 4 were found to have interstitial gingivitis, and 75 per cent. of dogs from 4 to 8 years were found to have interstitial gingivitis with recession of the gums and pyorrhea alveolaris. In the study of this disease, therefore, dogs are excellent substitutes, since for pathologic research they can be obtained at any stage of the disease. The work was performed under the supervision of Drs. Ludwig Hektoen, W. A. Evans, Maximilian Herzog, Theo. A. Edwin Klebs, and Dr. Robert F. Zeit, pathologist.

The technique of the examinations of interstitial gingivitis and pyorrhea alveolaris in dogs was as follows: After fixing and hardening in 2 per cent. formalin, alcohol or Müller's fluid, the tissues were decalcified in a 5 per cent. alcoholic solution of nitric acid, imbedded in celloidin and stained in various ways, the principal ones being hematoxylin and eosin. Out of these slides have been selected a series illustrating the progress of the disease from the beginning to the loosening and exfoliation of the tooth.

Fig. 4 shows a longitudinal section of a cuspid tooth

Figure 2.

with the alveolar process *in situ*. The epithelial structure (E) is pulled away slightly from the edge of the enamel (A). In this section the infolding of the epithelium is shown at the neck of the tooth. This structure passes downward, folds outward and upon itself (AA), and returns two-thirds of the distance toward the gingival border, leaving a pocket (RR). The epithelium (E) is very dense and thick. The papillary layer of the submucous tissue (G) is very clearly defined. The capillaries (K) can be distinctly traced from the deeper fibrous tissue through the submucous layer into the papillary layer. The thick and heavy fibrous tissue of the periosteum ("Dental Ligament," Black) may be seen at H. inserted firmly into the cementum and extending outward and downward. Just below (AA) may be seen the interlacing of the coarser fibers of the periosteum with the finer fibers of the submucous tissue.

Chronic round-cell inflammation may be seen extending from the papillary layer through the capillaries into the interstitial tissue of the submucous and the periosteum. Marked inflammation has occurred at V. The openings in the folds of the epithelium are fruitful sources for the accumulation of food, epithelial scales and detritus, in which fermentation and decomposition from micro-organisms result, producing inflammation.

Fig. 5 is a section through the peridental membrane

Figure 3.

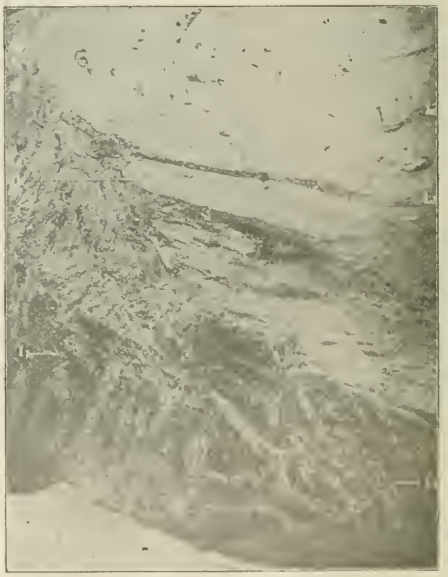
(I) and alveolar process (J) at the lateral incisor. The inflammation has extended down from the papillary layer through the submucous tissue of the periosteum into the peridental membrane and into the alveolar process. Round-cell inflammation may be seen in the blood-vessels extending through the Haversian canals (L).

Fig. 6 is a section of the peridental membrane and alveolar process, illustrating the effect of interstitial inflammation upon the blood-vessels and aveolar process. Chronic inflammation extends throughout the peridental membrane with very decided inflammatory change (V). The cut ends of the blood-vessels which were originally situated in the Haversian canals are seen at BV. They have become involved with the result of a thickening of the walls and endarteritis obliterans. The bone about these vessels has been entirely absorbed. The inflammation has extended beyond, into and through the Haversian canals, producing the type of absorption of the trabeculæ known as halisteresis ossium. Lacunar absorption has also occurred (O). Where decided inflammation (V) has taken place, abscesses are more liable to occur (as will be noticed later), from the large number of blood-vessels at this locality.

Fig. 7 is a section from another location of the alveolar process with a greater amplification, showing the inflammatory process extending through the alveolar process. Endarteritis obliterans may be seen in different localities (EO). Three forms of absorption are evident in this figure. Enlarged areas arising from absorption of the trabeculæ (halisteresis ossium) due to the inflammatory process. The vessels of Von Ebner precede perforating canal absorption (BB), distributed over the entire field, also the result of the inflammatory process and lacunar absorption (O) which may result from the inflammation. As long as the fibrous tissue remains in these large areas to retain the osteoblasts, new bone tissue may be produced under favorable conditions. On the other hand, when this tissue and the osteoblasts are destroyed, the alveolar process can not be restored.

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 4.—Longitudinal Section of Tooth and Gum Tissue. Chronic Interstitial Gingivitis. Dog.—A, Enamel. E, Epithelial tissue. G, Submucous membrane. H, Periosteum. K, Capillaries. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. RR, Space pocket from want of union of epithelial fold.



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 5.—Longitudinal Section of Alveolar Process and Peridental Membrane. Slight Interstitial Gingivitis. Extending into Alveolar Process. Dog.—J, Alveolar process. L', Inflammation extending through enlarged Haversian canals. I', Inflamed peridental membrane.

Fig. 8 shows a section of the alveolar process from another dog. Here lacunar and other absorptions (halisteresis ossium) are well shown. Thirty-seven osteoblasts (O) may be counted in the field while destruction of bone by halisteresis (Q) is rapidly going on. Remains of Haversian canals with the blood-vessels may be seen (BV, L). In the discussion of the peridental membrane

extending into the alveolar process, particular attention was called to the fact that large bundles of fibers extended into the process in such a manner as almost to isolate portions of bone. In the lower left-hand corner (X) may be seen two pieces of the alveolar process entirely separated from each other and the main body of the bone. In interstitial gingivitis it is not uncommon to find pieces of the alveolar process separated by halisteresis and lacunar absorption. When loose teeth are extracted as a result of this disease, pieces of the alveolar process come away with the peridental membrane attached to the tooth. In the upper left hand corner may be seen eight or ten new osteoblasts (O) in an enlarged Haversian canal, at work isolating one piece of the alveolar process from the other.

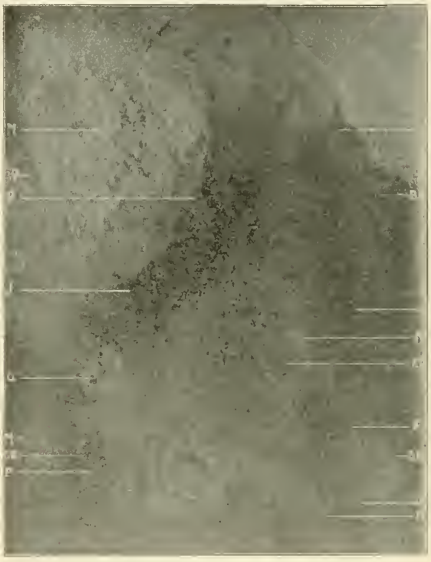
Fig. 9 shows a slide from still another dog. Halisteresis (Q) and perforating canal (P) absorption are

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 6.—Longitudinal Section of Tooth, Alveolar Process and Peridental Membrane. Violent Round-Cell Inflammation of Peridental Membrane, Extending through the Haversian Canals into the Alveolar Process.—C, Cementum. J, Alveolar process. K, Capillaries. L, Haversian canals. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals (halisteresis). O, Lacunar absorption. V, Violent inflammation. BV, Blood vessels, originally Haversian canals. I', Inflamed peridental membrane. L', Inflammation extending through enlarged Haversian canals.

here well shown. In the larger space at the lower left-hand corner may be seen two arteries (EO) which were originally the location of Haversian canals, and which have thickened walls and a tendency to obliteration. The light color shows decalcification, the dark normal bone. At P may be seen perforating canal absorption. At FG fat globules may be seen, while in the larger space at the upper right-hand corner is evident destruction of the fibrous tissue.

Fig. 10 is a section through the jaw and incisor tooth, showing the relation of the structures to each other in a severe case of interstitial gingivitis and pyorrhea alveolaris. The tooth is attached at only a very small portion of the apical end of the root. The disease has been of long standing. Absorption of the alveolar process on one side has progressed on fully one-half of the root, while upon the other about one-third the distance. Inflammation commenced at the gingival border and extended through the periosteum (H), peridental membrane (I) and alveolar process (J). Marked inflammation (V) has occurred in the mucous membrane fold. An abscess has formed with a fistula extending to the gingival border. The thin border at the left of the fistulous tract is the epithelium layer next to the tooth. It is evident that the pus burrowed to the surface through the structure instead of between the epithelium and the tooth. A similar abscess and fistulous tract are evident upon the gingival border on the opposite side of the tooth. The irritation produced by the movement of the tooth has caused the cementoblasts to deposit large quantities of material upon the sides and the end



X 150. D. D. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 7.—Longitudinal Section of Alveolar Process. Chronic Inflammation Extending throughout, showing Halisteresis, Perforating Canal and Lacunar Absorption. Dog.—J, Alveolar process. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals (halisteresis). O, Lacunar absorption. P, Perforating canal absorption. BB, Blood vessels of V. Ebner preceding perforating canals. EO, Endarteritis obliterans.

of the root. The main nerve trunks (U) may be seen at and below the end of the root.

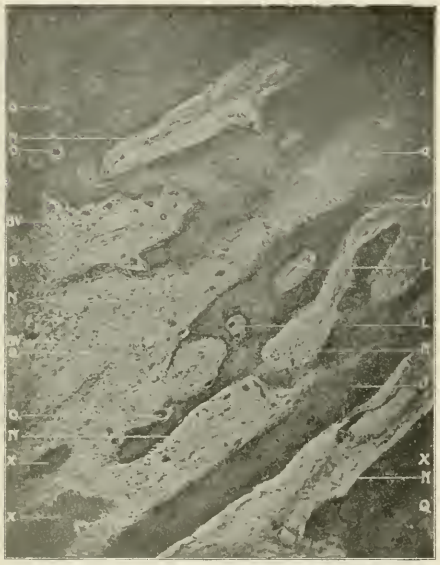
Fig. 11 illustrates the alveolar border on the right side of Fig. 10 greatly amplified. This shows the process of interstitial gingivitis extending through the alveolar process producing absorption with intense inflammation of the peridental membrane and abscess with fistulous tract.

Fig. 12 shows a similar process amplified from the left side of Fig. 10. It is interesting to note in this illustration that the fibers of the sub-epithelium pass down and become interwoven with the coarser fibers of the periosteum in just the opposite direction from those in the other side of the tooth, and in other illustrations. The fibers from the mucous membrane along the side of the tooth extend down and into the peridental membrane

without a break in the structure. The arrangement of the fibers of the submucous layer in producing the fold is well illustrated in the figure. This picture illustrates inflammation starting in the gingival border.

To secure a chain of evidence that interstitial gingivitl (due to the metals, drugs, uric, lactic and other acids) commenced in the papillary layer of the subepithelial, mucous membrane, I instituted a series of experiments in mercurialization of dogs.

Dogs for the purpose were picked up in the streets. Some of these were operated upon by myself alone, others with the assistance of friends. Care was taken to secure those in health and with healthy gums. Mercury was introduced by the mouth, skin and hypodermic injection. It was no easy matter to get them under the



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 8.—Longitudinal Section of Alveolar Process. Chronic Inflammation Extending throughout, Showing Halisteresis and Lacunar Absorption. Dog.—J, Alveolar process. L, Haversian canals. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals. O, Lacunar absorption. Q, Halisteresis ossium or decalcified bone. X, Remains of calcified bone. BV, Blood vessels originally Haversian canals.

influence of the drug, since the power of the glands to eliminate the poison was enormous. In no case was salivation produced. The first symptom noticed was exhilaration, which would last from three days to a week. Then paralysis agitans would continue until death. In about a week the appetite would commence to fail and it was difficult to get the dogs to take food of any kind. The kidneys and bowels eliminated the poison. There was a rise in temperature. Some of the dogs died before gingivitis was observed. This demonstrated that not only does the nervous system become involved, but the organs of the body may be morbidly affected and death ensue before the gums show symptoms of disease. Some dogs were killed after the gums became diseased. The time required to obtain results was from three to eight weeks. The age and physical condition of the dog caused this variation in time. After death the gum tissue was dissected from different parts of the jaws and placed in either 50 per cent. alcohol, Müller's fluid, or 2 per cent. formalin.

Sections of tissue from the gum margin and sides were made on a number of places. Some were imbedded in paraffin, others in celloidin. The sections were stained according to various methods: Delafield's hematoxylin, eosin (Unna's), alkalin methyl blue, carmin, Gramm's stain, etc.

Microscopic examination showed that the epithelial lining of the gums did not present pathologic changes, but appeared normal in every respect. Connective tissue below the gum epithelium (the tissue analogous to the papillary layer of the derma and the derma proper) presented unmistakable evidences of a mild inflammatory process. There occurred in this connective tissue

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 9.—Transverse Section, Alveolar Process. Chronic Inflammation Extending throughout. Dog.—J, Alveolar process. N, Large spaces arising from absorption of the trabeculæ, starting in the Haversian canals. P, Perforating canal absorption. Q, Halisteresis ossium or decalcified bone. X, Remains of calcified bones. EO, Endarteritis obliterans. FG, Fat globules.

round-cell infiltration, generally moderate, but in some places quite dense. This cellular infiltration extended from below (where it was densest) upward into the papillary layer (Figs. 13, 14). The densest cellular infiltration usually occurred around the vessels (Fig. 14).

Under high magnification, the cellular infiltration was found to consist of polymorphonuclear leucocytes, plasma cells and plasmamast cells, the latter with coarse basophilic granulations (Figs. 15 and 16).

In some places were seen, between the round cells, short, broad fusiform cells, the protoplasm of which took quite well basic methyl blue. These cells resemble very much fibroblasts, and appear to be derivations of the plasma cells. No bacteria were found either in the areas of cellular infiltration (inflammatory areas) or elsewhere. In these cases it is obvious that there had occurred a mild inflammation of the gums (gingivitis).

While this could not be seen with the naked eye, microscopic examination demonstrated histologic features of an inflammatory process. The absence of bacteria justified the belief that this inflammation was not of microbic origin, but due to mercury, which by its well-known chemotactic influence produced the histologic changes of an inflammation.

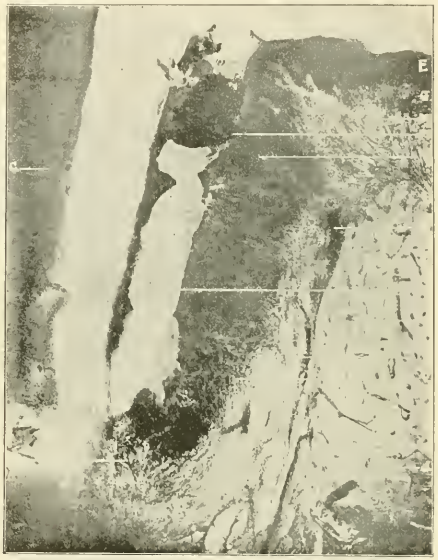
The bacteric etiology of interstitial gingivitis has been incidentally discussed by many writers.

Galippe[1] was probably among the first to make analytic experimentation in the bacteriology of this disease. He claims that there is found in the pus of pyorrhea a parasite resembling in shape the Greek letter X. Injecting this into the belly of a guinea-pig, abscesses resulted which had a special tendency to affect bone tissue.

X 15. 75 M. M. obj. Spencer. Micro-protograph, reduced four-seventhes.

Fig. 10.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane, Showing Interstitial Gingivitis and Pyorrhea Alveolaris, with Tooth About to be Exfoliated. Dog.—C, Cementum. E, Epithelial tissue. H, Periosteum. I, Peridental membrane. J, Alveolar Process. K, Capillaries. L, Haversian canals. M, Fibrous tissue. R, Pus pockets. U, Nerve tissue. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. CC, Cementosis. DD, Calcific deposits destroyed by acids.

Injections into the space between the teeth and gums were negative in result. Galippe regards his experiments as suggestions for further research, but not demonstrative. Miller,[2] after explaining his own methods, made a series of culture experiments on agar-agar blood temperature. Twelve cases of pyorrhea in human beings, and six in dogs, were examined. He isolated twenty different bacteria from human beings and nine from dogs. Among the twenty kinds, staphylococcus pyogenes aureus was found twice; staphylococcus pyogenes albus once; streptococcus pyogenes once. Of the other sixteen, nine subcutaneously injected produced no particular reaction, four a slight, three a severe suppuration in the subcutaneous connective tissue. Among the nine species found in dogs, staphylococcus pyogenes albus occurred once. Of the other eight, two subcutaneously injected caused no reaction, and five but slight. One caused very profuse suppuration by which large portions of skin exfoliated. Microscopic examination of stained sections revealed masses of different bacteria, cocci and bacilli. Leptothrix occurred infrequently, and then only on the surface of the cement, and where there were microscopical cavities in it. Miller succeeded, consequently, in cultivating a large number of bacteria from pyorrhea alveolaris which possessed pyogenic properties, but was not able to determine the constant occurrence of any one which might be regarded as the specific micro-organism of pyorrhea alveolaris. Miller remarks that it is not evident from Galippe's




X 40. 35 M. M. obj. Zeiss. Micro-photograph, reduced four-seventhes

Fig. 11.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane and Gum Tissue, Showing Active Inflammation, with Pus Pocket. Dog.—C, Cementum. E, Epithelial tissue. G, Submucous membrane. $I^1$, Inflamed peridental membrane. J, Alveolar process. $L^1$, Inflammation extending through enlarged Haversian canals. $M^1$, Inflamed fibrous tissue. R, Pus pocket. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. FF, Food containing micro-organisms.

communication whether he found the X bacterium in all cases examined or but once.

Sudduth, after repeated examinations, arrived at the same conclusions as Miller.

In order to determine whether a specific bacterium existed in the pyorrheic stage of interstitial gingivitis in man (necessary to constitute this stage a special disease), pus from more than fifty cases was examined. In all, the pus was obtained from the gums by a platinum needle under proper methods of sterilization. The pus from some cases was smeared on a slide. This was stained and such determination made as was possible with this procedure. With the pus from fifteen cases, agar was inoculated and placed in Petrie's dishes. The individual colonies were grown on gelatin, agar, bouillon, potato and blood serum. The results were as follows:

1. Die Infectiose Arthro-Dentäire Gingivitis, 1888.
2. Micro-organisms of the Human Mouth.

In fifteen cases in which the organisms were plated out, 55 organisms were found. In two there was no growth. Two had 1 species of germs, two had 6, one had 7 and one had 10. The germs found are divisible into three classes: Those usually pathogenic to man, those exceptionally pathogenic to man, and those never pathogenic to man. The first class were found 30 times, the second 12, and the third 13. Class third is, no doubt, seemingly smaller than it should be, since many members of it probably do not grow on ordinary culture media. Of the germs most frequent and important, staphylococcus pyogenes aurens occurred nine times, staphylococcus pyogenes albus six times and staphylococcus pyogenes citreus once. A lanceolate diplococcus, growing like pneumonococcus, was found six times. Streptococcus pyogenes was found twice. Bacillus coli communis was found twice. A bacillus growing like the diphtheria bacillus occurred twice. This last bacillus had the appearance of the Klebs-Loeffler bacillus. It lay on the slide like it and stained irregularly. Of the less important organisms, bacillus pyocyaneus was found three times, micrococcus tetragenus seven times, leptothrix seven times, bacillus mesentericus twice, bacillus subtilis three times. There was also present a peculiar large club-shaped fungus somewhat resembling the degenerative forms of actinomycosis.

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 12.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane and Gum Tissue, Showing Active Inflammation with Pus Pocket. Dog.—C, Cementum. E, Epithelial tissue. J, Alveolar process. $M^1$, Inflamed fibrous tissue. R, Pus pocket. V, Violent inflammation.

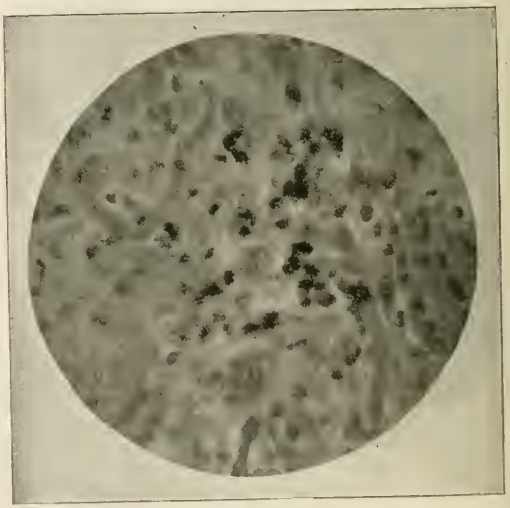
Did these examinations stand alone, definite conclusions could not be drawn from them. These, however, are admissible, since all observations on this subject tend in the same direction. While, as already stated, Galippe believed that he had isolated two bacteria capable of causing pyorrhea alveolaris, still he failed to produce the disease. This failure, according to the laws of Koch, is fatal to the position taken.

An examination of cases of interstitial gingivitis which had not reached the pyorrheic stage, had the following results: Pieces from the gum margin which had been fixed and hardened in a formalin solution were partly imbedded in celloidin, partly in paraffin. The

Proj. ¼ inch, ocular 1½ inch. Spencer.

Fig. 13.—Longitudinal Section of Gingival Border, Showing Round-Cell Inflammation Due to Mercurial Poisoning.

sections were stained according to various methods, including Gramm's, eosin (Unna's) and alkaline methyl blue stain. The examination of the tissue shows an unchanged lining of stratified squamous epithelium, and, in the connective tissue below the former, well-marked evidences of an inflammatory process. The round-cell



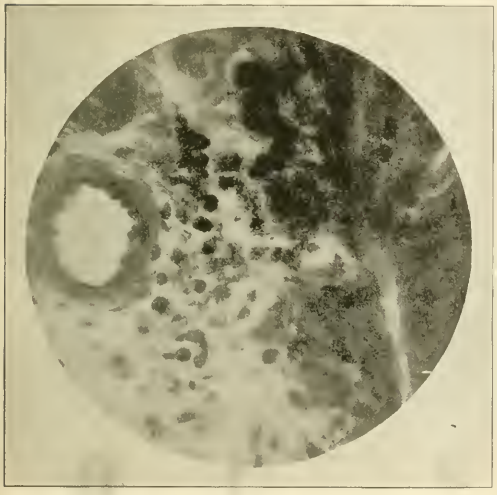
Planachr. oil imm. 1-12 inch, ocular No. 3. Leitz.

Fig. 14.—Longitudinal Section of Gingival Border. Higher Magnification, Showing Connective Tissue Infiltration with Plasma Cells and Polynuclear Leucocytes. Dog.

infiltration is best marked in the deeper layers toward the periosteum, while the layers of connective-tissue fibers nearer to the lining epithelium show less evidences of inflammation and are partly entirely free from any round-cell infiltration. The infiltrating round cells are of the type of lymphocytes, plasma cells and plasma mast cells. Very large and typical mast cells are frequently found in the neighborhood of small vessels. Many of the vessels seen are quite tortuous, and the vascular supply of the connective tissue appears to be considerably increased beyond the normal. Bacteria could not be demonstrated in the inflamed areas.

Examination of the interstitial gingivitis, produced by mercury in dogs, failed to reveal any bacteria. The histologic changes of inflammatory type found were due to the chemotatic influence of mercury and not to microbic action.

In a paper read before the Section on Stomatology of the AMERICA MEDICAL ASSOCIATION, at Columbus, Ohio,



Planachr. oil imm. 1-12 inch, ocular No. 3. Leitz.

Fig. 15.—Longitudinals Section of Gingival Border. Higher Magnification, Showing Round-Cell Inflammation Extending to the Inner Coat of the Blood Vessel and also Plasma-mast Cells.

George T. Carpenter mentioned some very interesting experiments in this connection. By infecting a fresh wound in the gums of rabbits with pyorrhea and other pus he found the parts will remain infected only from two to five days. In other rabbits a rubber band was placed around teeth and pressed under the gums until inflammation resulted, when the parts were infected with pyorrhea and pus from a chronic ulcer; pus infection resulted.

Like experiments were made in the human mouth on gums which had been neglected as well as on healthy gums, and with similar results. His experiments tend to show that, when animals and men are healthy, the tissue resists infection; but when diseased, infection results. All yield to treatment.

On examination of pus taken from pyorrhea pockets, proceeding from acute infection, two competent bacteriologists were unable to find a micro-organism not found in pus from other infected tissues.

These results, in Carpenter's opinion, tend to show that a specific germ, to which pyorrhea alveolaris is attributable, has not yet been found.

The disease being so prevalent among dogs, it occurred to me that they would be of great value for experimental inoculation. The prevalence of the disease in dogs suggests that if it were a specific infection these must be inocuable. Miller[3] had made a few inoculations of pus as well as of the deposits around the teeth. Slight inflammation, and, in one case, a little suppuration alone resulted. He afterward isolated twenty different bacteria from the human mouth and nine from dogs. Some of the uncommon varieties were infective, but without marked results. Isolated varieties would probably not produce results that could be attained by inoculating animals with the fresh secretion (pus and other deposits) from dogs already affected with the disease. A dog was procured from the Veterinary Hospital whose gums and outer alveolar process were

Projection ¼ inch, ocular 1½ inch. Spencer.

Fig. 16.—Longitudinal Section of Gingival Border, Showing Round-Cell Infiltration in the Connective Tissue and Extending into the Papillæ. Dog.

almost entirely absorbed with pus exudate. Street dogs selected for inoculation were forty-six in number, ranging in age from 1 year to 7. They were of all breeds and conditions. Some were well fed, others very thin. Many had sound, healthy gums; others had slight inflammation at different localities. No dog was used whose gums and alveolar process had become infected or whose tissues were absorbed. Two dogs were operated upon at a time. The gum was separated from the necks of the teeth down to the alveolar process and peridental membrane—one-half at the canine, the other at the second pre-molar, since in a majority of cases the disease began at the canine tooth, probably on account of its prominence and the thinness of the alveolar process. The second pre-molar was selected because it is the least prominent. The secretions about the teeth and gums of the diseased dogs were collected upon a platinum wire (previously sterilized) and conveyed to

3. Ibid., p. 329.

the injured parts. Thirty-nine healed in eight days. In these the gum tissues were healthy. The pus had no effect. The wounds healed as rapidly as any wounds possibly could. In seven the gums were inflamed and infection occurred. Suppuration was slight in four and considerable in three. The pathologic findings in these cases were not unlike inflammation and infection in other tissues. Similar results would, no doubt, have taken place if inoculation had been performed with pus from an abscess. The last three dogs were allowed to depart at the end of four weeks with slight pus infection.

While hundreds of slides could be adduced in support of this chain of evidence, sufficient have been given to permit of the introduction of evidence from other phases of the subject.

*(To be continued.)*

## ANTHRAX, WITH REPORT OF A CASE.*

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SPENCERVILLE, OHIO.

Anthrax is one of the rare but very interesting maladies afflicting the human race which few physicians have the opportunity of seeing in the active form. It is an acute, parasitic, infectious disease, known also by the synonyms of malignant pustule, splenic fever, ragpickers, wool-sorters and furriers' disease, also Milzbrand and carbunculosus contagiosus and a number of others. As to its history and antiquity we know but little, but that it has existed for centuries there can be no doubt.

Blanc states that he finds our modern anthrax to have been the disease of the Egyptian plagues, but Hamlet on the other hand thinks this is only a matter of speculation.

To the researches of Pollender in 1855 and Davine in 1863 belong the credit of the discovery of the B. anthracis, the positive and only direct factor in the production of the disease. It has been said by good authority, that the discovery of, and experiments with, the B. anthracis has resulted in contributing more to our knowledge of bacteriology in general than work upon any of the other infectious diseases.

The B. anthracis is a non-motile minute rod-shaped body, ranging in length from 2 to 3 up to 40 or 50 microns, and presenting the appearance when stained of a strand of beads.

In persons or animals suffering from this disease, the bacillus may be found in the pustules, blood, urine, feces and tissues, especially the spleen, liver and lungs. When taken from these sources it can be developed in pure culture, which, if some other susceptible animal be inoculated will produce identically the same condition as that found in the animal from which it was taken. When taken direct from the pustules or from any part of the animal suffering from the disease, it is in the form of short rods and square at the ends, the diameter being greater and the length shorter than the pure culture cultivated artificially. If cultivated artificially, as it can be on any of the ordinary culture media in eighteen to twenty-four hours at the temperature of the body which is most favorable for its rapid development, the short rods develop into long threads and remain in this condition until a change in surroundings occur, the most important being a diminution in the nutritive supply which favors the production of spores.

Abbott says that spores will not form in a temperature under 12 C., or above 43 C. Spores do not form within the body of living animals, but spores introduced into living animals produce the disease. These spores are capable of resisting very deleterious influences. Esmarch says, spores from some sources can be killed by exposure to steam one minute, while others resist the same temperature for twelve minutes. These spores have been seen to continue in the living though inactive condition for long intervals and retain their virulent qualities.

Billings says that in 1876 he inoculated a piece of silk ligature with the anthrax spores and placed it in a bottle which was subjected to no other changes than those in the room in which it was kept. At various times during the seventeen years that followed, he cut bits of the ligature and placed it under the skin of a rabbit, and in every instance was the disease anthrax produced in typical form and the animals died, the last being in 1893 with similar results. He also cites another instance, in which he claims a horse became infected from having worn a harness made from the skin of an animal that died with anthrax.

Within the past ten days I examined a culture of anthrax developed from a tube in which I had inoculated direct from a patient Oct. 22, 1897. The tube of agar-agar from which the culture was made had remained in my office all this time, 3½ years, and for the past 18 months had been concealed in an air-tight box. The contents of the tube had so dried up that it was a mere thin shell and a piece of this placed in a fresh tube gave an excellent culture in twenty-four hours.

As to its virulency at the present time I can not say as I did not inoculate any animal, but a culture from the same tube in November, 1897, when tested by Professor Kramer, proved sufficiently virulent to kill a mouse in about twenty-four hours.

As to the formation of toxins there are some differences of opinion. Most bacteriologists claim the bacillus of anthrax generates toxins, while Conradi[1] says we have no evidence to prove the general assumption that the bacillus of anthrax generates a toxin. On the contrary everything tends to indicate that the anthrax bacillus is a typical infectious micro-organism. As to the etiology there is but one direct factor and that is the bacillus of anthrax, which is introduced into the person or animal, either from some other person or animal suffering from it, or who resided in an anthrax center, or from some of the earth, vegetation or water from one of these centers, which simply means localities where the bacillus is found in the earth.

Cattle and horses nearly always contract the disease while grazing over these localities, or in drinking water found in cess pools or near them.

The conditions which seem most favorable for their development in the earth are, 1, presence of the bacillus of anthrax; 2, a rich black loamy soil with sufficient moisture and high temperature; 3, profuse vegetation and rapid decay of same.

The season of the year most favorable for the development of the bacillus in the soil is from about the middle of July to the middle of October. In seasons in which prolonged drouth and high temperature have been preceded by much rain and luxuriant vegetation.

These centers are most frequently found in the torrid zones, less frequently in the temperate zones, and occa-

* Read before the Alumni Association of the Cincinnati College of Medicine and Surgery, May 1, 1901.

1. The Journal A. M. A., Sept. 23, 1899.

sionally found in the frigid. It has been shown to exist in Siberia and Lapland. In our own country, as far as is known, there are four well-established centers in Canada, namely, Guelph, Acton, Listowell and Kingston.[2]

Within the United States it has been found in Massachusetts, Pennsylvania, Virginia, Maryland, Michigan, and most of the states lying in the Mississippi valley; also California had an outbreak some two years ago which resulted in the loss of many cattle. In Ohio no doubt there have been various cases, but I have not been able to find any account in medical literature of any case, except the one which came under my observation and treatment about three and a half years ago.

From all the inquiry and investigation of the same community from which this case came there is nothing to show that there had ever been any disease in any person similar, but there is a history of some form of infection in the horse from which this patient became infected. The symptoms of the horse were extensive edema of head and part of the neck, and a profuse purulent discharge from the nostrils, mouth and eyes, which lasted

Fig. 1.—One hundred and twenty hours after inoculation.

nearly two months and ended in recovery. No examination either by veterinarian or physician had been made of this animal, but from the similarity of the symptoms and the fact that the patient contracted the disease by being switched in the face by the same horse, shows strong suspicions that the affection of the horse was anthrax.

### SUSCEPTIBILITY AND IMMUNITY.

The susceptibility of the mammalia to anthrax may be expressed in the following order: herbivora, omnivora, and carnivora. This is largely due to the manner of obtaining food and modified much by the kind of food and locality from which it is obtained. Mice, guinea-pigs, and rabbits are most highly susceptible, and the ones used for experiments.

An injection of virulent anthrax in any of these animals will produce death in twenty-four to forty-eight hours. In man, while not the most susceptible, nor by any means immune, when fatal results do come, it is usually within ten days from time of inoculation. Patients passing beyond this time usually recover, but rather slowly, on account of the loss of tissue from sloughing and gangrene.

A patient is not rendered immune by one attack and is just as liable to a second or third attack as the first.

*Invasion.*—There are three common avenues for the introduction of the poison: 1, through abrasions of the cutis, or wounds of any kind; 2, digestive tract; 3, respiratory tract.

*Incubation.*—The period of incubation in animals as in man is from a few hours to several days. This is modified by the amount of bacilli introduced, by the degree of their virulency, and the rank held by the person or animal in regard to susceptibility or immunity.

*Clinical History.*—Two leading clinical types are distinguished, namely external and internal. A clinical report of the two following cases will fairly illustrate the symptoms and conditions of both varieties, though

Fig. 2.—Eighteenth Day.

both were inoculated externally; one in the right eye, the other in the left, and both cases showing marked external edema in about the same degree.

The case in which but few internal symptoms developed showed more severe external symptoms and recovered, while the case with the most marked internal symptoms resulted fatally on the fifth day after inoculation, which is shown in the report of the following case, also reported elsewhere.[3]

C. B., aged 59, a native of Germany, and laborer in a hair factory, came to the Johns Hopkins Hospital Dispensary on Saturday, May 11, 1895, complaining of the swelling of the lids of the right eye. His history was as follows:

*Family History.*—His father and one brother died of some lung trouble, the exact nature of which he does not know; one brother died of cancer of the liver. The family history is otherwise negative.

*Present History.*—Two days ago, while working with South American hair he scratched his right eye with his hand, as it was itching. The next morning he noticed that the eyelids

2. Dr. W. T. Connell, in THE JOURNAL A. M. A., Dec. 9, 1899.

3. Johns Hopkins Bulletin, Sept.-Oct. No., 1895.

were slightly swollen, and itchy, and by this morning they were so swollen that he came to the dispensary.

At the time of the visit the swelling was confined to the lids of the right eye, and was fairly sharply localized; it was edematous in character, and quite boggy, the overlaying skin appearing almost of a natural color. Two small incisions were made, one into each lid, and a small quantity of rather thin, whitish fluid, resembling diluted milk was evacuated. Cultures upon agar-agar were made at this time, and two days later the tube inoculated showed a pure growth of an organism which resembled the bacillus anthracis, and which upon inoculation killed a mouse in twenty-four hours. Further tests proved it to be the anthrax bacillus.

The patient was admitted to the hospital on May 13, four days from the onset of the disease. The physician who attended him at his home, from Saturday until his admission on Monday, stated that his temperature had been subnormal during the entire period. On admission the patient complained of nothing but slight pain beneath the right side of the jaw; otherwise he felt perfectly comfortable. He had no headache or malaise. His mind was perfectly clear. The following note was made at this time:

Patient is in bed on his back. Temperature 102 F. Pulse 132 per minute, regular, volume fair, tension not increased. Respirations 16 per minute, easy. Tongue has a slight white coat. The mucous membranes are of a fair color, not cyanosed.

Both eyes are closed by edema. On the left side the swelling is not so nearly marked as on the right side, the lids being distended by a moderately firm, watery edema. The lids of the right eye are much swollen, hard and tense, and the overlaying skin is occupied by several vesicles, varying in size from a pea to a bean, and filled with clear, yellowish serum. The eyes themselves appear uninvolved. Over the whole of the right side of the face and neck, and extending up onto the scalp, is a marked edema of varying consistency; immediately around the right eye it is very hard, and covered by tense, shiny skin; over the forehead, neck and remainder of the face, as well as over the implicated scalp, it is much less firm, and can be easily pitted by pressure. The edema extends across the left side of the forehead, and occupies the neck as low down as the clavicle. On the side of the mouth the right cheek is marked with the imprints of teeth, and has a yellow-gray sloughy appearance.

May 14, 10 a. m. The patient is much worse this morning. He had several involuntary passages of urine and feces during the night. The mind is quite clear, and he answers questions rationally. He complains a good deal of cramp-like pains in the abdomen. The pains are situated in the umbilical region, and are sharp and constant, with occasional acute exacerbations, during which he has a desire to defecate. The abdomen is extremely sensitive to pressure this morning. The spleen can not be palpated. The pulse at the wrist is almost imperceptible and practically uncountable. The heart sounds are extremely distant and feeble. The temperature has been subnormal since 4 a. m. this morning and is now 97 F. The right eye is somewhat more swollen than it was yesterday, and the edema now occupies the whole of the scalp, and has spread down the right side of the chest to the level of the pectoral fold; it also occupies all the tissues overlying the upper part of the sternum.

The patient gradually sank, and died quietly at 4 p. m. on the 14th. Before death the edema had spread further over the left cheek, and had also extended somewhat further down the chest. The patient became very cyanotic before death. There was no respiratory distress at any time. His mind was perfectly clear to within fifteen minutes of his death. On the morning of the 14th he had three loose watery stools of grayish color, and apparently containing no blood. The urine was passed involuntarily, and could not be examined.

Autopsy, May 15, eighteen hours after death, the body in the meanwhile having been preserved on ice. Body 174 cm. long, moderately well nourished, strongly built. Rigor mortis in both extremities. The right eyelids are edematous, closing the eye; they are congested and glazed and the epidermis is peeling off. The whole right side of the face below the eye is edematous, and the edema extends over the head and neck. The left eye and left side of the face are less swollen. The edema is well marked anteriorly over the neck and clavicles, and can be well followed down the chest. On incising the skin, above the clavicles, much clear, serum-like fluid escapes. The edema extends beyond the median line to the left, and is immediately evident after incision, extending to the sternum. Subcutaneous fat is moderate in amount.

The peritoneal cavity contains turbid fluid; at least 2000 c.c. of such fluid is present in the cavity. The serosa is injected, its reflection lost, the vessels very hyperemic. Smaller and larger ecchymoses are seen beneath the serous membrane. In the smaller omentum, in the region of the pancreas, a large ecchymosis is seen.

In the pyloric region there is in the mucous membrane a large, deeply congested area, measuring 8x6 cm. in extent. It is not clear that there is a false membrane over it, but some grayish-yellow material adheres to the surface.

The duodenum is congested uniformly. Beginning in the jejunum, which is less congested, there occur at intervals small, elevated, deeply congested areas. They average 2 mm. in width and project 1 mm. above the surface of the intestines; they do not seem to correspond with the lymphatic follicles. The serosa over them is often the deeply congested, bulged out portion already described; this is, however, not exclusively the case. These foci are quite numerous in the jejunum, at least fifteen being present in this part of the gut alone. At times two or three were close together, though as a rule they were more separated. In the ileum they were also seen, in this situation perhaps a little more separated, but in all as many were present as in the jejunum. In connection with one of these areas in the ileum, what appeared to be a false membrane occurred. If a membrane, it was thin, and easily scraped away. Several of the nodules showed superficial ulceration. There was no relation detected to the lymphatic apparatus, and the nodes were less numerous near the ileo-cecal valve. The large intestine shows no such localized foci, only a diffuse congestion. Mesenteric glands were swollen, congested, hemorrhagic, and softened.

## The second case is the one that came under my observation and treatment three and a half years ago.

Elmer C., aged 20, farmer of good habits, health and family history, came to me on Thursday, 7 a. m., October 21, 1897, with the following history:

On October 18, four days before, while working with a team of horses in the field he was standing directly behind them unloading the wagon. One of the horses switched him in the face, which caused quite a burning and itching sensation, about like the bite of an insect. This occurred about 11 a. m., and he continued to work the remainder of the day with no other symptoms than those of the burning and itching which were present at first.

October 19, edema of lower left eyelid with the appearance of small ecchymotic spot about three-fourths inch below center of eye. Patient worked all day, and by evening the eye was almost closed.

October 20, burning and itching same as first two days. Eye completely closed, pustules formed over lower lid. Edema had spread in all directions and slight discharge from the eye. At 4 p. m. patient applied for treatment to physician, who claimed to have removed a piece of glass from the eye which, if correct, had never produced any pain.

October 21, about 7 a. m., patient came to my office for treatment the first time. The left eye was completely closed, with marked edema of face and head, the left side being much worse than the right. The lids looked watery, and there was a profuse purulent discharge from the left eye resembling gonorrheic ophthalmia, and numerous pustules from one-eighth to one-half inch in diameter covering the lower lid and extending about two inches over the cheek. Some of the pustules had ruptured, and the base showing the slough had extended to the tissue beneath the skin. Temperature 101; pulse 96; respiration 20. No headache nor pain, but patient was restless. Patient grew worse all day, and the following morning, October 22, I saw him at his home. By this time the swelling had spread over the entire face and scalp and as low as the clavicle, and was sufficient to produce difficult and labored breathing. Temperature 102; pulse 102; respirations

25. Tongue heavily coated, breath fetid, no appetite and very restless. Had slept but very little during the night. The discharge from the eye and sloughing areas was very profuse. At this time I prepared two slides, one from the fluid of a pustule and one from the pus discharging from the eye. Upon microscopical examination, both slides showed the short, thick rods of bacillus anthracis. In the evening of the same day I inoculated a tube of agar-agar, and after eighteen hours, examination showed the presence of bacillus of anthrax in large numbers, and upon this I based and made my diagnosis of anthrax.

October 23, edema increasing. Both eyes completely closed; discharge greater; pustules still forming, and could now be seen in all the stages, a very interesting condition to observe. The mucous surface of the left side of the mouth was covered with a grayish-white membrane resembling diphtheria and the surface would bleed freely when this was removed. Temperature 102.5; pulse 120; respirations 28, deep and labored. Very restless, some dyspnea and vertigo on rising. Could speak but little louder than whisper. Could not take any nourishment on account of swelling of mouth and throat. Photograph No. 1 shows condition of this day.

October 24, condition same as preceding day, except breathing was heavier and edema still increasing.

October 25, conditions same as before, except the swelling of the right eye was reduced sufficient to permit it to open slightly, but the edema had spread over the entire chest as low as the apex of the heart, and presented a bright red appearance resembling the rash of "iodism." Slight pain also developed in the bowels, which lasted for thirty-six hours. This was the only pain experienced during the course of the disease.

October 26, edema decreasing, discharge about same. Temperature 100; pulse 100, respirations 22. Voice better. Can take small amount of diet, and getting some natural sleep. Within the next twenty-four hours temperature went to normal, and never rose above 99, and improvement continued until patient was in good health.

On the tenth day a line of demarcation formed as shown in photograph No. 2. Within this line everything was gangrenous, except the eyeball and the deeper portion of the eyelids.

The sight of the eye was at no time affected, although the eyeball was highly congested. The gangrene destroyed all the soft tissue over the cheek, to the periosteum, and all the muscles about the eyes that control the lids.

Dr. Stuber, of Lima, Ohio, directed and treated the eye and has made three plastic operations, hoping to restore better functions of the eyelids, but the results have not been satisfactory.

*Treatment.*—Having no experience in any way with this affection and finding but little literature on the subject that seemed to meet the symptoms present, a line of symptomatic treatment was adopted, which consisted of quinin, whisky, diuretics and cathartics, internally and externally, local application of bichlorid cloths to all parts that were sloughing, boracic acid salve to the eye, after thoroughly cleansing all the discharge from the eye with hot boracic acid solution.

On the eighth day after inoculation I found an article by Vockresensy,[4] in which he highly eulogizes the use of large doses of carbolic acid internally, claiming to have cured sixteen consecutive cases of malignant pustule, and in some it was not begun until the seventh day.

In my case it was not used until the eighth day; within twenty-four hours from the time of commencing it improvement was noticeable, and it was continued until all symptoms of sepsis had disappeared. Whether the favorable result was due to use of the carbolic acid, I do not know, but should I get another case I would begin it promptly.

4. Annual of the Universal Med. Sciences, 1891, vol. III.

The main points of interest are: 1. Does this one case prove that an anthrax center exists on this farm, the home of the horse and patient? 2. Did the horse really have an anthrax at the time he was suffering from the swelling and discharge from the head? 3. The difference in the symptoms and results of the two cases reported when the points of inoculation were so nearly the same. The virulency in either case proved to be sufficient to produce death in mice in twenty-four hours.

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## INTERESTING THROAT PARALYSES IN A CASE OF LOCOMOTOR ATAXIA OF AN IRREGULAR FORM.*

JOHN EDWIN RHODES, A.M., M.D.
CHICAGO.

Mr. F. D. R., aged 35, railroad employe, was sent to me Jan. 26, 1901. About four days previous to his visit he began to cough occasionally and had at that time noticed some difficulty in articulation, especially in the liquid sounds, *t* and *d*; the labials *m* and *n* were pronounced easily. At this time there was noticed occasional though slight regurgitation of liquids into the nasal cavity on swallowing. He gave a history of rheumatic pains in the shoulder some four or five years ago, but had had none recently.

He confessed to an attack of gonorrhea, but had never had syphilis, nor were there any general symptoms indicating such an attack. His habits were good; he did not use alcoholics, and used very little tobacco. His sense of hearing was good; the sense of smell was considerably impaired; vision in the right eye was poor.

There were no pains at this time from which he suffered, but he had had sharp lancinating pains in the lower extremities at one time for several years. His normal weight was 150 pounds, but now he weighed only 135 pounds. His strength was fairly good; the temperature and pulse were normal. There was no dyspnea, vertigo, or headache.

He complained of a slight tickling sensation in the larynx, which excited cough occasionally. The tongue was slightly coated, the appetite fair, the digestion good, but he was habitually constipated. Micturition was frequent and could not be controlled very well.

Dr. C. D. Wescott, who sent him to me, reported upon his case as follows: "In regard to the case of F. D. R., I would say that he was referred to us last May, by Dr. Patrick. He came with the diagnosis of locomotor ataxia, and was sent to us because of a drooping of the upper lid of the right eye and a divergence of the same eye. He was also complaining of pains in the eyes and head. He said that the eye first turned out two years before and had not been straight since. Upon examination, it was found that there was complete paralysis of the branches of the third nerve of the right side. The ophthalmoscope showed some opacities in the vitreous in the right eye and the retinal vessels were full and hazy in outline. The optic nerves appeared normal in both eyes. We prescribed glasses which gave him great relief in the use of his eyes for near work; and, about the middle of June, he reported himself decidedly better. There was noticeably less ptosis and slight movement of the right eye in was possible. We then lost sight of him, and he did not return until we sent him to you on January 26 complaining of his throat. On that day there was almost com-

* Read before the Chicago Laryngological and Climatological Society, May 2, 1901. (See Proceedings, p. 1801.)

plete ptosis of the right upper lid, as well as divergence of the eye. His vision was not quite as good as it was at the time of our examination in May; the optic nerve was gray, possibly indicating beginning primary atrophy.

I asked Dr. Patrick as to his condition in May and he reported to me as follows: "I first saw F. D. R. on May 3, 1900, and found him suffering from rather atypical tabes. The right pupil was dilated and had been so for two years. Occasionally the left eye would swing outward, giving him double vision. He had well-marked incoördination, diminished knee jerks, the left more so than the right. I regret to say that my record makes no mention of the pupillary reactions, but I feel quite sure that they were not normal. I could get no history or other evidence of specific infection."

Dr. Gill had seen the patient previously and reported as follows: "F. D. R. called to see me about two years ago; he told me he had been suffering from sharp lancinating pains in the lower extremities for several years. An examination of his condition at that time showed exaggerated patellar tendon reflexes; ptosis of the right lid with sluggishness of both pupils to the light. There was no incoördination, and no ataxia. The last examination, which occurred several weeks ago, showed a change in some of the symptoms, inasmuch as the reflexes had disappeared entirely. The lancinating pains had persisted, but still there was no ataxia or incoördination. He has difficulty in urinating, an inability to completely empty the bladder, also inability to control the sphincter ani at all times. There were some areas of anesthesia about the chest. His trouble is probably an irregular form of locomotor ataxia."

I found the nasal cavities comparatively normal. When the mouth was opened, and the tongue depressed for an examination of the throat the soft palate was in a normal position. On irritating it with a probe, however, the right side of the palate was contracted strongly to the pharyngeal wall, drawing the uvula toward the right, the left side of the palate not responding at all to the irritation, but remaining relaxed and stationary. There was no anesthesia of the parts.

On examination of the larynx the right vocal cord was stationary in the median line, there being a paralysis of the posterior crico-arytenoid on the right side—the abductor of the vocal cord. All other conditions of the throat were normal.

The diagnosis then was, an ascending sclerosis of a locomotor ataxia causing ptosis of the right eyelid, and divergent squint of the right eye, paralysis of the left half of the palate, and abductor paralysis of the right vocal cord.

The motor nerves affected were interesting. The palate derives its motor stimulus from the otic ganglion of the fifth, supplying the tensor palati; the facial supplying the levator palati and azygos uvulæ. The recurrent laryngeal supplies the posterior crico-arytenoid; the third supplies the levator palpebræ, and the sixth, the external rectus of the eye.

The diagnosis should not be difficult. The throat conditions might be confounded with those found in the acute form of bulbar paralysis, but the rapidly progressive nature of this disease with its symptoms would enable one to easily exclude it. In this case the history, with the symptoms and signs of ataxia, although not altogether typical, satisfactorily settled the diagnosis as due to a progressive and upward sclerosis, involving finally these nerves at their origin in the bulb.

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# THE DIAGNOSIS OF DIAPHRAGMATIC HERNIA.*

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The diagnosis of diaphragmatic hernia presents many difficulties in the living subject; so great indeed are these that the condition is seldom recognized until operation or death has yielded an ocular demonstration. The affection is found in rare cases at autopsies and it is occasionally discovered in the dissecting room in bodies dead of other affections, but all told only a little over 300 cases have been reported. H. I. Bowditch reported a case in 1847 and at that time collected reports of 88 cases. Leichtenstern[1] reported a case in 1874 and at that time collected reports of 250, but only five of these were diagnosticated before death. Thoma[2] collected 290 cases in 1882 and many more have since been reported, but still the obstacles to diagnosis remain, although as shown by Leichtenstern, and by Abel[3] in 1894, there are some cases in which a reasonably positive diagnosis may be made without great difficulty. As I have elsewhere stated[4] : "This affection possesses many symptoms and signs in common with pneumothorax, like which it causes distention of one side, displacement of the heart, diminished motion, tympanitic resonance and feeble or suppressed respiration with metallic tinkling." The history will often be of the greatest aid in reaching an accurate conclusion. In the cases collected by Bowditch, 26 were congenital and the rest traumatic. The principal symptoms noted were dyspnea on exertion and sometimes on lying down; pain in the bowels, especially after a full meal, in those where the opening through the diaphragm was small, and vomiting in several cases where the stomach was wholly or in part within the chest. In most of the cases the pulse was disturbed and in a few it was weak and rapid. In 27 per cent. of these cases the patients were in good health and engaged in active business.

In Abel's case the symptoms, which came on suddenly, were those of obstruction of the bowel, with vomiting, profound collapse, retraction of the abdomen and distention of the left side. He based his diagnosis upon the retraction of the abdomen, distention of the left side with tympanitic resonance and displacement of the heart to the right, with the collapse, and absence of any passages either of gas or feces from the bowels. In his case it was impossible to introduce a stomach tube through the cardiac orifice; therefore this organ could not be irrigated. In Leichtenstern's case he was able to demonstrate the presence of stomach and intestines in the pleural cavity and to note changes in them from the introduction of water and air. This patient complained of dyspnea on exercise, but worse during eating. There was slight cyanosis of lips, increased respiratory frequency and almost an absence of heart dulness. Percussion and auscultation over front of thorax yielded normal signs. Heart sounds muffled and loudest at lower end of sternum. Abdomen flattened. Posterior part of thorax: slight loss of motion and prominence below the left shoulder blade. Percussion and auscultation normal to lower angle of left scapula. Below this a hollow, deep, tympanitic note. In this region absence of vesicular breathing; instead

*Read before the Chicago Laryngological and Climatological Association, May 2, 1901. (See Proceedings, p. 1801.)

1. Leichtenstern: Berliner Klin. Wochenschrift, 1874, p. 497.
2. Thoma: Virchow's Archiv, vol. lxxxviii, p. 515.
3. Abel: Berliner Klin. Wochenschrift, 1894, p. 84.
4. Dis. of Chest, Throat and Nose, 1900, 4th Ed., p. 88.

of this, high-pitched metallic inspiration and expiration, transmitted from the bronchial tubes, the inspiration loudest. Metallic tinkling and succussion sounds part of the time. The exact extent of area of metallic resonance and breath sounds was determined by auscultatory percussion. The borders where the metallic notes ceased abruptly varied considerably at different examinations. At times over the lower part of the chest the metallic breathing and quality of the percussion note would disappear entirely and the resonance would merely appear exaggerated; at other times it would occupy a larger area and invade the axillary region and even send a tongue-like projection to the left border of the sternum. During percussion the pitch would run up and down the scale from deep to high notes, or the reverse. He believed this the result of peristalsis and emptying of the stomach or colon or filling of same with gas. At times percussion produced notes of varying pitch at different parts of the affected area, indicating more than one cavity. At the lower part of the left and back of the thorax, dulness would be noted at times. The border of this would change with changes in position of patient. (Contents of stomach.) He based his diagnosis on the following points: Percussion showed in the lower left side of thorax behind a hollow cavity that applied itself to the chest wall in a changeable area. It changes its position, shape and volume in a very short time. The circumstance that at times metallic resonance was absent in the affected area while there was also absence of fremitus and vesicular breathing at all times over the area, showed that the cavity persisted but the metallic resonance was lost because of filling of the cavity with contents or because of its contraction. When this contraction occurred the lung tissue and vesicular breathing encroached on the area of the cavity, the lung expanding and following it up. The shifting of the upper border of the area of dulness showed that the cavity contained at times movable contents, and the size of this area indicated the presence of the stomach. The different pitch of certain areas of metallic percussion that at times were separated from each other by areas of dulness was explained by the presence of more than one cavity. (Small intestine, colon, stomach.) The breath sounds over the area were either metallic or often absent. The respiratory sounds he thought were changed in quality and acquired a metallic character by transmission through smooth-walled cavities. The pitch of the metallic breathing was decidedly less intense than that heard in the pneumothorax, because the sound was not transmitted through the pleural cavity alone, but also through the gastric and intestinal walls. At times the metallic breathing was heard only with inspiration, whereas, in pneumothorax, on account of greater compression of the lung, the expiratory sound is the loudest. In addition, gurgling, either simple or metallic in quality, was heard, also the metallic tinkling and splashing sounds, with bursting bubbles trickling and pouring sounds, such as are heard in diarrheas, or ecstasis of the stomach. These sounds were at times very frequent, at other times absent. Leichtenstern argued that where similar sounds are heard in the normal thorax in the axillary and infrascapular regions if the stethoscope is applied to the stomach or intestines it can be readily shown that these sounds are far more intense in the normal situation of these organs, whereas in diaphragmatic hernia the dislocation of the intestines or stomach encourages the formation of peristaltic sounds through the place of communication of thorax and abdomen, and these sounds are louder by far in the thorax than they are when listened for over the abdomen. After old pleurisy with high location of the diaphragm the stomach and intestines can occupy a high situation, but here we have a retracted and not distended thorax, with scoliosis, etc. Succussion sounds in this case showed the variable character belonging to all the other signs. When they were present they were deep, showing a large cavity. (Stomach.)

Almost all reported cases of diaphragmatic hernia show great variability in the signs.

Pneumothorax, the affection with which diaphragmatic hernia is likely to be confounded, results from pulmonary tuberculosis in 90 per cent. of all cases and in probably all of these is speedily followed by effusion of serum or pus into the pleural sac. The affection develops without the history of an injury. In the remaining 10 per cent. nearly all result from traumatism, and in most of these inflammation of the pleura speedily follows with effusion of fluid, though in a very few there may be no infection and the air may be absorbed without causing any effusion. In pneumothorax dyspnea may come on suddenly or gradually and we may often hear amphoric respiration, especially in expiration, which may be either intense or feeble and which disappears when fluid rises high enough to cover the opening into the air passages. When fluid and air are present in the pleural cavity we may often hear metallic tinkling during the respiratory acts and we may obtain distinct splashing sounds by shaking the patient's body while the ear is applied to the chest. The heart is constantly crowded to the opposite side, where it remains without variation. Diaphragmatic hernia is congenital or occurs through congenital defects in about 38 per cent. of the cases that have been recorded and in many of these it does not cause marked symptoms unless the hernia becomes strangulated. In about 60 per cent. of cases the affection is traumatic and therefore the history is quite different from that of pneumothorax. The dyspnea in hernia may come on suddenly and as suddenly subside, whereas, that of pneumothorax is more continuous. I have elsewhere stated that there is no amphoric respiration in diaphragmatic hernia, but the reverse of this is maintained by others. I can not understand how typical amphoric respiration could be produced in diaphragmatic hernia, although I know that similar though more distant sounds, especially on inspiration, are sometimes heard. These, I believe, are caused by the transmission of the bronchial sounds through the intestines or stomach, some parts of which are distended by gas. The most important factors in the differentiation of non-strangulated cases are the following:

1. The metallic tinkling in pneumo-hydrothorax and a similar sound, though different in quality, may be heard at times in diaphragmatic hernia. The quality of the sounds produced in the bowels and in the pleural cavity would often be sufficient to differentiate between them, but this quality can not be accurately described; therefore the principal value of the sign depends upon the fact that in pneumo-hydrothorax it is heard only with respiratory movements or upon shaking the body, while with the hernia it occurs independently of these movements and is associated with rumbling or gurgling of gas in the stomach or bowels which have escaped into the pleura.

2. The displacement of the heart, which in pneumothorax remains practically constant, in diaphragmatic hernia may vary with the varying contents of the stomach or bowels, as when the patient is fasting or soon after eating or drinking freely. The retraction of the

abdomen may prove of some value as a sign, and the symptoms of obstruction will be of the utmost importance if strangulation occurs. In a case saved by operation that was recently reported by E. W. Walker,[5] there was the history of a severe injury, with symptoms of intestinal obstruction and "diminished expansion of the left side of the chest, tympanitic resonance at the base of the left lung, amphoric breathing, succussion sound on shaking the patient and the apex of the heart was displaced two inches to the right." In this case there had been a fracture of two ribs and the patient had some pain in the left side, which leads one to suspect a rupture of the lung with pneumothorax, in addition to the knuckle of bowel (involving 8 inches of the gut) which was firmly held in the rent in the diaphragm. Walker cites numerous authors and states that among the symptoms named, dyspnea, intense pain, and cough are the most prominent, and that tympanitic resonance over the prolapsed gut, amphoric tinkling and sometimes succussion sounds are present.

The symptoms and signs must necessarily vary greatly according to the cause, the nature of the injury, when traumatic, and the condition of the organs protruding from the abdominal cavity. Larcher found that in about 91 per cent. of 275 cases no hernial sac existed. The signs would doubtless vary considerably in the cases in which the intestines protruded freely into the pleural cavity and in those where they were held down by the overlying pleura.

An interesting case has recently come under my observation that I believe to be a diaphragmatic hernia, but several skilled diagnosticians look upon it as a case of pneumothorax. The question has not yet been settled, but in view of the symptoms and signs I think the members of this society will be interested in each making a diagnosis for himself. The case is as follows:

A gentleman 29 years of age came to me Dec. 31, 1900, with the following history. Ten days previously, while walking on the street in the most vigorous health, he was occasionally taking very deep inspirations as was his habit, for the mere satisfaction of filling the lungs. Suddenly there was a pain and something seemed to give way in the lower outer part of the left inframammary region. He became faint and had to sit down for some minutes, but partially recovering he walked on a couple of blocks to a friend's office, where he sat down again. He became so faint and short of breath that he was obliged to be taken home. He felt better the following day and was on the street soon again, though he had an uncomfortable feeling in the left side and occasionally had mild attacks of dyspnea and faintness. He also noticed frequent splashing sounds or sensations referred to the left inframammary region. About a week after the first attack, as the result of climbing the stairs of an elevated railway station, he had a distressing attack of dyspnea and faintness. He rode on down town but felt so badly that he immediately returned home. He consulted Dr. William M. Harsha, and a day or two later came to see me. He had the appearance of perfect health and complained of nothing excepting slight discomfort in the left side and some shortness of breath. About ten years before he had a bad cough for two or three months while an attendant at a hospital, but he recovered immediately on leaving the institution and he had been in perfect health ever since. There was no hereditary tendency, to any disease. There had been no increase of temperature since the accident; indeed, the temperature and pulse had been slightly subnormal most of the time. No cough or expectoration. Appetite good and digestion normal. He had just eaten a hearty supper before calling on me, which apparently modified some of the physical findings. Abdomen somewhat retracted with marked transverse furrow across the upper part of the umbilical region about on level with end of tenth ribs. Chest normal form, but movements of left side much diminished. Apex beat of heart about 2 inches to right of normal. Spleen and liver could not be detected below the border of the ribs. Percussion and auscultation yielded normal signs over right side. Left side hyperresonant in front, excepting moderate dulness below fourth rib extending about 2 inches to left of mammillary line and downward to near border of ribs. Posteriorly and laterally hyperresonance over upper two-thirds of left side with tympanitic resonance below. Right border of heart extends one inch to right of sternum on line of fourth rib. Respiratory murmur at left apex about four-fifths as intense as on right side extending down to third interspace in front and to seventh or eighth rib behind. Below this, no respiratory sounds, but instead I heard several times, rumbling and gurgling exactly like that commonly heard over the bowels. Occasionally I heard short metallic sounds which might be termed metallic tinkling, such as may often be heard over the bowels when a patient is flatulent. These were not very much like the metallic tinkling I have often heard in pneumo-hydrothorax, probably on account of being produced in small cavities with elastic walls. I heard nothing resembling amphoric respiration and there was no succussion sound. I made a tentative diagnosis of diaphragmatic hernia and planned to see the patient at his home the following day with Drs. Christian Fenger and William M. Harsha. We called about 5 p. m., the patient having eaten nothing since a very light luncheon 4 or 5 hours previously. The signs were the same as on the previous evening excepting that the apex of the heart was crowded only about three-fifths as far to the right. The dulness to the left of the heart was less distinct, the respiratory sounds in front extended about an inch lower and behind two or three inches lower than the preceding evening and the gurgling sounds were heard much less frequently. I understood Dr. Fenger that he heard something like amphoric respiration over the lower part of the lung posteriorly but it did not occur while I was listening. Dr. Harsha was inclined to think the case one of pneumothorax; Dr. Fenger was noncommittal. I felt more confidence than before in my diagnosis. We advised the patient to go to the Presbyterian Hospital, hoping to establish the diagnosis and if necessary operate for relief. In the hospital Dr. Fenger explored the lower part of the left chest twice with a long aspirating needle, the first time with negative results. The next time there was some escape of air sufficient to blow out a match. This had no odor and the needle contained no cells or fluid that yielded anything to microscopic examination. The patient was given bismuth and examined by the x-ray, but with negative results. His stomach was filled with air and the colon with water and from percussion appeared to be in normal position. While in the hospital he was examined by Drs. Billings, Senn, Rhodes, Corwin, Herrick, Dolamore, Freer, Sippy, Torrison, Stevenson and others (about thirty in all), some of whom favored the diagnosis of pneumothorax and others agreed with me. I examined the patient several times during the next few weeks, hearing the intestinal sounds often and sometimes the long drawn out gurgle from rushing of air or fluid through a constricted portion. On one occasion I heard something resembling a faint but very distant amphoric inspiratory murmur, which I think must have been the same as the metallic breath sound from the bronchial tubes referred to by Leichtenstern. The position of the heart and the lower line of respiratory murmur varied somewhat from time to time, but otherwise there were no changes in the physical signs or in the patient's general condition. The diagnosis of diaphragmatic hernia appeared to me more and more probable with each examination, until finally, on account of the patient's anxiety to be through with the trouble, I felt justified in recommending an exploratory operation below the diaphragm, providing Prof. Fenger should concur. The patient himself, though favoring the operation, has thus far been unable to decide on account of the conflicting views as to the diagnosis. I examined this patient again February 13. He told me that about three days previously, after laughing, he could hear air rushing into some cavity below the left inframammary region. I found the left side more tympanitic than ever before; the impulse of the heart crowded

5. Walker: International Jour. of Surg., Sept., 1900, p. 257.

two inches to the right of the sternum; the respiratory sounds over the left apex extended down to about the fourth rib but were less distinct than previously and on a level with the inferior angle of the scapula on the left side posteriorly and laterally, amphoric sounds were constantly heard on inspiration though they lacked the amphoric echo and the nearness to the ear that are present in ordinary cases of pneumothorax. The gurgling and borborygmi could not be detected at this time. The left side measured 17¼ inches and the right 17. The movements of the left side were practically nil; the abdomen was somewhat retracted and the spleen could not be detected below the border of the ribs. A week later there was no material change in the physical signs. I examined the patient carefully Feb. 27, nearly ten weeks after the accident. During the whole time there has been no increase in temperature or pulse rate, excepting the slight change already mentioned which was present a day or two after one of the exploratory aspirations and which was attributed to a sore throat. At the last examination the contour of the chest was normal, with the retraction instead of prominence of the intercostal spaces on the lateral aspect of the left side. The abdomen was considerably retracted; the heart sounds were feeble when the patient lay upon his back, but the organ had returned two and a half inches nearer its normal position than it was two weeks previously. When the patient lay upon the right side the heart sounds and impulse were of normal intensity over the lower portion of the sternum to the left of the median line. The vesicular murmur could be heard over a larger area at the upper part of the left chest than at the last examination and was of about one-third its normal intensity. I was unable to hear anything resembling amphoric respiration, but whisper resonance was distinct though feeble over the lower half of the left side. There was a small area of moderate dulness about two inches in diameter at the upper anterior corner of the infra-axillary region, which appeared to me due to the contents of the hernia, but aside from this the lower part of the left side was moderately tympanitic and the upper part presented nearly normal though slightly exaggerated resonance. I heard no metallic tinkling or borborygmi, but the patient called my attention to an interesting sign which I heard repeatedly as he swallowed a little water. This was the normal though somewhat intensified liquid sound from the esophagus which could be heard only at the lower part of the esophagus below the level of the fourth rib. It could be heard in front and laterally though most distinctly in the latter position. This sound occurred as the bolus of water passed through the lower portion of the esophagus; it was followed by a silence of about ten seconds and then came another considerably louder and more prolonged gurgling sound which could be heard distinctly over the epigastrium and as high as the fourth rib. The first of these sounds I think was produced by the passage of the water through the lower portion of the esophagus into the stomach and the second by passage of a part from the portion of the stomach that remains in the abdominal cavity to that portion that forms a part of the diaphragmatic hernia. This patient has never had any history of stricture of the esophagus, so there is no reason for suspecting that the liquid remains for ten seconds in a pouch at its lower part before it passes into the stomach; indeed, if it were from this cause the second sound would begin immediately after the first and would continue until the liquid had drained into the stomach. It seems quite reasonable to suppose that it might require ten seconds before the movements of the stomach would force the liquid which had been taken in through the constriction into the hernia. These sounds could be produced at will every time the patient took a small swallow of water.

The points in favor of the different diagnoses in this case are shown in the following table:

| PNEUMO-HYDROTHORAX. HISTORY. | DIAPHRAGMATIC HERNIA. HISTORY. |
|---|---|
| 1. Ninety per cent. follow tuberculosis, most of the remainder traumatic. *Absent in this case.* | 1. About 27 per cent. congenital or due to congenital defects. The remainder traumatic. Absence of usual causes of pneumothorax. |
| 2. Usually sharp pain in side, followed by depression and symptoms of hydropneumothorax. *Absent.* | 2. Usually but little pain and not very prominent signs in congenital cases unless they become strangulated. |
| 3. Usually feeble, rapid pulse and persistent temperature. *Absent.* | 3. Pulse and temperature never above normal excepting slightly for a few hours after the first aspiration, at which time he had some sore throat. |
| 4. Abdomen usually distended, but may be normal. | 4. Abdomen retracted. |
| 5. Restricted movements and hyperresonance on left side. | 5. Restricted movements and hyperresonance at upper part of left side. Variable tympanitic resonance over lower part. In pneumothorax tympanitic resonance should be most marked at apex, unless prevented by old pleuritic adhesions. No history of pleurisy at any time in this patient's life. |
| 6. Commonly succussion sound or flatness, showing fluid in pleural sac. *Absent.* Very rare cases have little or no fluid. | 6. No succussion sound or flatness, though presence of gurgling, and splashing sensations noticed by patient extending four or five inches above diaphragm, showing presence of fluid in smaller cavity than the pleural sac. |
| 7. Displacement of heart to right, constant while air remains, but gradually disappears as air is absorbed. | 7. Displacement of heart to right varying from time to time according to the contents of stomach and bowels from one to five inches to right of normal. |
| 8. Spleen in left-sided pneumothorax crowded downward. *Absent.* | 8. Spleen not crowded downward. |
| 9. Feeble or absent vesicular murmur. | 9. Feeble vesicular murmur over upper part of chest, but at some examinations the murmur was three-fourths as loud as on the right side over an area varying at different examinations from two-fifths to three-fifths of the left side. The area over which it cannot be heard varies under the same conditions. Absence of vesicular murmur below. |
| 10. Amphoric respiration in many cases depending on whether opening into pleura from lung remains patent. | 10. Amphoric respiration, though lacking the echo that is usually present in the pleural cavity, present occasionally only, in this case and heard only over the lower part of the chest and that in inspiration only. In pneumothorax it is usually heard best in expiration and appears near the ear instead of distant as in this case. Gurgling and borborygmi as high as the fourth rib, from bowels, and louder than below the diaphragm. Sometimes long drawn out sounds from fluid or air passing through constriction. Although intestinal sounds may sometimes be heard above the normal position, it is doubtful whether they could ever be heard distinctly as high as the fourth rib, unless the diaphragm were crowded far upward, as after an old pleurisy. In pneumothorax the diaphragm would be pushed downward. |
| 11. So-called metallic tinkling, but it could not have been produced in the pleural cavity, because it contained no fluid. | 11. So-called metallic tinkling, but of quite a different quality from that heard in pleura; quality exactly like sounds often heard over abdomen. Produced independently of respiratory movements or shaking the body. There was no fluid in the pleural sac, therefore metallic tinkling could not have been produced by pneumothorax in this case. |
| 12. Dyspnœa. | 12. Dyspnea should be permanent in pneumothorax; it was intermittent in this case. |
| 13. Aspiration. Obtained air only. No odor. | 13. Aspiration. No fluid either from pleural cavity or intestines. No odor from intestines. This, like the absence of bacilli from sputum, is not a positive sign. |

In this case the symptoms and signs noted in 5, 7, 9, 10, 11 and 13, taken without modifying conditions would certainly indicate pneumothorax; but the conditions in some of these seem to make them weigh more for diaphragmatic hernia, and all of the other seven propositions certainly make strongly for the latter diagnosis.

J. B. Murphy states that when deflating the lung by air in the pleural sac the air must be introduced about every third day. It is improbable that confined air could remain in the pleural sac for this length of time. Clinical experience has shown that in nearly all cases en-

trance of air from the air passages to the pleural sac is speedily followed by effusion. It is extremely improbable that a communication of the pleural sac with the air passages could exist for this length of time without causing pleuritis.

The diagnosis in this case seems to me nearly certain; the prognosis very doubtful, and the treatment problematical. The fact that 27 per cent. of the cases reported by Bowditch were in good health strongly favors doing nothing; but the comparative safety of an operation under modern precautions and by such surgeons as we have at hand seems to justify the attempt to prevent possible strangulation.

The patient left the hospital a few days after the last examination and I have not seen him since, though I have heard that he is doing very well.

## THE VALUE OF CALCIUM CARBID IN THE TREATMENT OF INOPERABLE CARCINOMA OF THE UTERUS.*

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The treatment of carcinoma by calcium carbid dates from 1896. The late Dr. J. H. Etheridge, of the Chicago Policlinic, following some German physician, first brought this treatment into notice in America. He published the results of his experiments in The Journal of the American Medical Association, in July, 1898, highly recommending the treatment. Dr. W. B. Coley, of New York, took up the subject and published a monograph in Vol. 17 of the *Twentieth Century Practice of Medicine,* commending the treatment and presenting a flattering report of cases. This article has been widely circulated. Dr. A. H. Cordier, of Kansas City, last year read a paper recommending the treatment before the Mississippi Valley Association at Asheville, N. C. Comments are continually appearing in the American medical press as well as brief reports from German and French periodicals. The last editions of several standard text-books on gynecology have recommended the treatment.

The first attempt at a real exposition of the exact action of calcium carbid was made by Dr. Emil Ries before the Chicago Medical Society, and published in The Journal of the American Medical Association in November, 1896. This paper deserved more general attention than it received.

The growing widespread conviction of the value of calcium carbid seems to me a sufficient excuse to attempt to review carefully the theoretical and practical status of this treatment.

The procedure usually advised in applying the carbid is, 1, the removal of all necrotic tissue by the curette; 2, hot irrigation, cleansing and drying the wound; 3, the insertion of one or two pieces of calcium carbid the size of the terminal phalanx of the thumb; 4, fixing the carbid in place by iodoform gauze packing; 5, the removal of the gauze between the second and fifth day, cleansing, drying and repeating the process.

The various claims made by the advocates of this treatment are the following:

1. Acetylene gas has a specific escharotic action on the carcinomatous tissue.

2. Acetylene has an antiseptic action, inhibiting the bacteria of putrefaction and thus reducing odor.

3. It transforms the necrotic area into a clean, contracting, granulating wound.

4. Hemorrhage ceases or is greatly diminished.

5. Wider experience shows its positive value.

6. It gives the patient more comfort and postpones death.

7. It is without danger.

8. It is sometimes capable of producing a complete cure.

Calcium carbid is a hard, grayish, stag-like mass, formed by the union of quicklime and coke at the high temperature of the electric furnace. It emits a garlic-like odor when in contact with the moisture of the atmosphere and crumbles to a grayish-white powder. In contact with water it is violently disintegrated, liberating acetylene gas according to the formula: $Ca\,C_2 + H_2O = Ca\,O + C_2H_2$.

The commercial product varies and contains the impurities of the original materials. Water liberates hydrogen sulphid and hydrogen phosphid in small quantities, to which the odor is due.

Pure acetylene gas is a hydrocarbon having a faint ethereal odor. When impure it has been considered highly poisonous. The pure gas is but slightly toxic. Cushney, in his admirable work on therapeutics, classifies it as one of the medicinal anesthetics of inferior value, dangerous because of its depressing action upon the heart.

Water dissolves 1.1 times its volume of gas. From my determinations, defibrinated blood dissolves but .3 of its own volume, which would be about the limit absorbed by the serum. Rosemann has shown that acetylene forms no combination with hemoglobin, as has been frequently reported.

A saturated solution, as well as the pure gas itself, has no apparent physiological effect when 5 c.c. are injected in the dorsal lymph space of the frog. This I have proven repeatedly by experiment.

The impure gas arising from the carbid in water has no effect upon the open eye long held exposed to its influence, as was pointed out by Ries. I have been unable to notice any effect from a saturated aqueous solution of acetylene instilled into the eye.

I have observed the movements of leucocytes in a warm solution of normal salt saturated with acetylene. They do not seem to differ from normal. I can not find that the motions of motile bacteria or vorticella in acetylene solutions seem to be impeded. Rosemann exposed animals to streams of pure acetylene for several hours without fatal effects.

It would seem from such considerations that Dr. Etheridge was mistaken when he suggested that acetylene gas destroys cancer cells by annihilative action or by chemical change. The similar article by Dr. Coley in the *Twentieth Century Practice of Medicine* is likewise misleading. I believe we are safe in assuming that for all practical purposes acetylene has no physiological action on protoplasm sufficient to give it therapeutic value in the treatment of carcinoma.

Concerning the suggested bactericidal action of acetylene I find allusions to experiments by Professor Hektoen, of Rush Medical College, who is said to have grown several pathogenic bacteria with calcium carbid and acetylene gas with negative results. I have carefully reviewed the work by a series of experiments, growing the micro-organisms in an atmosphere of commercial acetylene gas after the manner of the culture of the tetanus bacillus in nitrogen, using nutrient gelatin. The

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streptococcus, staphylococcus, bacillus pyocyaneus, various diplococci, proteus vulgaris and other bacilli of putrefaction, all grow luxuriantly in an atmosphere of acetylene; meat and bouillon likewise decompose rapidly. Fresh urine decomposes as promptly as in the air.

I conclude that acetylene gas has no antiseptic or bactericidal power sufficient to retard the decomposition of necrotic tissue or the infection of healthy tissue, and can play no part in the removal of the offensive odor of the uterine discharge.

The second product resulting from the decomposition of calcium carbid is calcium oxid or quicklime. This almost instantly becomes slaked by the moisture present. The treatment of carcinoma by lime and other caustics is very old, and there are on record reports of the application to the cervix of nearly every known caustic. Beyond question the place of escharotics in the treatment of carcinoma uteri is a very limited one. In case a caustic is desired it is pertinent to inquire whether calcium carbid is a rational selection.

The action of all true alkalies is identical, depending upon their common hydroxyl ion. The degree depends upon their solubility. The alkaline hydrates, like caustic potash, are very soluble; they penetrate to considerable depth into the tissues; they neutralize all acidity; dissolve tissues by the formation of soluble alkali protoids; saponify fats; and withdraw fluid from the tissues for their dilution. They are slowly neutralized and removed by the body of fluids and cause a deep necrotic area, whose base bleeds easily, due to the solvent action of the alkali upon the fibrin of the blood clots. These agents have been given up in the treatment of the uterus because of the deep and dangerous sloughs and the tendency to hemorrhage.

Calcium hydroxide has an identical action, save, as it is but slightly soluble, it penetrates only the superficial layers and has less affinity for the tissues. So superficial is its action that the "cancer doctor," who uses it at all, mixes it with caustic potash in the form of "Vienna paste" to increase its penetration. It has the same tendency to dissolve fibrin and promoting rather than checking hemorrhage.

Metallic salts depend for their chief action on their acid ion. The action is the same as the action of their acid. The degree of the action depends upon the avidity of the acid and the solubility of the salt. They range in power from mild styptics to violent corrosives. The acid ion forms acid albumins. The limit of this action is more clearly marked than with the alkalies because of the neutralization of the acids at a definite level by the alkaline body fluids. The metallic ion forms in most instances insoluble metallic albuminates, which assist likewise in limiting the action. The base of the ulcer is hard and definite. They do not so readily dissolve fibrin and have a styptic action in checking hemorrhage. They can be selected in all degrees of strength to suit the extent of escharotic action desired, as in the series beginning with the mild alum, iron chlorid and lead acetate through mercuric nitrate, zinc chlorid to antimony chlorid, the last being rarely used.

The only argument for a caustic over a curette is its ability to penetrate the tissues and destroy the deep carcinomatous cells of lessened vitality and poor blood supply. The microscopical investigations of Ehler seem to demonstrate the contrary, that carcinomatous tissue is only superficially affected while necrosis of healthy tissue extends to a considerable depth.

I draw from these considerations that a caustic is seldom indicated and then a rational selection would be a soluble metallic salt and not the carbid of calcium.

The antiseptic action exerted by calcium carbid is due to the quicklime and to some extent by the heat liberated.

The decomposition of calcium carbid is attended with the evolution of a large amount of heat. A piece taken between moist fingers becomes too hot to hold. An erythematous redness is frequently seen about the area where carbid is applied. This is due partly to the inflammatory action of the caustic and partly to heat. Patients sometimes complain of a burning sensation. A piece of carbid the size of the terminal phalanx of the thumb weighs about 10 grams. This will liberate 8.7 grams of quicklime and 200 cubic inches of acetylene gas. The whole piece requires 5.6 c.c. or 1.5 drams of exuded serum for its entire decomposition. This disintegration, as near as my experience can determine, usually requires from three to twenty-four hours, varying widely with the vascularity of the necrotic area. I have measured the heat liberated in a calorimeter and find that from 10 grams about 4500 calories are set free, varying somewhat with the sample. This is sufficient to raise 71 c.c. of water from body temperature to boiling, or enough to similarly melt 459 grams of lead. There is no question but the heat liberated is quite sufficient to somewhat cauterize the tissues, especially when serous exudation and consequent decomposition is very rapid. To this heat is undoubtedly due the marked contraction of the wound, and the lessened tendency of the caustic to produce hemorrhage. It is very possible by the application of a large amount of calcium carbid in a thin vascular shell of a uterus to cause a slough producing perforation and fistula, hastening a fatal peritonitis or occluding the ureters, as other caustic agents are reported to have done. Other dangers have been suggested, but are more theoretical than practical.

The heat produced can never compare with the actual cautery which after thorough curettage probably to-day insures the best results in inoperable cases. This fact has recently been emphasized at the last meeting of the AMERICAN MEDICAL ASSOCIATION by Dr. Byrne, who reported the cicatricial scars of the actual cautery almost immune from carcinomatous invasion, and the roasting of the underlying tissues gives the largest immunity from extension. The gratifying contraction of the ulcerated area is more prompt and marked with the cautery than with the heat of the carbid.

The cases treated with calcium carbid that I have had under observation have run their usual typical courses. The cleansing, curettage and calcium carbid have together prolonged the patients' lives and rendered their last days more endurable. The results I can not see are in any respect superior to curetment, antiseptic treatment, the use of the cautery and mild styptic and escharotic applications.

I believe that both theoretical considerations and experience coincide in showing calcium carbid to be much overrated, of some danger, and doubtful utility; not so valuable as a better selected line of treatment suited to each individual case.

It is to be greatly regretted that so many inaccurate statements concerning this agent are creeping into literature. It is recommended in the last editions of several standard texts. In Dr. Garrigues' last edition of his "Gynecology," p. 544, he says, speaking of uterine carcinoma: "Calcium carbid is an important addition

to our palliative resources, which in cases that have not progressed too far may even effect a permanent cure." Cases that should receive "palliative" treatment are certainly inoperable. How the application of calcium carbid can affect the deeply infiltrated extra-uterine carcinomatous masses in such cases is beyond the ken of human reason, and I believe has no ground in experience. It is probable that in a case of incipient carcinoma of the cervix the neoplasm might be totally destroyed by a local caustic, but here calcium would be a poor selection and any palliative treatment would be unsafe to rely upon.

Few statements could be more serious than those of Levet and Guinard in "Nouvelles Rémèdes," of 1898, reported in the medical press, in which they state that they have kept inoperable cases of uterine carcinoma in a "happy statu quo" by the application of calcium carbid every four to five days. Such statements encourage tinkering and losing time on operable cases.

In closing I will draw the following résumé of important conclusions:

1. The mass of the literature on this subject is misleading.

2. The originators of the treatment were ignorant of the real action of calcium carbid, and had insufficient clinical experience to pass judgment on its value.

3. Acetylene has no effect on protoplasm sufficient to support a theory of any specific annihilative action on carcinomatous cells.

4. Acetylene has no escharotic effect.

5. Acetylene has no bactericidal action upon pathogenic bacteria or the bacteria of putrefaction.

6. The principal action of calcium carbid results from liberated quicklime.

7. Lime is not a rational caustic to select, if one is desired, because of its superficial action, the character of the necrosis and tendency to promote hemorrhage. The metallic salts are more styptic, and their action may be better graduated by proper selection.

8. The amount of heat evolved may be sufficient to slightly cauterize the tissues. In most cases it has slight therapeutic effect save counteracting the tendency to hemorrhage and promoting contraction.

9. The heat of the actual cautery promises better results because of the firmer cicatrices, resisting carcinomatous invasion and more complete contraction of the wound.

10. Calcium carbid is open to the same dangers as other caustics when improperly or too zealously applied: those of producing its corrosive action in the wrong place, fistulæ, perforation and fatal peritonitis or occlusion of the ureters.

11. The treatment does not reduce odor or hemorrhage nor give more comfort to the patients than other rational lines of treatment.

12. The claims of advocates have not been realized in experience. There is no evidence in theory or practice warranting the conclusion that calcium carbid could ever cure a case of really inoperable cancer of the uterus.

13. The facts regarding the subject should be more widely disseminated to expurgate medical literature and to avoid false expectations and fatal delays in operable cases.

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**The Children's Exposition** now open at Paris has a medical department, and one of the show-cases contains the photographs taken in early childhood of various prominent physicians. The historical exhibits of children in relation to the physician are artistic and interesting.

## MORPHINISM: AN UNUSUAL CASE.

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Some forty years ago, when Dr. George B. Wood's famous work on therapeutics appeared, he wrote concerning morphinism as follows: "It will not answer to break off suddenly. No fortitude is sufficient to support the consequent misery, and life might be sacrificed in the effort. Of the particular phenomena which might result I have no experience; for I have met with no case in which the attempt has been made, or at any rate more than momentarily persevered in." This doubtless was the consensus of professional opinion at that time, and probably it remains substantially the same to-day. From past instruction reinforced by a limited observation, it had seemed to me doubtful whether such a habit was ever thrown off by a patient, unaided, under any circumstances. How rarely a confirmed "morphin fiend" is cured by the most careful treatment, even in retreats, is well known to every practitioner. *A priori* it would seem well-nigh impossible, therefore, that a cure, without aid, should be effected in one who has become a slave to the drug.

Such a case would seem to savor of the sensational, yet such a one recently came under my observation. It is interesting largely on account of the unusual circumstances surrounding the inception and progress of the cure. That the patient has abstained from opium since first putting it away, which was about nine months ago, there is now no doubt. The case seemed so unusual that more than ordinary proof was required before accepting his statements. It is only after an investigation of such thoroughness that deception seems to be beyond question or doubt that a report is offered.

The patient in question was a laborer 45 years old, 5 feet 10 inches in height, weighing 166 pounds, and in better health than for thirty years past. He inherited a taste for alcohol and from boyhood used whisky to excess. Since childhood he has suffered acutely at times with pain due to disease of the left shoulder-joint. In 1884 he began to take a small amount of powdered opium daily to allay these pains. Soon this was mixed with pulv. glycyrrh. comp. in order to increase the bulk and thereby lessen the likelihood of mistake in dosage, as well as with the idea that it would diminish the tendency to constipation. So persistent was his constipation that for years previous to the discontinuance of opium his bowels did not once move without an injection. He avoided cathartics because of the quantity necessary for the desired effect. He found powdered opium and licorice an inconvenient form for daily use, so he added enough glycerin to mould it into pills. This answered all purposes of convenience thereafter. Gradually the amount of the drug was increased until after a couple of years he was using 30 grains of powdered opium daily. Becoming uneasy at this rate of increase he now made an effort to limit the amount. He found, however, that he must continue to have between 20 and 30 grains a day. This he took in three doses—one before each meal.

All this time and for years before, he had been using whisky to great excess. The amount taken daily was seldom less than from one to two quarts. For five years he bought a gallon jug full on an average of every two or three days. While the opium was taken in regular doses, the whisky was used at intervals throughout the day. According to his statements the opium would counteract the effects of the alcohol. Thus, he could

use more whisky than before and still carry on his business as usual.

The difference in the action of the two drugs was this: Alcohol excited him more or less and caused unsteadiness of muscular action. It failed to relieve pain or to lessen his mental troubles and worries in the least, but served rather to magnify them. Opium, on the other hand relieved his pains and lessened his nervousness. It minimized his troubles and furnished ready excuses for them. It gave him rest and a happy, untroubled feeling generally. No matter what happened it always seemed as if everything would come out right in the end. His worst time was immediately after rising in the morning, when he felt weak and powerless. After taking his customary pill this feeling rapidly vanished. Gradually such excesses began to tell on him. He lost weight, appetite became poor and stomach acted badly.

In 1888 he decided to quit using alcohol in any form, and did quit, though he had an attack of delirium tremens which nearly proved fatal. He clung to opium, but kept the amount down to 30 grains or less a day. In the summer of 1900 he had a severe attack of "gall-stone colic," which his opium, augmented by liberal amounts of morphin hypodermically by his physician, failed to relieve. His sufferings here were so intense that, following his recovery, he came to a firm resolve to abandon the drug. How great a task he had laid out for himself he afterward declared was beyond conception. The idea he had of it before the trial was that at most it would only be the quenching of a fire which would rapidly burn out as it failed of fuel. He went to a physician and asked for some remedy which would cure him of the habit. The physician not only said he could not furnish such a panacea, but gave him no encouragement and told him plainly that he could not rid himself of a habit so long established. This discouragement only strengthened his resolve, and that night he did not take his accustomed pill. That was about August 1, 1900, and since then he has not taken a single grain of any form of the drug. His weight at that time and previously had been about 145 pounds, his appetite was poor—almost nothing—his bowels moved only with an injection, and in condition he was generally run down. That night he did not find much trouble, though he slept but little and was nervous and fretful. The next day he felt weak and irritable and suffered from nervous symptoms. Then pains set in and it would seem as if some one was pulling and pinching his nerves with forceps. So intense were the twinges that he would jump and writhe with the pains. As soon as he could get at a part to rub it, the pain would fly to another quarter, and by thus shifting would by spells almost drive him frantic. At night such sensations were intolerable. He could not get rest in any posture, to say nothing of securing sleep. He would lie down tired and weak, and finding the bed uncomfortable get up in a few minutes and try the sofa. This being no better he would then throw himself on the floor. Worse than ever, he would take a rocking-chair hoping that perhaps he could snatch a few moments sleep sitting up. Then in the vain hope of so tiring himself that he would fall asleep from sheer exhaustion, he would pace the floor by the hour. Becoming wearied of the room and still unable to sleep he would walk the streets only to find himself as wakeful as ever. If by chance he fell asleep for a moment it would be to awaken directly, often with a scream, to find himself wet with perspiration. He had no visions nor delusions of any kind during this early period, save frequent attacks of night-mare, when he would awaken, covered with cold sweat, and filled with horror from dreaming that he had broken his vows and taken again of the drug.

In spite of all this he took nothing in the way of drugs or medicine for his restlessness. He had broken away of his own accord and not at the solicitation of friends or on the advice of any physician. He did not quit gradually but stopped suddenly, and that, too, with his can on the table at the head of his bed, where it continued to remain untouched for more than six months afterward, half full of opium.

The only thing he found which would procure him any rest was to have his feet bathed in water as hot as it could be borne. While this was continued he could get comfortable sleep. For two weeks the best sleep obtained was while his feet were being bathed in this way. And for the next four weeks he did not sleep to exceed two hours out of the twenty-four. The one symptom most vividly remembered was the inability to obtain rest by all the means at his command; and this, coupled with extreme weakness and depression, seemed more than all else to unfit him for resistance. The twitchings and nervous symptoms, the pain and even the longings for opium, he said could be more easily endured than the feeling of extreme prostration attended with inability to obtain physical rest. Sometimes he would go out in his garden with a hoe in order to occupy his thoughts, but nervousness so disqualified him from applying his mind to the work that he would be obliged to stop. And this led to the fear, which haunted him day and night, that he would lose his mind.

At the end of the first six weeks he began to feel stronger and to observe that he was able to get some rest. He could now begin to secure some natural sleep, and at this point felt that the battle was won. The period just after rising, before breakfast, still continued to be met with dread. At that time a feeling of dejection would almost overcome him, but would in a great measure disappear after breakfast. His appetite had begun to increase almost from the time he weaned himself from opium, and was now remarkably good. His weight likewise was on the increase. The bowels were moving normally, and had come around of their own accord, without physic, from a condition where they had not moved for years without injections to one of daily regularity. The complexion also, from a sallow, muddy color, changed to a healthy and almost ruddy hue, and his lusterless and apathetic eye took on a more natural appearance, so that his friends remarked on his improved condition. After the lapse of three months he felt perfectly cured and weighed 166 pounds, which is his weight to-day, and the only symptom then remaining was a feeling of languor on arising and lasting until breakfast. This symptom has not even yet entirely disappeared. Since his abrupt breaking off last August he has not taken opium in any form and does not now crave it. His half-filled opium can sits before me now—a silent testimonial of what can be accomplished by mere will-power alone.

Samples of his urine have been repeatedly tested for the opium reaction by Hausemann's and other tests with negative results. This was done to insure against fraud, and should in itself be a proof of abstinence. In view of all this, as well as the man's straight-forward story, his generally improved condition, and the time which has elapsed since his discontinuance of it, it

would seem that one is justified in considering this to be an accomplished cure.

The amount of opium taken daily in this case was not phenomenal—most physicians can point at once to cases where larger quantities are consumed. The patient, however, had been a slave to it for such a long period—sixteen years—that the habit had become fixed, and quantity then becomes a minor consideration. The habit was certainly as well established and as deeply rooted as if he had used much larger amounts for a shorter period of time.

If a man can accomplish such a cure *alone,* beginning suddenly, with no encouragement and without great stimulus, why should not others desirous of ridding themselves of the habit be cured more easily, in the majority of cases, by an immediate discontinuance of the drug, especially if they have the moral support and the aid of sedatives at the command of a competent physician? This is not meant to advocate a sudden withdrawal of the drug in all cases. Many patients might not be physically strong enough, though having sufficient mental fortitude to undergo the ordeal. What is meant is that it might be advisable to break away from the rule, inflexibly clung to by many physicians, of a gradual diminution of dose. If a patient is not taking doses of unusual size, if there are not great demands—as extreme pain—for the drug, and lastly if the physical condition and powers of resistance are not too much enfeebled, why not stop the narcotic at once and use all energy to resist it instead of drawing out the agony over months instead of weeks? In other words, why not put some of the burden on the physical instead of all on the mental resistance? Would not the chances of success be better in many cases to have a strong temptation to meet for a short time than a lesser temptation for a long period?

## SPASM OF THE GLOTTIS AND ESOPHAGUS IN ADULT LIFE.

A REPORT OF TWO CASES.

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Disturbance of function in the motor nerves supplying the upper air-passages and the upper alimentary tract is manifested not infrequently by the sudden onset of symptoms that produce great alarm and distress to the patient.

The first case is that of H. C., aged 54 years and married, who consulted me May 13, 1900, because of an attack of dyspnea that came on about 3 a.m. and just as he awakened from a sound sleep. This difficulty in breathing was attended by spasmodic crowing inspirations, with great mental distress and anxiety, and after the attack passed off, which was in several minutes, he felt weak and so miserable that the following day he lacked ambition enough to go to his work, that of cashier in a bank. An examination of his throat by direct inspection and with the laryngoscope disclosed nothing abnormal, notwithstanding his referring all of his trouble to the larynx. His pulse was 105, breathing a little labored, tongue covered with a heavy, yellowish-white coating, breath markedly offensive, bowels constipated, skin relaxed and moistened with a cold perspiration, and of a sallow color. The urine was free from albumin and sugar. The heart and lungs were sound, nor did I detect a lesion in the other viscera. He denied venereal infection and stated that his family doctor had been treating him more than two months for these spells, without success. He attributed his affliction to having slept with his son while he had the whooping-cough. However, this act was not followed by cough nor did his dyspnea come on with any regularity.

Most of the attacks occurred between midnight and 4 o'clock in the morning, arousing him from sound sleep, still he had attacks after rising in the morning and as late as 8 o'clock. Sometimes he would go two weeks without a spell, and again he might have several in one week. Their duration as a rule was from a few seconds to one or two minutes.

He was a fleshy man with flabby muscles, a temperate drinker and smoker, but a good hearty eater, with little inclination for exercise, using the electric-car much of the time to and from business. He had buried one wife, then met business reverses, but later happily married and again prosperous. He was given a laxative pill at bed time containing blue mass and colocynth and heroin and salicylate of soda three times daily. In the next ten days he had two more attacks, quite mild in comparison to the one at the time he first consulted me. Upon my recommendation he gave up business and took a prolonged vacation. The attacks of dyspnea, however, continued to recur, steadily grew more severe, and finally symptoms of dysphagia set in with unmistakable evidence of carcinoma involving the lower end of the esophagus and stomach. Death occurred on the night of November 2, and Dr. E. Linthicum, who conducted the autopsy, reports that the lower end of the esophagus and stomach were the seat of a primary carcinoma, with extensive secondary deposits in the left lobe of the liver.

The second patient, M. S., 31 years old and married, was referred to me by Dr. E. Linthicum, Feb. 6, 1900, because of an acute attack of dysphagia. He came to my office during the noon hour, in great distress, and said that while at dinner he suddenly found himself unable to swallow. Upon offering him some water and requesting that he swallow it, the liquid was retained a moment and then forcibly expelled through the nose and mouth with a gurgling throat sound. Direct inspection of the mouth and throat as well as careful examination with the laryngoscope did not reveal a cause for the trouble, relief for which was obtained after five minutes' inhalation of a compound cocain mixture in the globe nebulizer.

The patient stated that he had his first attack of inability to swallow some thirty days before, but it lasted only a few moments and did not alarm him much. After that he had a number of such spells, usually when eating in a hurry, a bolus of food lodging momentarily in the throat, after which it was swallowed with difficulty.

He was a spare, nervous individual, an overseer in a large cigar factory. His person had a very strong odor of tobacco, but he assured me that he only smoked two or three cigars a day. The attack for which he consulted me was by far the most severe of any he had had, and lasted over half an hour. He was given bromid of potash with tincture of cannabis indica, three times daily, and a little local treatment for an existing simple naso-pharyngeal catarrh. During the two weeks he remained under observation he had two or three more comparatively mild attacks of momentary duration, when he ceased visiting me because satisfied with his condition. A few months later Dr. Linthicum detected positive evidence of tubercular involvement of the upper lobe of the left lung, for which he sent him to Colorado.

While the great majority of cases of spasm of the

larynx and esophagus bear a close relation to hysteria or neurasthenia, yet the possibility of the symptoms being due to pressure on the recurrent laryngeal and esophageal nerves should always be borne in mind, and a diagnosis not arrived at until such pressure has been most carefully excluded.

## MAGNETIC FOREIGN BODIES IN THE EYE.

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The class of patients with whom we have to deal in our subject may be said to belong for the most part to laborers or mechanics, whose daily occupation requires that they strike steel upon steel or steel upon iron as the case may be.

We may speak of steel or iron interchangeably. Either causes deflection of the magnetic needle; each can be located by means of the Röntgen rays; both are attracted by the magnet, and the one is as destructive as the other.

Small particles of iron or steel are occasionally found loose in the conjunctival sac. When seen there they have usually first struck and probably loosely imbedded themselves in the cornea or bulbar conjunctiva and afterward become dislodged. They are then principally found just under and a little above the margin of the upper lid and are naturally easily removed.

Fig. 1 Shows the Hirschberg Sideroscope.

Small chips of iron or steel are frequently found imbedded in the cornea—they then cause considerable pain, lacrimation and photophobia. If located in the horizontal meridian or a little below it the degree of pain may be lessened by the patient's constant effort to limit the act of nictation, thus keeping the eye open as much as possible, thereby diminishing the amount of irritation caused when the lids are in contact with the foreign substance. Such particles of iron may be overlooked by the patient or his friends. If left alone they rust and cause more or less infiltration and frequently are the seat of infection. We are enabled to detect them in good daylight or by means of focal illumination —still more definitely by the use of a corneal magnifier. If loosely imbedded, we may use a probe around which is wrapped a piece of absorbent cotton, moistening it and wiping the foreign body off. If firmly imbedded, the cornea should be anesthetized either with cocain or holocain, the eye steadied with the fingers and under good illumination the foreign body removed with a spud or gouge made for that purpose. Or we may loosen the particle and apply a strong magnet. If rust is present it is well to remove as much of it as possible.

If the foreign body is deeply located in the tissues of the cornea, we should, if necessary, cut the overlying portion with a small cataract knife and then apply a strong electromagnet. In this way we lessen the possibility of further injury to the cornea or of having a sharp piece of iron penetrate into the anterior chamber during the process of removal.

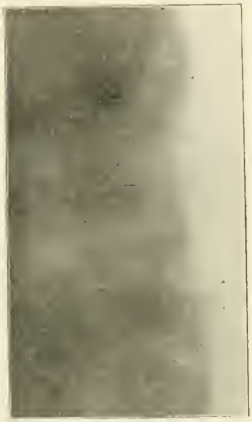

Fig. 2.—(Reduced)—Skiagraph showing foreign body located between the two pieces of fuse wire.

Fig. 3.—(Reduced)—Skiagraph showing foreign body between the four fuse wire landmarks. When held at a distance of half a meter the contrast is best.

The importance of strict asepsis in all cases can not be over-estimated. If infection is already present, we should use an antiseptic and then irrigate with an aseptic or mildly antiseptic solution. If much irritation is present, instill atropin and apply a pressure bandage.

Small sharp pieces of iron are occasionally found imbedded in the sclera. Owing to its elasticity and density, it, in many cases, resists the impelling force of the foreign body sufficiently to prevent penetration, or, on the contrary, it is entirely penetrated by it. It is

as a rule easy to locate and remove these pieces of iron from the sclera.

Before considering the more complicated subject of injuries due to penetration by, and retention of, the magnetic body, we will speak of the history and diagnosis of such cases. The patient, perchance, tells us that he has been working with hammer and chisel, and that upon striking a blow something hit him in the eye. Occasionally bystanders are the recipients of small pieces of steel in the eye. Many times patients try to assure us that nothing has penetrated the globe. They complain often of having only comparatively slight pain; of photophobia, lacrimation, together with more or less diminution of vision. We may find only a linear scar, the edges of which are already in apposition.

After examining the eye well in good daylight, we determine approximately the amount of visual acuity —field of vision—then examine under focal illumination and with the ophthalmoscope. Next in order is the sideroscopic examination. The value of the sideroscope in determining the presence of iron in the eye, and too, its approximate location, is much underrated. Dr. Thomas Pooly of New York was the first to use the compass needle in determining the presence of iron in the eye. All sideroscopes have been modifications of his. In 1894 Asmus devised one which has been successfully used up to the present time, but as it is somewhat complicated in construction, it requires the services of a good assistant for its successful employment. I have seen Professor Hirschberg get brilliant results with this instrument of Asmus's, and two years ago it was my pleasure to see him demonstrate, before the Berlin Ophthalmological Society, a sideroscope designed by himself. Its mechanism is simple and it gives excellent results. In structure it consists of wood, brass and glass. There are two substantial wooden brackets which should be firmly attached to a solid wall running north and south, or nearly so. Upon the upper bracket is an adjustable upright standard, the upper part of which consists of a glass tube. In the middle of the standard is an oblong chamber of brass on each end of which is fastened a small glass capsule. In the upright tube is a fine brass thread attached above to a revolving screw. On the end of the thread hangs a magnetic needle, upon the middle of which is fixed a small mirror. Upon the lower bracket swings a standard, bearing a lamp, rays from which pass through a strong lens on to the mirror of the swinging needle. A graduated scale is placed in position and the lamp so adjusted that the reflected rays fall upon a graduated screen.

Fig. 4.—Shows the Haab Magnet, as used when the patient is in the sitting posture.

For convenience of expression we may divide the eye vertically and horizontally, thus giving us four quadrants, an upper and lower nasal and an upper and lower temporal quadrant. Cut No. 1 shows the glass rod—within which is balanced a magnetic needle—as being almost in contact with the eye at about the juncture of the lower and middle third of its lower nasal quadrant, 7 mm. from the sclerocorneal junction. Here we find the needle gives the greatest reaction which, as the indicator shows upon the screen, measures 4 degrees. If we get little or no reaction of the needle when applied to an eye in which we have good reason to believe iron is present, we should bring the patient's eye into the field of a strong electromagnet. This magnetizes the retained iron and consequently results in

its giving a better reaction when the eye is again brought into the field of the needle.

In no case should we undertake an extraction nor should we even cause dislodgment of a chip of iron until we have if possible determined its location and relative size. In order to do so it will frequently be necessary to utilize the Röntgen rays. The first foreign body removed successfully after location with Röntgen rays was reported by Williams.[1] De Schweinitz, Hansell, Sweet, Oliver, Percy, Friedenberg and others have since reported favorable cases.

In order to obtain good results in *x*-ray work,[2] the head and eye of the patient must be kept motionless during exposure. This is best accomplished by having the patient lie upon a table designed for that purpose. The eye should be kept closed. Knowing that the rays travel in straight lines, we endeavor to place the tube and plate in such a position that we get a bitemporal skiagraph and also one taken in a fronto-occipital direction.

Before making an exposure in the bitemporal direction, four pieces of fuse wire, each 6 mm. in length, are placed—and held in position by means of ordinary court-plaster—over the temporal region of the eye so that the enclosure represented between their inner ends corresponds to an area a little larger than that corresponding to the lateral area of the eye. These pieces of fuse wire show distinctly on the plate after development.

If there be upon the plate more than the four regular outlines of the wire, we know we have a foreign body, and, moreover, we know its approximate size, location and shape as seen from this direction. We may still better locate it by placing a piece of paper cut exactly the size of the normal eye upon the plate between the four artificial landmarks, and mark upon it the location of the foreign body. Then, in turn, we place the paper over the area between the landmarks upon the patient, then designate the location of the foreign body by means of an anilin pencil.

In the anteroposterior exposure two pieces of wire may be used. They are placed, one upon the upper, the other upon the lower lid in such a manner as to represent the diameter of the eye from above downward. Comparisons are in like manner made here as before.

Fig. 5.—Haab Magnet as used when the patient is in the recum bent position.

We now come to the subject of the extraction of the magnetic body. The use of the magnet in surgery of the eye was first recorded about 250 years ago, when Wm. Fabry, a German, removed a small piece of iron from the cornea by means of a lodestone (1656). It is a little over half a century (1842) since Meyer, also a German, removed, through the wound of the sclera, a piece of iron from the vitreous, using a thirty-pound magnet. About a quarter of a century later, McKeown, of Belfast, made the first recorded equatorial incision

1. Trans. of Am. Ophthal. Soc., vol. ii, p. 708.

2. I am much indebted to Dr. Harold Sneve for aiding me in my efforts to obtain good radiographs.

(1874) for the removal of a piece of iron from the vitreous, which he accomplished by means of a magnetized rod of iron—the so-called permanent magnet. In 1877 Hirschberg perfected his electromagnet, and two years later operated successfully with it on a difficult case, making the first recorded meridional incision.

In 1894 Haab, of Zurich, constructed a giant magnet on the principles of the one used by Meyer in 1842. So many good descriptions of the magnet have been published that I shall here say but little regarding its structure. It consists of a cylinder of soft iron, around which is wound many layers of insulated copper wire. There is a cut-off switch fastened to the wall, also a resistance box at its base, with a number of steps which allow the gradual admission of the current, thus enabling an assistant to regulate the amount of force required by the operator. Meyrowitz has mounted the Haab magnet so that it may easily be moved in practically any direction.

I find that when in the recumbent position, the patient is often under much better control. This applies particularly to those cases in which the amount of traumatism is great.

The Hirschberg magnet consists of a soft bar of iron around which is wound a coil of fine insulated wire. It is a hand magnet provided with a number of variously shaped points of different sizes. It can be connected to a series of dry cells or to a zinc carbon element, and will support as high as 500 grams. It should be used in conjunction with the Haab. What the one will not accomplish, the other, in a large majority of cases, will.

Knowing the position of a foreign body lodged in the interior of the eye, we elect as to whether we shall remove it through the tract of entrance; draw it by means of a large magnet into the anterior chamber and afterward through a corneal section, remove it with the small point of the Hirschberg magnet; or we may decide that a meridional or an equatorial incision is preferable. In each instance it is our aim to remove the iron by such a method that it will result in the least injury to the eye.

The Haab magnet is and has been much used as an important factor in diagnosis. When used for that purpose the head of the patient is brought gradually toward the pole of the magnet. If pain be then present or increased we know that the foreign body has impinged upon the tissues; finally, if after we have turned on the full force of the current, we get no pain nor increase of pain, we reverse the current and apply the magnet to the eye so that its power-lines shall have had effect from all directions, and then if the patient complains of no pain, we infer either that there is no magnetic body present or else that it is too firmly imbedded to be affected by the magnet.

The magnet as a diagnostic instrument should be applied only after all other means have failed to show the presence of iron or steel in the eye. It is of the greatest importance that the patient be seen as soon after the injury as possible.

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**British vs. Boer Eyesight.**—In an address before the Society of Arts, in London, Mr. B. Carter, according to *The Lancet*, referred to the statement often made in the daily press, that the average vision of the Boers is superior to that of the British soldiery. He said that the Englishman, being accustomed to town life, does not allow for the purity and transparency of the air of South Africa and accordingly misjudges distances.

## THE IMPORTANCE OF INSTRUCTION IN MEDICAL SCHOOLS UPON THE MODIFICATION OF MILK FOR PRESCRIPTION FEEDING.

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BALTIMORE, MD.

During the last fifteen years we have noticed a great change pass over the question of infant feeding, both in the minds of the laity and of the members of our profession. We have seen a few aspects of this question change from hazy uncertainty into a phase of enlightenment. This change has been as remarkable as it is encouraging to the profession. For example, it is conceded that the feeding of infants should be wholly under the control of the physician. Just as the midwife has been superseded by the obstetrician, the ignorant nurse or untrained mother must be superseded by the trained and qualified physician. This position is held by the intelligent layman quite as firmly as it ought to be held by the educated physician. That it is very frequently more firmly maintained by the patient than by his physician is largely due to those medical schools which have neglected to prepare physicians for this important and remunerative work. A large part of the mortality of infancy is traceable to the lack of importance given to the subject of scientific feeding in the schools.

It is also conceded that in the absence of the proper breast milk some modification of animal milk should be employed as a substitute, and that cows' milk should form the basis of all scientific infant feeding. From this position there is now no deviation. Specialists differ as to the forms of modification, as to percentages and proportions, as to diluents and other matters of detail, but none differ from the general proposition stated above. However, scientific substitute feeding requires an intimate knowledge of milk, of breast milk as the primary example, and of modified cows' milk as the practical copy. It is not the fault of the average physician that this subject is to him often a *terra incognita*. It is mostly the failure of the medical school to lay the suitable foundation for this experimental knowledge. It is conceded that the modification of milk for infant feeding is a very simple thing of itself. Yet it is often regarded as a mystery and a snare in medical practice. The schools might make its complete study one of the simplest as well as one of the surest means of practical medical education. In our medical schools of the South there are no means by which the students or the post-graduate physician can obtain the training necessary to enable him to conduct thoroughly scientific infant or invalid feeding. Students in some of our Northern schools of medicine have opportunities to become more or less familiar with this branch of medicine, but in the South they have no such opportunities. These should be supplieded and I here make an earnest appeal that medical schools throughout this country obtain qualified men who will devote their time and energy to the teaching of this great subject. Since summer diarrhea is such a factor in our mortality. I suggest that at least during the summer months such of our schools as maintain a high standard of education should appoint qualified men who shall lecture by regular weekly lectures to students and post-graduate physicians, in the practical knowledge needed to understand this branch of our work. It would be an inestimable gain to earnest men to have such knowledge of the cow, her milk, its care, and the bacteriologic relation of such matters to the employment of milk for infant

feeding imparted by a competent instructor. If such a chair were founded in our schools, for example, and a proper man found to fill it, we should realize that advance had been made in pediatrics.

The milk laboratories that have been established in many cities of the United States have done much to further the scientific feeding of infants. Those physicians who employ these laboratories most largely speak most strongly of the results obtained. My own experience in the use of milk modified according to my prescriptions, at the laboratories, has been so satisfactory that I can not praise this method too highly, and I should like to see a milk laboratory within the reach of all physicians who have infants to feed artificially. This, however, is impossible, and at best only a percentage of physicians can reach the laboratories with their prescriptions. But all physicians intending to devote themselves either to general medicine or to the special work of pediatrics should be permitted and encouraged to lay a solid foundation for this work while they are in the medical school. Therefore, I hope my appeal for special instruction in feeding of infants will not be made in vain.

## A NEW PROCTOSCOPE AND SIGMOIDOSCOPE.

WILLIAM M. BEACH, A.M., M.D.
Secretary of the American Proctologic Society.
PITTSBURG, PA.

This new instrument differs from the ordinary rectal tube in that it contains an illuminating attachment.

Figure 3.

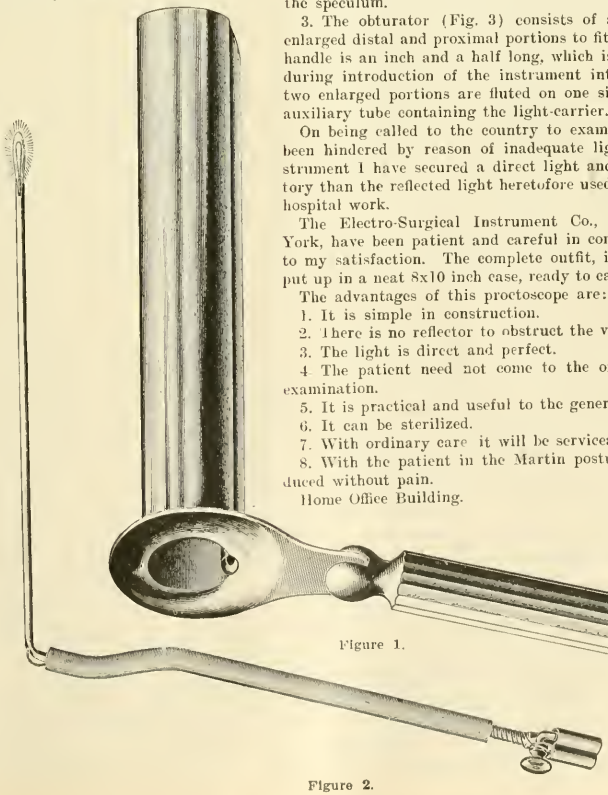

Figure 2.

The apparatus complete consists of the metallic tube, a metallic light-carrier, and a metal obturator.

1. The tube (Fig. 1) varies in length from an inch and a half (the anoscope) to eight inches. Though any length can be made, the set usually contains three sizes: 1, the anoscope, one and a half inches long; 2, the proctoscope, four inches long; and 3, the sigmoidoscope, eight inches long. For diagnostic purposes, the caliber is seven-eighths of an inch; for operative purposes, as valvotomy, or removal of high-up polypus, the caliber is one and one-fifth inches, the same as in Martin's set. The handle is round and corrugated, and placed at the usual angle with the axis of the tube. In the wall of the tube on the side of the handle is an auxiliary tube projecting both within and without the speculum to receive the light-carrier (Fig. 2); it is so constructed that the diameter of the speculum is not appreciably enlarged or the caliber lessened. The auxiliary tube is lined with cement, holding in place a specially prepared glass which serves as a window at the distal end of the speculum. This glass can be subject to high temperature, so that the instrument can be sterilized with impunity. The glass window protects the incandescent light from any mucus, blood or other material that may be present in the ballooned rectum.

2. The light-carrier consists of a very light tube with a four-candle power incandescent lamp on the distal extremity, properly wired, and made to conform with the shape of the speculum, when placed in the auxiliary tube. The proximal extremity receives the wires from a dry-cell battery, the source of light. The handle is covered by rubber tubing to protect the wires, and is clamped to the upper border of the handle of the speculum.

3. The obturator (Fig. 3) consists of a metallic rod with enlarged distal and proximal portions to fit the speculum. The handle is an inch and a half long, which is held by the thumb during introduction of the instrument into the rectum. The two enlarged portions are fluted on one side to pass over the auxiliary tube containing the light-carrier.

On being called to the country to examine rectums, I have been hindered by reason of inadequate light, and in this instrument I have secured a direct light and one more satisfactory than the reflected light heretofore used in my office and in hospital work.

The Electro-Surgical Instrument Co., of Rochester, New York, have been patient and careful in constructing the outfit to my satisfaction. The complete outfit, including battery, is put up in a neat 8x10 inch case, ready to carry as a satchel.

The advantages of this proctoscope are:

1. It is simple in construction.
2. There is no reflector to obstruct the view of the operator.
3. The light is direct and perfect.
4. The patient need not come to the office or hospital for examination.
5. It is practical and useful to the general practitioner.
6. It can be sterilized.
7. With ordinary care it will be serviceable for years.
8. With the patient in the Martin posture it can be introduced without pain.

Home Office Building.

Figure 1.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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## THE PARASITES OF CANCER AGAIN DISCOVERED.

Last year Max Schueller, of Berlin, in a preliminary report,[1] described certain organisms, probably of animal nature, which he by original methods had succeeded in cultivating from human carcinoma and sarcoma. The complete report is now at hand[2] in the form of a monograph of 128 pages with numerous illustrations. One might fear that these numerous discoveries of the cause of cancer—Sjöbring, Eisen, Gaylord, Max Schueller all describe animal parasites as the cause—would lead to complicated questions as to priority. Fortunately, or rather unfortunately, the differences in the descriptions of the various authors are so great that there is little likelihood of any troubles on this score. Schueller makes an earnest effort to avoid the subjectiveness that unfortunately has characterized some of the publications of enthusiastic investigators into the hidden problems of the cause of malignant tumors, and practically the whole of the book is taken up with a detailed statement of the results of his studies. Recognizing at the outset the futility of attempting to solve the question by purely histologic methods, he set about to discover some way in which the organisms, which he felt sure are present in these tumors, could be grown in pure culture. Successful pure cultures are described as being quite easily obtainable by keeping absolutely uncontaminated pieces of malignant tumors in small, air-tight glass vessels, protected from light and at the temperature of the body. A prerequisite for successful growths is continuous maintenance of the pieces at bodily temperature from the very moment they are removed from the body of the patient. The tissue of the tumor itself thus constitutes the nutrient substratum, and as the parasites already present in the medium begin to grow the cells of the substratum are destroyed or consumed and replaced by multiplying organisms. Small, fine granules, clumps or drops soon appear in the vicinity of the piece and tissue, consisting of rounded or oval bodies of golden-yellow or brownish color, three times or more the size of a red blood-cell. They have a thin, doubly contoured wall or capsule, which seems to be provided with numberless pores through which mobile protoplasmic processes may pass out, especially in young, vigorous forms. The presence of a nucleus is mentioned. Sometimes three to four and more globular formations are seen within the capsules, and these are regarded as stages in the development of young organisms. "Cultures" such as those here referred to are free from saprophytic and other bacteria, there is no putrefactive odor emitted, the odor present being described as characteristic and as different for carcinoma and sarcoma, the organisms from which also present some differences in their appearances. The pores and the mobile, thread-like protoplasmic processes, which emerge from them, are described as subservient to nutrition. The organism as a whole has a minimal degree of motion and is exceedingly sensitive to all kinds of disturbing influences. Satisfactory methods for subculture have not yet been devised, and the complete biology of the parasites consequently has not been worked out. The color appears to be due to an iron-containing pigment.

Schueller claims to have obtained similar, yet not fully identical, organisms from the lesions of syphilis.[3]

In tumors, organisms are found in flesh tissues if examined immediately after removal. Having studied the parasites in cultures, and consequently knowing what to look for in histologic preparations of dead tissue, Schueller found that they are best demonstrable by teasing pieces in alcohol and cleaning with oil of bergamot or some similar ethereal oil. Celloidin sections may also be used. Momentary staining with alum hematoxylin may be helpful in bringing out details in the tissue, the parasites remaining unstained and easily recognized by their yellow or brownish color. Good results have been secured by means of Mallory's thionin and oxalic stain for ameba coli, the small forms of the parasites staining red. In the tissues Schueller finds large empty capsules and young forms in great numbers, and in such relations to the cells that he draws the inference that the parasites certainly exercise a "formative stimulus" upon the cells. Often parasites are found in masses in the tissues situated either in a finely meshed network or in canals or tunnels. In glandular metastases of carcinoma he finds numerous parasites, especially at the margins of the carcinomatous nodules, so that it may be assumed either that cells and parasites are transported to the glands, the cells continuing to proliferate under the influence of the parasites, or that carcinoma cells originate *de novo* from the pre-existing cells of the glands, according to the theory of Virchow, now long since abandoned. Schueller, however, finds not a little in support of Virchow's theory, but he does not assume a definite standpoint. In many tumors Schueller finds appearances that indicate the entrance of the parasites into the tissues from without, and upon this basis he discusses, somewhat in detail, the prophylaxis of tumors. This assumption presupposes a form or forms of the parasites less sensitive to differences in temperature and other influences than those he finds in the tissues of tumors, but no facts

1. Centralbl. f. Bakt., Abth. I, 1900, xxvii, 129-140.

2. Die Parasiten im Krebs und Sarkom des Menschen. Von Prof. Dr. Max Schueller, Berlin. Jena, 1901

3. Centralbl. f. Bakt., Abth. I, 1900, xxvii, 516.

are given to throw any light upon this phase of the matter.

The animal experiments are given somewhat briefly, and without definite details as to the manner of inoculation, symptoms, duration of life, etc. Lesions, such as necrosis, inflammatory changes, and carcinomatous and sarcomatous proliferations are described as resulting from inoculations with the cultures mentioned in the foregoing. Mixed carcinomatous-like and sarcomatoid growth was observed in the spleen after inoculation with organisms from human carcinoma. Epithelial pearls may form in proliferations of the tubular epithelium of the kidney and of the intestines following inoculations—certainly an anomalous finding because, as far as we know, pearls occur only in squamous-celled carcinoma. Typical squamous-celled or cylindrical carcinomas do not appear to have been produced experimentally. The proliferations described may well have been altogether of a granulomatous character, and we are not told whether the rabbits experimented upon, as a rule, died spontaneously or not. Perhaps if they had been allowed to live longer the new proliferations would have subsided and faded away. When we are compelled to say that Schueller has not proved that his organisms produce carcinoma or sarcoma when injected into animals, it means that as a matter of fact the cause of malignant tumors is still unknown.

The biologic nature of the peculiar structures described by Schueller, and designated by him as parasites, is not at all clear. He states that the best zoologic and botanic authorities of the University of Berlin have declared themselves ignorant upon this point. Schueller believes that they are lowly forms of animal life, but not protozoa. Without personal observations and further studies by others it would be useless to speculate as to the nature of the yellow or brown iron-containing bodies that he has worked with. The suggestion will surely be made that they are, in part at least, altered red corpuscles and derivatives therefrom.

Nowhere in the monograph is it stated that the so-called cancer parasites occur freely in the blood of carcinomatous or sarcomatous patients. In Gaylord's overflowing announcement in regard to the protozoa of cancer the parasites are said to occur freely in the blood. It is clearly the duty of physicians and surgeons to not allow long established doctrines, such as the purely local nature of carcinoma in its early stages and its possible permanent curability at that time, to be overthrown or modified in the slightest by premature and unsupported statements of sincere but overzealous investigators into the etiology of cancer. Great harm would result were the impression to grow that cancer is a blood disease sure to break out somewhere else if removed.

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Surgeon-General J. Jameson, director-general of the British Army Medical Service, has relinquished his duties and retired to private life.

## THE ETIOLOGY OF VALVULAR DISEASE OF THE HEART.

Acute articular rheumatism is in reality so common a cause of endocarditis and consecutive valvular disease, and so much importance has been attached to it as an etiological factor in this connection, that there has been a tendency to overlook or ignore or minimize the part played by other morbid influences. Whether the inflammation of the endocardium be due to the lodgment of the, as yet undemonstrated, bacteria of rheumatism or to the irritative activity of the toxins to which they give rise, it would seem likely from *a priori* reasoning that a similar disturbance might arise in connection with any of the infectious diseases; and that this is really a condition and not a theory there is not wanting evidence to show. Besides, it is well known that valvular lesions at least may develop as a result of purely toxic processes, such as lead-poisoning, alcoholism and gout, and as a part of general arterio-sclerosis from any cause.

It is by no means an easy matter to trace the relations between an existing endocarditis or valvular lesion and pre-existing or coincident disease. Different observers have stated variously the frequency with which rheumatism is complicated by endocarditis and valvular disease. For purposes both of independent analysis and of comparison Worobjew[1] undertook a study of 180 cases of valvular disease of the heart observed in the therapeutic hospital clinic at Moscow from 1892 to 1897 in which a full and reliable history could be obtained, omitting from consideration cases of aneurysm and disease of the aorta without complicating valvular disease and of acute ulcerative endocarditis, as well as purely functional inorganic disease of the heart. A history of acute rheumatism was obtained in 54 of these cases (30 per cent.) although an undoubted connection between the commencement of the symptoms of the cardiac disease and the acute rheumatism was made out in but 20 (11 per cent.) Even in some of the latter it is thought that there may have been antecedent valvular disease, the attack of rheumatism serving merely as a cause for the functional disturbance. In the remaining 34 cases (19 per cent.) the symptoms of derangement of cardiac function made their appearance a longer or shorter period after the subsidence of the attack of rheumatism, so that there may be some doubt as to the relation between the two conditions. In 6 cases (3.3 per cent.) a history of chronic rheumatism was obtained, but it is thought that these cases may fairly be included with the remaining 120, in which there was no relation to acute rheumatism. Of this number 29 were complicated by aortic aneurysm—16 per cent.

It might be supposed that age would be an important factor in the development of valvular disease of the heart through sclerotic processes, but an analysis of these cases from that standpoint showed that those of non-rheumatic origin constituted the larger number at every period. It was found that the acute exan-

1. Deutsches Archiv für Klin. Medicin, 69. B., 5, 6 H., p. 466.

themata and also other acute infections without exanthem played an exceedingly small part in the etiology of acute endocarditis. The question arises whether acute endocarditis may occur as an independent disorder, but the consensus of opinion is that it is merely a clinical manifestation of some form of infection. The number of cases of such obscure or indefinite origin can not be considered as large. There is, however, reason for believing that endocarditis not of rheumatic origin may often be of chronic development, inasmuch as it appears related largely to influences that favor the occurrence of chronic processes, such as cardiovascular sclerosis. It is possible that antecedent acute infections may contribute to this end by lowering the resistance of the organism to such influences; they may at least favor the progress of the disease. In a number of cases further there is no history of infectious diseases whatever. In some also there is evidence of a congenital predisposition to chronic disease of the vascular system. In the cases complicated by aneurysm a history of syphilis, gonorrhea, and malaria was particularly common.

The results of this study may be summarized as follows: Acute articular rheumatism plays a more important rôle in the etiology of chronic valvular disease of the heart than any other infectious disease alone, but it is of less significance in this connection than all other causative factors together. Endocarditis is less commonly of rheumatic origin at all periods of life than it is due to all other causes. It is highly probable that non-rheumatic endocarditis is in the majority of instances not acute in onset, but is a chronic disorder from the beginning.

## THE ETIOLOGY OF ACUTE HEMORRHAGIC PANCREATITIS.

Halsted[1] describes the clinical and surgical features of a case of acute hemorrhagic pancreatitis, the post-mortem findings in which seem to have led to a valuable demonstration in regard to the etiology of this affection. The patient was a strong man, 48 years old, subject to attacks of "indigestion." Following an attack of this sort there developed great abdominal pain, cyanosis, especially of the abdominal wall, the pulse running from 87 to 92; there was no abdominal distention and but little vomiting. The pain was intense. At the operation blood-stained fluid escaped, areas of fat necrosis were seen in the omental and peritoneal fat, and there was found some blood-stained serum in the tissues about the pancreas. The common bile-duct was distended, but no calculus was found. Death took place soon after the operation.

At the autopsy, by Dr. Eugene L. Opie,[2] there was found the fat necrosis, acute hemorrhagic pancreatitis, and a small firm concretion, snugly filling the diverticulum of Vater, and too large to escape through the duodenal orifice. For a distance the pancreatic duct was stained bright green with bile.

In a number of instances acute pancreatic disease has been associated with cholelithiasis. Opie recently collected 31 instances of this character,[3] and similar cases have been described since then by Lund, Bryant, Stockton and Williams, and others. The etiologic relationship of the two affections are strongly suggested by this association, and the present case seems to furnish the clue to the mechanism whereby the pancreatic lesion is produced, namely, retroinjection (Halsted) of the bile into the pancreas, due to the lodgment in the diverticulum of Vater of a calculus, thereby converting the pancreatic duct into a channel continuous with the bile-duct, from which neither bile nor pancreatic juice could escape. Hemorrhagic pancreatitis has been produced experimentally by injection into the pancreas of a number of irritating substances, such as chlorid of zinc, gastric juice, bacteria, sulphuric acid, hydrochloric acid, etc., but it is clear that these results could not be applied directly to the explanation of the genesis of human cases. Bile had not been injected until the case here mentioned suggested to Opie the possible rôle of bile in acute pancreatitis. He found that injection of bile into the pancreatic duct of dogs caused a necrotizing hemorrhagic inflammation of the pancreas, like that seen in the human cases and accompanied with fat necrosis. The primary action of bile is necrosis of the parenchymatous cells and hemorrhage, rapidly succeeded by reactive inflammation. Hence he concludes that cholelithiasis is associated so frequently with hemorrhagic and gangrenous pancreatitis because gall-stones impacted in Vater's diverticulum force bile into the pancreas. Perhaps the admixture of pancreatic juice with bile in this case intensifies the destructive action. We know from various experiments and observations that steapsin, one of the pancreatic ferments, may cause fat necrosis when it is set free in the abdominal cavity. It is seen that a flood of light has been thrown upon these peculiar lesions, and as is so often the case, the explanations are delightfully simple and adequate. Now that acute pancreatitis is beginning to be understood it will probably not be long before many more cases will come to be recognized than heretofore. As pointed out by Halsted, we must learn to distinguish gall-stone attacks *per se* from those complicated by pancreatic lesions. When such cases are recognized early enough the stone in the diverticulum may be removed. The facts here touched upon will lead also to renewed study of the anatomical relations of the bile and pancreatic ducts and their common meeting-place, Vater's diverticulum.

1. Bull. of Johns Hopkins Hospital, 1901, xii, 179.
2. Ibid., 182.

## ALLEGED DRUG HABITS IN VERMONT.

It is charged every little while by certain alarmists that, in some sections of the country, drug habits prevail to a dangerous extent and are increasing among the population. Very often this is alleged to be the

3. Am. Jour. of Med. Sci., 1901, cxxi, 27.

case in prohibition districts with the inference that it is due to the suppression of alcoholic drinks. A sample of this kind of sensational charge is afforded in a recent issue of an Eastern paper, which takes up some alleged statistics of an article said to have been read before the State Medical Society of Vermont, and indulges in the usual generalizations. According to the quoted physician's estimate, there are sold in that state over 3,300,000 doses of opium every month, aside from that prescribed by physicians or contained in patent medicines. This is figured to allow one dose and a half daily to every person in the state over 21 years old, and the journal quoted thinks that this means "that the people of the hills are wooing oblivion with greater assiduity than those of the wicked cities devote to the pursuit of ruin." It reasons out a cause for this in the loneliness of rural life and the social ban on liquor, dragging in incidentally the degenerative factors existing in a state that has been losing its best blood by emigration, leaving an apathetic and discouraged remainder seeking solace for their hard condition in drugs.

Not having the original statistics before us, but assuming that they are quoted correctly, it is worth while to see whether they justify the deductions. Assuming only one-half of Vermont's 343,000 inhabitants to be over 21, it would be hard to figure out an allowance of even seven-tenths of a dose daily for each. Of course the size of the dose figures in the result, but it is presumed that it is not over the ordinary one of, say 1/6 gr. of morphin, or a corresponding amount of opium. It is estimated by Oppenheim that the average morphinomaniac using hypodermics consumes at least 15 grains of morphin daily. The average opium-consumer per os takes no less, and probably much more. It would seem, therefore, that even over three million doses sold each month would scarcely more than satisfy a few hundred confirmed morphin fiends, and would be an average supply for less than 2000 at the most. If there are 2000 or even 1000 in Vermont the condition is bad enough, but it would not by any means imply such a devotion to narcotic indulgences as was alleged by the editorial quoted.

It is an example of the readiness with which a certain class of minds take up and generalize upon imperfect data when they appear to support the individual preconceptions. It is also a fair sample of much of the modern alarmist literature upon medical questions that have a certain popular interest. There may be, though we seriously doubt it, a very large number of habitual "moderate" users of narcotics in Vermont, but it certainly would not take a very large number of real confirmed opium fiends to use up the amount alleged to be consumed in that state.

## EXTENDING AN OPERATION WITHOUT CONSENT.

About two years ago THE JOURNAL noticed editorially the decision of a German court in regard to the liability of a surgeon for changing the operation while the patient was under anesthesia, and could not, therefore, be a consenting party. A similar case has just occurred in Chicago,[1] where a woman sued a medical institution to which she had gone to be operated on for hernia. After the incision was made a state of affairs was revealed that required a more extensive operation to save life, and it was done accordingly. Suit was brought on the ground that the surgeon had exceeded his instructions and damages to the amount of $25,000 claimed. The court promptly decided that the surgeon was justified, and ordered a verdict for the defendant, but the case, it is said, will be appealed to the higher courts, which have so far never given out a decision on this point. To the average medical intellect there would seem to be plenty of precedents for saving life without asking the beneficiary's permission, and to decide contrary to this would practically put a premium on murder. There were such in the old laws, but they have been eliminated for the most part in this country and in modern times. It would be a pity if any remained to apply in such a case as this. Of course, the vital point is the danger to life; any consideration short of this should be very carefully estimated by the surgeon before proceeding under such circumstances. In any case it will always be a valuable precaution to have an understanding with the patient before anesthetization that the surgeon is to have his or her full consent to the performance of whatever operation is deemed absolutely necessary. Without this there is risk of unpleasant accusations, and likewise a risk of damages should the higher courts follow the German precedent. Believing, however, as we do, in American common sense, we have faith that the decision of the lower court will be upheld.

## THE CANTEEN.

The resolutions passed in regard to the army canteen at the late meeting of the AMERICAN MEDICAL ASSOCIATION are being widely noticed by the lay press, and in a few instances the inferences deduced seem to call for comment. It was certainly not the intention of the members of the ASSOCIATION who voted for the resolution to cast any slur on the honesty or intelligence of those who differ from them on this point, and there are undoubtedly many members of the ASSOCIATION who do not favor the canteen or believe it to be a good thing. The opinion of the great majority of those who voted for the resolution was, we believe, that from the evidence offered it is at best a necessary evil. They simply endorsed it as better than the conditions existing without it. It would be unfortunate if the impression should become generally accepted that the representative body of the medical profession favored habitual liquor-drinking *per se*, even when limited to beer and light wines. It appeared, however, to those who voted for the resolution, to be the fact that a considerable portion of the regular army is recruited from a class that has very little control over its appetites, either as regards liquor or other temptations, and that it is not possible otherwise than by the canteen to create at once conditions that will prevent their gratification in ways that are not desirable. The resolution simply was an expression of opinion of those who voted for it that the canteen

1. See "General News," p. 1791.

is under present conditions a necessity as an adjunct to discipline. It would be well, in case it is reinstated, that it should be under such regulations as will forestall temptation to make its beer-selling function a source of profit or to encourage the acquisition of drinking habits in those not already thus addicted. We can not but recognize the fact that its existence is opposed by the consciences of a very numerous and respectable body of our fellow-citizens, and while many of us may honestly differ with them, it is not, as some of the lay press would apparently have it, without a sincere respect for their worthy aims.

## ECHINOCOCCUS ALVEOLARIS SIVE MULTILOCULARIS.

Cases of this interesting form of echinococcus disease occasionally occur in the United States, especially in immigrants from Southern Germany and certain parts of Austria, Switzerland, and Russia, where the disease is not so very infrequent. Recently, Melnikow-Raswedenkow published an extensive monograph based on the study of the parasitology, general pathology, and pathologic anatomy of about one hundred cases from various museums and laboratories of Europe. In Russia the disease is more frequent than commonly thought, and it appears to be of rather wide distribution. Among some of the principal results obtained by Melnikow-Raswedenkow may be mentioned that the disease may be primary not only in the liver, but also in other organs such as the brain, the spleen and the adrenals. The peculiar changes produced in the tissues depend on the growth of the parasite itself, rather than on the nature of the reactions of the cells, so that it is safe to conclude that it concerns a special form of parasite. In most cases the embryo is carried from the intestine into the liver, where it forms a multilocular chitinous mass corresponding to the mature proglottid of the tapeworm. Ovoid embryos and scolices are produced and may penetrate into the surrounding tissues by ameboid movement. Some embryos which reach lymph-vessels or blood-vessels again produce chitinous tufts from which new embryo develop. The essential difference between ordinary echinococcus cysts and the multilocular form is that in the former daughter cysts develop only from the inner layer, whereas in the latter embryos form upon the external as well as the internal surface.

The parasites of alveolar echinococcus disease induce proliferation of cells, accompanied with more or less necrosis, thus leading to a form of infectious granulomatous process, the products of which consist of epithelioid, lymphoid, and giant-cells, and white areas of a form of cheesy disintegration. Metastases may form by way of lymphatics and blood-vessels. The source and mode of infection are as yet unknown. Up to the present time successful feeding experiments have not been made. The disease in man is a dangerous one and so far the only successful treatment is surgical. The most pronounced symptoms in the majority of cases are those of tumor or cirrhosis of the liver, and it will be recalled that for a long time the disease was confounded with colloid carcinoma. Virchow showing that the lining of the irregular cavities with colloidal or gelatinous contents consists of the lamellated cuticle. Jaundice and hemorrhages are frequent, especially in the latter stages.

## THE RELATION OF PHYSICIAN AND SURGEON.

The fact that mutual benefit is derived from consultations between physician and surgeon, in the case of many affections that were formerly considered purely medical, has been recently emphasized. In all medical affections in which surgical intervention may become imperative to save life, as typhoid fever, gastric ulcer, cholelithiasis, exophthalmic goiter, and numerous others, the physician must either associate with himself a progressive surgeon or thoroughly acquaint himself with the pathologic manifestations that furnish an indication for operative procedure and promptly invoke the aid of the surgeon when occasion demands. Conversely, practical knowledge of the symptomatic indications of this class of diseases, as well as the more refined laboratory methods of investigating them, is of incalculable value to the surgeon. He must at all events be able to interpret the results of laboratory research for the purpose of arriving at an accurate diagnosis. In his Oration on surgery, before the recent meeting of the American Medical Association, Dr. John A. Wyeth[1] directed forcible attention to the common error of relying exclusively on the subjective and objective signs, on the one hand, and the importance of calling into requisition those invaluable aids to diagnosis that are furnished by bacteriology, the demostrations of hematology and a careful microscopic and chemical examination of the sputum, gastric juice, and urine on the other. The address of Dr. J. M. Anders, Chairman of the Section on Practice of Medicine, at the same meeting, also contains practical and timely suggestions along the same lines. He emphasized the importance of a closer, truer union between the physician and surgeon, in the operating theater, the clinical amphitheater and at the bedside, as well as the advantages of joint sessions between the medical and surgical sections for the discussion of that growing class of diseases that may present both medical and surgical aspects. Neither so-called medical nor surgical affections are distinct entities, and hence a more liberal joint cultivation of the ever-growing field that is of mutual interest and concern to physicians and surgeons would be an important step in the advancement of the welfare of mankind. Moreover, a more intimate association would tend to lessen the aggressiveness of the surgeon and, what is perhaps even more important and desirable, lessen to an equal extent the conservatism of the physician. Especially when viewed from the standpoint of treatment many affections demand at the present day surgical, coupled with physical, physiologic and therapeutic measures. In short, they require the combined services of the physician and surgeon for their successful management. This new condition of things has sprung from the invasion of the various viscera of the body by the surgeon as the result of improved methods and advancements in his art, and the ultimate benefits as compared with the pure medical treatment of former days are obvious.

1. Jour. A. M. A., June 8, 1901.

# Medical News.

## CALIFORNIA.

**Dr. Charles L. Ellinwood**, San Francisco, has been appointed to the Board of Regents of the State University.

**A new emergency hospital** is to be erected in Los Angeles. It will be a modern structure in every way and will accommodate about 350 patients.

**Elizabeth Bard Memorial Hospital**, Ventura, is rapidly approaching completion. The superintendent thinks that it will be ready to receive patients within three months.

**Dr. Stanley P. Black**, professor of bacteriology in the medical department of the University of Southern California, at Los Angeles, left, May 17, for Europe, where he expects to spend a few months in Koch's laboratory.

**Fire at Presidio Hospital.**—A fire at the Army General Hospital at the Presidio of San Francisco, June 10, destroyed three wards, the medical supply room, kitchen and dining room, causing a loss estimated at $25,000. Thanks to the heroism and discipline of the hospital corps men, all patients were safely removed.

**State Board of Health.**—The governor has appointed the following members of the State Board of Health: Drs. Rudolph W. Hill, Los Angeles; Walter B. Coffey, San Francisco; W. P. Mathews, Sacramento; Charles A. Ruggles, Stockton, and Calvin L. Gregory, Yreka. The new board met at Sacramento, elected Dr. Hill president, and re-elected Dr. Mathews secretary.

## CONNECTICUT.

**The Hartford Board of Health** has organized with Dr. Thomas F. Kane as president, and Dr. Joseph B. Hall as secretary, and has appointed Dr. Arthur J. Wolff, bacteriologist.

**Dr. Richard S. Griswold**, Lyme, who has served as acting assistant-surgeon in the Army, and assistant-surgeon of Volunteers, in Cuba, the Philippines and China, has been appointed by the President as major and surgeon of Volunteers and ordered to the Philippines.

**Experimental Hospital for Tuberculosis.**—The Senate reported favorably the following bill: The sum of $25,000 is hereby appropriated to the Hartford Hospital for the erection of an experimental hospital for the treatment of pulmonary tuberculosis in accordance with plans to be filed in the office of the comptroller. State patients shall be admitted to and receive treatment in said hospital, when erected, for the sum of $4 per week.

**Sanitation in Connecticut.**—In its annual report the Connecticut State Board of Health calls attention to the great difference in the results of private and hospital treatment of typhoid fever. In six hospitals there were 693 cases, and the mortality was only 6.8 per cent., while 1163 cases in private practice showed a mortality of 20 per cent. The sanitary conditions of Connecticut have been greatly improved in the past ten years owing to the increased authority conferred upon health officers. By isolating cases of smallpox and other contagious diseases, disinfecting the premises where such diseases have been found, improving the sewage systems in several places, etc., these officials have reduced the death-rate from 19.2 to 17.9 per 1000 of population.

## DISTRICT OF COLUMBIA.

**Dr. Michael J. McIntee** has succeeded Dr. Osmyn Baker as resident physician at the Washington Asylum Hospital.

**Columbian Medical School.**—The eightieth annual commencement of Columbian University Medical Department was held May 27. Dr. E. A. de Schweinitz delivered the doctorate address and a class of thirty-five was graduated.

**Emergency Hospital Changes.**—As a result of competitive examination, Drs. Bragonie and T. D. Stewart, of the University of Virginia, and Dr. Kuhn, of Georgetown University, on June 1, assumed their positions as internes in the Emergency Hospital.

**Anti-Spitting Resolution.**—The Medical Society of the District of Columbia has passed a resolution which declares that spitting upon paved sidewalks creates a nuisance dangerous to health, and should be forbidden by law, and the possibility of difficulty being encountered by the police department in enforcing a regulation forbidding spitting upon paved sidewalks constitutes no valid reason why such a regulation should not be promulgated.

## ILLINOIS.

**Dr. John F. Sloan** has been appointed health commissioner of Peoria.

**Dr. Mary M. Mars**, Evanston, for two years assistant head physician at the Cook County Insane Hospital, has resigned.

**Dr. Joseph Robbins**, Quincy, has been appointed superintendent of the Illinois Central Hospital for the Insane, Jacksonville.

**Dr. Arthur M. Lee**, Carbondale, has been appointed superintendent of the Illinois Asylum for the Criminal Insane, Chester.

**Dr. Thomas Foster**, who has remained assistant at the Illinois Eastern Hospital for the Insane, under three administrations, has resigned.

**Dr. Thomas R. Mullen**, Bloomington, has sailed for Ireland on a visit to his old home. Before his return he will make a short tour of England.

**Dr. Percy J. Ashburn**, lieutenant and assistant-surgeon, U. S. Army, now on duty in the Philippines, has been ordered to Fort Sheridan to relieve Captain and Assistant-Surgeon Francis A. Winter, U. S. Army, transferred to Jefferson Barracks.

### Chicago.

**The baccalaureate sermon** at Rush Medical College was preached June 16, by Prof. Nicholas Senn.

**Dr. Warren H. Hunter** has been appointed county physician by the Board of Commissioners of Cook County.

**Daniel D. Healy**, superintendent of public service, has been appointed warden of Cook County Hospital.

**Dr. George Dohrmann** will leave next week for Europe; he intends taking a course of one year at Vienna.

**The German Hospital** is to be enlarged by a building to cover an additional frontage of 75 feet, and to cost $40,000.

**Provident Hospital** benefits at least to the extent of $50,000 by the munificence of the late Dr. W. S. Caldwell, of Freeport.

**Rush Medical College** held its class-day exercises in the college amphitheater June 20. Prof. James Nevins Hyde delivered the address.

**State Board of Health Examinations** were held, June 6, at the Great Northern Hotel. About 125 candidates for license to practice medicine in the state appeared.

**The cornerstone** of the new clinical building for Rush Medical College was laid June 19, the address being delivered by Prof. J. M. Coulter, of the University of Chicago.

**Dr. Allen T. Haight** and wife sailed for Europe on the *Deutschland*, June 13. He will read a paper on "Tuberculosis of the Eye" before the Congress of Tuberculosis, which assembles in London, July 22.

**Dr. Mergler's Bequests.**—By the will of the late Dr. Marie J. Mergler, $3000 is devised for the foundation of a scholarship in physiology for women, in the University of Chicago and $3000 for the Woman's Hospital of Chicago.

**Rush Medical College** held it annual commencement exercises at Studebaker Hall, June 21, graduating a class of 191. The doctorate address on "The Modern Need for Literature" was delivered by Prof. Richard Burton, of the University of Minnesota.

**Health of Chicago.**—There were 441 deaths reported to the Health Department during the week ended June 15, this being 28 more than during the preceding week and 67 in excess of the corresponding week of 1900. The increase in the week's mortality was chiefly among children under 5 years of age, there being 33 more at this age-division than during the preceding week. Two deaths were caused by sunstroke. Measles claimed 14 victims during the week, this being 10 more than the preceding week.

**Northwestern University Commencement.**—The forty-third annual commencement exercises of Northwestern University were held this week. The annual alumni meeting and banquet was held at the Great Northern Hotel, June 19; and the commencement exercises of the medical schools at the Auditorium, June 20. The doctorate address was delivered by Rev. James Roscoe Day, Chancellor of Syracuse University, N. Y. The Northwestern University Medical School graduated a class of 74, and 19 were graduated from the Woman's Medical College.

## IOWA.

**The State Board of Medical Examiners** at its last session issued certificates entitling 108 applicants to practice medicine in the state.

**Dr. Lee W. Dean,** Iowa City, has been elected professor of otology, rhinology and laryngology in the College of Medicine of the University of Iowa, vice Dr. Charles M. Robertson, resigned.

**Dr. Charles F. Applegate,** first assistant at the Iowa Hospital for the Insane at Clarinda, has been elected superintendent of the state hospital at Mount Pleasant, to succeed Dr. F. C. Hoyt, deceased.

## MARYLAND.

**The West Nottingham Academy** elected Dr. R. E. Bromwell, of Port Deposit, Cecil County, president.

**Dr. Carroll's Monument.**—The monument to the memory of the late Dr. Thomas King Carroll was dedicated June 12 in the cemetery of Old Trinity Church on the banks of the Little Choptank River, Dorchester County. The people came from all over the county and from distant cities and counties of the state, but were principally those among whom the revered physician lived and labored during his professional career of fifty years. It was a spontaneous tribute to the memory of a noble physician and valued friend. The monument of Italian marble was erected by the contributions of 200 or more of the doctor's patients. It rises from a base of 2 ft. 8 in. broad to a height of 10 ft. 8 in. It stands at the head of the grave in the Carroll lot with an appropriate footstone on which a cross is carved.

### Baltimore.

**Dr. William Osler,** wife and son sailed for Europe June 19.

**Dr. Samuel Kohn** will spend the summer in South Germany.

**Dr. and Mrs. John Turner** have gone to Halifax, Nova Scotia.

**Dr. T. C. Gilchrist** sailed June 20 and will spend the summer abroad.

**Dr. Charles E. Simon** and family are summering at Chester, Nova Scotia.

**Dr. Thomas J. Ward** and wife will leave for a trip to the Pacific coast July 8.

**The National Temperance Hospital,** attached to the Maryland Medical College, has changed its corporate name to Franlin Square Hospital, of Baltimore.

**Smallpox.**—At the monthly meeting of the State Board of Health, June 12, it was announced that there were but three cases of smallpox in the state, one here, one in Allegheny County and one in Montgomery County.

**President Ira Remsen, M.D.,** of the Johns Hopkins University, will attend the annual banquet of the alumni of the College of Charleston, S.C., and will respond to the toast "The Colleges of the United States."

**The University of Maryland Hospital** will build a four-story and roof garden on the present nurses' home of the institution, providing 15 sleeping rooms for day nurses and quiet sleeping apartments during the day for those on night duty. There will also be a free infirmary for nurses and a diet kitchen course of three months on the scientific principles followed in the Drexel Institute.

**Health of Baltimore.**—The annual report of the City Health Department for 1900 contains a valuable series of maps showing the location of every case of diphtheria, scarlet fever, consumption, typhoid fever and pneumonia during the year. There were 1861 cases of diphtheria and 281 deaths; 402 cases of scarlet fever and 20 deaths. The maps show the remarkable fact that only a few cases of scarlet fever and diphtheria develop among the very poor living in the alleys, showing, it is said, the influence of schools in the dissemination of these two diseases since the children of the class just named do not attend school. The annual death-rate was 19.77 per 1000. For whites the rate was 17.48, for the colored 33.42 per 1000. There were 8,653 births and 10,700 deaths reported. Consumption caused 1056 deaths; pneumonia, 1303; Bright's disease, 618; heart troubles, 660, and typhoid fever, 189. An earnest plea is made for a general sewerage system, improved street paving and an infectious disease hospital.

**Johns Hopkins Commencement.**—The commencement of Johns Hopkins University was memorable for terminating the first quarter century of its existence. There was a marked increase in the number of medical graduates, the class numbering 54. Of these 6 were women, 7 less than last year. The principal address was delivered by Dr. Henry M. Hurd, professor of psychiatry in the medical school and superintendent of the hospital. The following appointments in the Medical School were announced: Charles R. Bardeen, M.D., associate professor of anatomy; Thomas B. Futcher, M.B., associate professor of medicine; Walter Jones, Ph.D., associate professor of physiological chemistry; Robert L. Randolph, M.D., associate professor of ophthalmology and otology; Stewart Paton, M.D., associate in psychiatry; Percy M. Dawson, M.D., associate in physiology; Eugene L. Opie, M.D., associate in pathology; and Henry Barton Jacobs, M.D., and Thomas McCrae, M.D., associates in medicine.

## MICHIGAN.

**Grand Rapids Medical College** held its fourth annual commencement exercises June 3. The address to the graduating class was delivered by Dr. Clarence H. White, president of the college. Degrees were conferred on a class of fifteen.

**Saginaw Valley Medical College,** Saginaw, held its fifth annual commencement, May 22, and graduated a class of twenty-six. Dr. Victor C. Vaughan, dean of the Medical Department of the University of Michigan, delivered the doctorate address.

**Health in Michigan.**—In the Monthly Bulletin of Vital Statistics, the report of the secretary of the State Board of Health, based on the sickness statistics, shows that in the month of May, 1901, compared with the average in the ten years preceding, scarlet fever, smallpox and typhoid fever were more than usually prevalent; and consumption, remittent fever, inflammation of bowels, measles and cerebrospinal meningitis were less than usually prevalent in the May just passed.

**Smallpox in Michigan.**—Since the first of January outbreaks of smallpox in 199 localities in Michigan have been caused to cease, and in 132, or 66 per cent., of these outbreaks the disease was restricted to the one household where the first case occurred. Notwithstanding this splendid record of effective work by the health services, state and local, the disease continued to spread because in the other outbreaks where the disease was not restricted to the first household, it was first called Cuban itch, "cedar itch," chicken-pox, or acne, and not reported to the health officer so that restrictive measures could be taken. It is now present in 75 places in Michigan, 5 places more than in the preceding week.

**Spreading Life-Saving Knowledge Among the People.**—One of the most important but less conspicuous phases of the work being done by the State Board of Health, is shown in the report for April, of a village health officer in Southern Michigan. He reports: "By a letter from the secretary of the State Board of Health, I was induced to report the want of sanitary care and precautions in the last few weeks' life of a patient who died of tuberculosis of the lungs in this village last spring. The poor unfortunate was moved about from family to family of her relatives, and cared for as well as their means could afford, but in utter neglect of all the means of preventing its communication to others. Most of this neglect came from lack of knowledge as to what could be done by poor folks to lessen the chances for taking the disease." By attracting attention to such instances, and by taking advantage of them for the instruction of the people, much can be done and is being done for lessening the spread of tuberculosis.

## NEW YORK.

**Quarantine against Cleveland** is threatened by the Health Commissioners of Buffalo unless the authorities of the former city make strenuous efforts to stamp out smallpox. There are now said to be 100 cases of the disease in Cleveland.

**Smallpox.**—A serious condition exists in Suffern, Rockland County, owing to the alleged error of the local health officer in diagnosing smallpox as "Cuban itch." The state authorities, at the instance of complaints from New Jersey, investigated and found many cases of smallpox.

**The Syracuse College of Medicine** has changed its administrative plan so that hereafter there will be no separate administration at the medical college. The finances will be in the charge of the treasurer the same as at the other colleges, except as may be necessary to accommodate any special case.

### New York City.

**Cornell University Medical College** held its third annual commencement June 5, when degrees in medicine were conferred on a class of twenty-six, fourteen of whom were women.

**Tuberculosis** is hereafter to be classified as a contagious disease by the immigration officials and consumptives from other lands will be denied admittance to this country.

**Gift to the Academy of Medicine.**—A large portrait of Dr. William H. Thomson was presented to the New York Academy of Medicine, June 6, by Dr. William M. Polk, dean of Cornell University Medical College.

**Harsen Prizes.**—The trustees of the College of Physicians and Surgeons have established three Harsen prizes for proficiency at the final examinations in practical anatomy, clinical medicine, clinical surgery and several other subjects. The prizes are $500, $300, and $200, respectively, for the three highest men. It has been the custom at the College of Physicians and Surgeons to award a diploma of "examination honors" to each of the ten men of the graduating class who pass the best examinations in trying for their doctor's degree. The ten men thus honored are entitled to take part in special competitive examinations, and the three most meritorious competitors receive the first, second and third prizes, respectively.

## WISCONSIN.

**The New La Crosse Hospital,** which has been erected at a cost of about $50,000, was formally opened to the public May 14. The hospital has accommodation for 50 patients.

**St. Mary's Springs Sanatorium**, near Fond du Lac, is to be erected at a cost of $25,000, donated by John T. Boyle. The institution will be under the charge of the Sisterhood of St. Agnes.

## GENERAL.

**Extending an Operation Without Consent.**—A woman was operated upon at the Post-Graduate Medical School of Chicago, by Dr. Franklin H. Martin, for the reduction of a large ventral hernia. It was discovered that the patient had tuberculosis of the appendages, which condition had not been indicated by any of the symptoms and was wholly unsuspected. The tubercular condition was quite extensive, and Dr. Martin, being of the opinion that the ovaries had lost their function and that the disease was so developed that there would be no hope for the patient's recovery therefrom, unless the ovaries and tubes were removed, proceeded to remove them. The patient, upon being informed of this operation, instituted an action for assault and battery against Dr. Martin, the Post-Graduate Medical School, Dr. Clarissa Bigelow, and Dr. Eliza R. Morse, for the recovery of $25,000 damages. The defendants, through their attorney, Frank Crozier, pleaded in justification, that although the actual consent of the patient had not been obtained for the removal of the ovaries, yet inasmuch as that was the proper thing to do surgically and inasmuch as the patient's life would have been lost had it not been done, the law would presume that the patient had given her consent that all things necessary be done. The defense thus squarely raised the question as to what is a surgeon's authority when he comes across unexpected conditions while performing an abdominal operation. The point has never been passed upon by any court of review, and the question is still an open one legally. The case against Dr. Martin has been twice tried in the Superior Court of Cook County, once before Judge Brentano, and again before Judge Kavanagh. Judge Brentano directed the jury to find the defendants not guilty, on the motion of the attorney for the defendants, who urged that the plaintiffs had not proven that the operation had been performed. After directing the verdict, Judge Brentano, the point being technical, at once granted the motion for a new trial, and the case was immediately called by Judge Kavanagh, who at the close of the evidence introduced by the plaintiff, on motion of defendant's attorney, instructed the jury to find the defendants not guilty. While he did not expressly base his decision on the theory that plaintiff had impliedly authorized the defendants to do whatever in their opinion was for her best interests, yet he clearly indicated that he would so hold the law to be, should the point be properly raised. The plaintiff prayed an appeal to the Appellate Court, the decision of which will be awaited with considerable interest. Attorneys are somewhat divided in their views as to what the courts will hold the law to be, but the best opinion is that there is absolutely no doubt that when the question is properly presented to an upper court the law will be laid down to be that a surgeon is authorized to do what in his judgment the physical well-being of the patient requires. But until the law is thus established the attorneys agree that it would be best to have the express consent of a patient. It may be added that the patient was a charity case.

## CANADA.

**Dr. Howard Barnes,** Montreal, paid a visit to Cornell University last week, where he installed in the physical chemistry department an exceedingly delicate pyrometer of his own invention, which is capable of measuring accurately a temperature of 3000 degrees Fahrenheit.

**McGill Convocation.**—Medical degrees were conferred at McGill on the afternoon of May 14 to the number of 91. The four prize men were all graduates in arts, two of them hailing from Toronto University. Dr. William Gardner delivered the address to the students, while Dr. Harold Ker replied with the valedictory.

**McGill University** has been chosen as one of the institutions which will carry on original research work under the supervision of the newly incorporated Rockefeller Institute of Medical Research. When this work is commenced at McGill it is understood that Professor Adami, of the pathological department, will be in charge.

**Ban on Consumptives.**—Sir James Grant, Ottawa, president of the Canadian Tuberculosis Association, is authority for the statement that recommendations have been made to the Canadian Government to deal with immigrants affected with consumption along similar lines as inaugurated by the United States Immigration Department.

**Toronto University Items.**—Convocation of all departments took place on the afternoon of June 7. Dr. R. A. Reeve, dean of the medical faculty and president of the Alumni Association, presided. The honorary degree of LL.D. was conferred on his excellency, the Governor General, Lord Minto, and also on Dr. Louis Frechette, the French-Canadian poet.

**Montreal General Hospital.**—The report for the month of May of the Montreal General Hospital shows that there were 19 cases of typhoid fever in the hospital for the month, which is unusually large for that month of the year. Two hundred and sixty-eight patients were admitted to the wards and 251 were discharged. There were 20 deaths, and the daily average of patients was 160.

**The progress of the medical department** of the provincial university has been so great that it has become necessary that a much larger building shall be provided for its accommodation. It is expected that arrangements will soon be entered into by means of which, when the School of Practical Science addition is built, the medical department will have a handsome new building, which will be well equipped in the most modern manner.

**Hospital Appointments.**—Dr. F. Fleury has been appointed medical superintendent of the Notre Dame Hospital, Montreal, to replace Dr. A. Ethier, who has resigned to pursue post-graduate work in Europe. He will have associated with him as house surgeons, Drs. A. Brosseau, V. Chapdelaine, A. St. Pierre and J. Edouard Grenier. Dr. Ethier, who leaves the hospital, occupied the position for five years.

**Women Doctors Recognized.**—Two Toronto hospitals have this year recognized the claims of the lady medicos when making the annual appointments on their resident staffs; and it is likely that hereafter the Toronto General and the Victoria Hospital for Sick Children will have a lady physician constantly on their staffs. The question has been raised whether they are to occupy the usual quarters provided for the house surgeons.

**Medical Students in South Africa.**—Those medical students who were serving in South Africa were all granted relief from their examinations by the Ontario Medical Council. Two received their matriculation, two their primary examination, and six were registered as practitioners. Some discussion arose on this point, when Dean Geikie, of Trinity Medical College, declared emphatically that if this simple measure of justice was not done to these men who had taken their lives in their hands out of patriotism, he would no longer occupy a seat in that Council.

**New Canadian Society.**—The graduates of Queen's University (Kingston, Ontario) in New York have organized a new Canadian society to be known as the New York Society of Graduates and Alumni of Queen's University of Kingston. President, Dr. James Douglas; first vice-president, Dr. Farquhar Ferguson; second vice-president, Dr. John R. Shannon; executive committee, Drs. L. H. Gardiner, W. G. Fraleck, and Mr. D. C. Porteous and R. S. O'Loughlin. The society will act conjointly with the New York Society of McGill University and the Canadian Society of that city in sending a representative to present an address to the Duke of Cornwall and York on the occasion of his visit to this country.

**Finances and Officers of Ontario Medical Council.**—The report of the finance committee recommended that the salary of Dr. H. W. Aikins be $500 for treasurer for the ensuing year. The treasurer estimated his revenue for the coming year at $25,136, comprising cash in bank, $3,936; assessment dues, $4,400; registration fees, $1,800; rents, $4,000; fees from professional examinations, $11,000. The estimated expenditures is $17,885, leaving an estimated balance of $2,751. Officers elected: President, Dr. L. Brock, Guelph; vice-president, Dr. Emory, Toronto; registrar, Dr. R. A. Pyne, Toronto; treasurer, Dr. Wilberforce Aikins, Toronto; auditor, Dr. Patton, Toronto.

**Sir William Hingston** has been distinctly honored by the Pope for charitable work and zeal for the church. "The Papal Cross" has been bestowed "for the Church and Pontiff." His Grace, Archbishop Bruchesi, conveyed to Sir William the gift of the head of the church, which was accompanied by the following letter from Cardinal Rampolla, the Papal Secretary of State: "His Holiness has deigned to accord the Cross from the Church and Pontiff to Sir William Hingston as a recognition of his devotion and fidelity to the church and its supreme head. The Cardinal Secretary of State has the pleasure to transmit him the diploma and the said cross, in order that he may wear it on his breast, as it is customary to do with other decorations."

## FOREIGN.

**London's Bedlam to Move.**—For nearly a hundred years Bethlehem Hospital for the Insane, colloquially corrupted into "Bedlam," as early as the 13th century, has occupied its present site in Southwark, which it has now outgrown, and will be converted into a park. This will be its third move in the many centuries of its existence.

**Royal Condition Wrongly Diagnosed.**—To clear himself of a charge of having made a wrong diagnosis when called to see Queen Draga of Servia, Dr. Caulet, of Paris, has published in *La Semaine Médicale* the full correspondence which passed between him and the Servian court, and gave in detail the queen's symptoms, which simulated pregnancy.

**Thomas Bond, F.R.C.S.** England, 1866, eminent as a surgeon and analyst, committed suicide in London, June 6, by throwing himself from a third-story window of his residence. He had been suffering from melancholia for about two years. For many years Dr. Bond was analyst to the Home Department and lecturer on forensic medicine in Westminster Hospital.

## LONDON LETTER.

### A Snub to the Profession.

Some time ago a number of gentlemen, including Mr. Arthur Chamberlain, brother of the Colonial Secretary, founded the "Birmingham Consultative Institution," the object of which was stated to be to secure for the working classes of the city the advantages of consultation with eminent practitioners, which could at present be obtained only by fees beyond their means. A fee for consultation of $2.50 was fixed, and a certain Dr. Irvine was appointed. The medical profession of Birmingham immediately took up arms against the Institution, which they regarded as simply a means of advertising the physician in question and obtaining for him very comfortable fees. They pointed out that the Birmingham consultants were perfectly satisfied already to see patients at this reduced fee if their position was such that they could not pay more. Dr. Irvine was brought before the General Medical Council and convicted of unprofessional conduct in allowing himself to be advertised by the Institution. The Council decided not to immediately remove his name from the medical registrar, but to give him six months to think over his position. As a result he resigned his position in connection with the Institution. No sooner had he done so than he was appointed one of His Majesty's Inspectors of Schools. In the House of Commons a member called attention to the matter, and insisted that he should not have received the appointment with such a charge hanging over his head. No doubt this appointment must have been brought about by the influence of the Colonial Secretary's brother. In defending it, the Colonial Secretary said that Dr. Irvine had only infringed the "trades-union rule" of the profession against advertising and that as there was no accusation against his private character the appointment was not improper. Sir Walter Foster, a medical member of Parliament, submitted that on public grounds no person in such a position as this doctor awaiting the judgment of the General Medical Council on a charge of which he had been found guilty should have been appointed to a high public office. This stigmatizing as a "trades-union rule" the injunction against medical advertising, an injunction which really is in the interest of the public more than the profession, and this cynical contempt by the Government for their own court, the decision of which on purely professional matters the brightest judges have declared to be unalterable, may seem extraordinary. It is to be accounted for by two facts: The profession is unorganized and commands no vote of which governments are afraid, and therefore is a political cypher; secondly, as has been before explained in THE JOURNAL, science commands no general respect in this country.

### Sweets Sparkling with Glass.

A physician in Bedford has forwarded to the *Lancet* for analysis some sweets which he thought were the cause of severe abdominal pain in children under his care. The *Lancet* analysis disclosed the fact that the sweets were coated with small particles of glass, which were no doubt the cause of the symptoms. Powdered glass is a strong irritant poison. Hence this is a very serious form of contamination. The makers of the sweets have not been traced. This is a duty which the local authorities should perform.

### A Ladies' Public Health Society.

The Ladies' Public Health Society of Manchester and Salford, which has been in existence some years, represents a form of activity as unusual as it is useful. Its object is to bring sanitary knowledge into the houses of the poorest. Its scope has been greatly enlarged by connection with the sanitary committees of Manchester and Salford. The working-class neighborhoods are divided into districts containing 1000 to 2000 cottages. Each has a lady superintendent and a "health visitor." The latter is a working woman who lives in the district and knows the life of the poor from experience. She visits all the cottages, makes friends with the people, and gives them hints and advice on all sorts of subjects, and has her eyes open for detects of drainage, overcrowding, sickness, etc., all of which she reports on a form that is posted daily to the medical officer. She pays special attention to infants, and always carries a leaflet on infant-feeding, which she does not simply hand over to an ignorant young mother to be probably thrown into the fire, but reads and explains it. Such advice is much required, for there is no limit to the ignorance of these young women, who have, perhaps, spent all their unmarried life in a factory. She is often the means of persuading families to exchange a small and unsanitary cottage for something better as the children grow up. She can recommend a house, a caretaker, a charwoman, or whatever else may be needed to meet the wants of each case. She can show how to make a bed, wash a baby, apply a poultice, or cut out a garment. The health visitors have no special training, but are women of strong character and sound practical experience. The lady superintendent is a sort of power behind the health visitor. She can supply the theory on which the practice is founded. She is consulted when difficulty arises and takes the whole financial responsibility. She also holds weekly meetings in the district, and by dint of constant repetition makes a large body of women acquainted with the laws of health. These in their turn influence their neighbors. For nearly two years the Manchester health visitors have been systematically visiting and reporting on cases of consumption to the medical officer of health and spreading the knowledge of the nature of consumption and the means of preventing it.

### Acute Suppuration of the Thyroid Gland.

At the Clinical Society, Mr. R. J. Godlee read a paper on a case of this disease. A woman, aged 20, was attacked with typhoid fever, at the end of October. On November 20th a swelling formed at the lower part of the neck and was followed by a patchy, irritable rash all over the body, which disappeared on the 26th. The swelling rapidly enlarged and the temperature rose, reaching 104.4 on the 28th, and 105.4 on the 29th. When the patient was first seen the swelling occupied the middle line and extended somewhat to the right, but much further to the left. There was dysphagia and the surrounding structures did not move freely over the swelling. The mass did not move on deglutition. An incision was made in the middle line and a large cavity was reached at a depth of half an inch in the gland. It contained a reddish-brown sticky fluid mixed with pus and much friable material. A drainage tube was inserted and recovery was uneventful. Mr. Godlee discussed the different varieties of thyroid inflammation: 1, idiopathic with spontaneous subsidence; 2, epidemic, as described by French military surgeons, which is of the nature of an acute specific fever; 3, the septic form, of which his case was an example. Acute suppurative thyroiditis has

been recorded in connection with many infectious states, such as rheumatic fever (8 cases), malaria (3 cases), typhoid fever (2 cases), diphtheria (2 cases), erysipelas, pneumonia, ozena, compound fracture, and erythema nodosum. Of 28 recorded cases, suppuration occurred in 15, and in 6 others the point is not mentioned. In the rheumatic cases suppuration did not occur. Suppurative thyroiditis appears to be especially common in connection with typhoid fever. The proper treatment is immediate opening and drainage. It is not described among the complications in the text-books, as it should be.

# Correspondence.

### Sulphuric Ether in Asphyxia Neonatorum.

CHINOOK, MONT., June 11, 1901.

*To the Editor:*—In a recent case of asphyxia neonatorum, caused by delay in delivery and the use of forceps, I worked faithfully for one hour, using artificial respiration and external stimulants such as rubbing, slapping, hot and cold water, but with poor success, as the heart became more feeble, cyanosis increased, and it seemed altogether a hopeless case. I injected 5 minims sulphuric ether into the thigh. In two or three minutes circulation was fully restored, child was breathing naturally, and it has since done well. Having never seen any note of ether being used in these cases, I send you this, thinking it might possibly be of some value.

Respectfully, C. F. HOPKINS, M.D.

### Inherited Tendency to Appendicitis.

CINCINNATI, OHIO, June 15, 1901.

*To the Editor:*—I am trying to establish the fact, which I believe from my own personal observation to be true—see *Lancet-Clinic*, June 8— of an inherited tendency or predisposition to appendicitis. If the readers of THE JOURNAL will kindly look into the family history of their cases and report to me, I will be under very many obligations.

Respectfully, W. H. DEWITT, M.D.
61 Auburndale Place.

# Association News.

## THE ST. PAUL MEETING AS VIEWED BY OUR CONFRERES.

### From the New York Medical Journal.

The fifty-second annual meeting of the AMERICAN MEDICAL ASSOCIATION, held in St. Paul last week, was memorable from more than one point of view. Those of our readers who were not present will have deduced this from the President's address and from the action taken on the plan of reorganization. The reorganization, tantamount to a new constitution, will, as we have before remarked, make the general sessions far more amenable than before to parliamentary rules of procedure and better able to arrive speedily at a correct understanding of the merits of such questions as may come before the Association. Many of the men who most thoroughly recognized all this before the meeting were fearful that, nevertheless, the scheme would fail of adoption this year, although sure to be sanctioned eventually. The result shows once more that we should never despair of a good cause.

The choice of a New York man as President for the ensuing year and of a place in the State of New York for holding the next meeting may doubtless be taken to foreshadow the re-establishment of the most cordial relations between the National body and the profession of the state. Now that the presidency has been conferred upon one of their number, the physicians of the State of New York should make no distinction in their own minds as to whether he represents the old or the new state organization, for it is certain that no thought of discrimination on that score governed the nominating committee. It is to be hoped, indeed, that there will soon be no factions, and that the two state organizations will be blended into one.

The next meeting will be comfortably bestowed, for the capacity of Saratoga hotels is very great. But the entertainment of the members is to be thought of as well as their lodging. This the profession of the whole state must take upon itself. It would be wrong to leave the burden to be borne by Saratoga alone after the superb hospitality of the twin cities of St. Paul and Minneapolis. We think we can promise our colleagues in all parts of the country such an effort as the State of New York can make to approach the standard of that hospitality.

### From the Medical News.

The recent well-attended meeting of the AMERICAN MEDICAL ASSOCIATION at St. Paul shows better, perhaps, than did meetings held at points more convenient for larger numbers of medical men how deep is the profession's interest in the work of the National organization. The Association has in these latter years risen out of a phase of quasi-provincialism to be thoroughly representative of the best elements of scientific and professional progress in American medicine. This state of affairs is most encouraging. At the beginning of the new century the clearest truth in practical life is that assured success is the outcome only of thorough organization. Many problems await solution in the social and legal relations of the medical practitioner to his clients and to public health. These can not be definitely and properly solved unless the weight of a united medical profession can be brought to bear upon legislation and public opinion.

The most noteworthy feature of the last meeting was the liberal attitude of the President and members of the Association toward that portion of the New York medical body whose defection ten years ago did so much to delay the unification of the profession in this country. The recently adopted opinions are, however, only a result of a just survey of the motives and conditions that prompted the attitude assumed by the New York Society before its enforced withdrawal. The President's acknowledgment of the right-mindedness of the motives that formed the basis for the action of the representatives of the New York medical profession must go far to repair the breach that still exists.

The selection of a New Yorker as President of the AMERICAN MEDICAL ASSOCIATION and the acceptance of the invitation to hold the next annual meeting at Saratoga must be taken as indices of a successful movement that is to give back to the Empire State her long-lost influence in the councils of the National body of physicians. The New York State Medical Association, thanks to the unsparing efforts of certain members, has been growing handsomely in numbers and influence in recent years. The auspicious circumstance of having the annual meeting of the National Association to inspire to renewed efforts should add greatly to its membership and prestige. With the recently adopted scheme of reorganization of the State and National associations, to cement the union of all the societies composing them and to make their influence available for professional purposes, there seems no reason to doubt that the day of a really united medical profession is at hand.

The new plan of government adopted by the National Association promises by its thoroughly representative character to do away with the petty sectional politics that have sometimes proved a jarring element at annual meetings. The proposed reformation of the code, already under way, encourages the hope that a stumbling-block in the way of certain serious minds as regards membership in the Association will be soon removed. For many years past some of the rules of conduct embodied in the old code have, if taken in their strictly literal signification, been a dead letter. Since they have proved a source of disunion, it must be a cause of congratulation on all sides that they are to be modified to meet the change of circumstances and evolution of conditions which make them a relic of the past.

The recent St. Paul meeting was especially noteworthy for the social relaxation it afforded attending members of the Association. Every year the social gatherings take on a more

friendly character and the good effected is quite as much due to the familiar fellowship that reveals the character of co-workers in the same field as to the scientific discussions that mirror recent practical advances in the various specialties. The promise may confidently be held out that visitors to the meeting at Saratoga next year will meet with as pleasant a welcome and will be greeted with social features as attractive and gratifying as any ever provided. That the AMERICAN MEDICAL ASSOCIATION is about to enter into the fullness of its heritage as a thorough representative of the whole medical profession of the country now seems assured.

### From the Boston Medical and Surgical Journal.

At the meeting of the AMERICAN MEDICAL ASSOCIATION in 1900 a Committee on Organization was appointed. This committee presented its report at the recent meeting of the Association at St. Paul, and the report, including the revised Constitution and By-Laws, on motion of Dr. Harris, of New York, was adopted by a large majority. The report itself is a lengthy document, for the full text of which and for the report on revision of the Constitution and By-Laws our readers are referred to THE JOURNAL of the Association, the issues of May 11 and June 8. The necessity for these changes has long been apparent. Under the old conditions the transaction of business was either difficult or impossible, or so easy that it was undesirable. The Association itself had not the weight in professional and public affairs to which its members and wide representation should entitle it. The Association has now provided itself with a more suitable machinery with which to work, but the results attained must depend in large measure upon the cordial co-operation of the State and county societies, a co-operation which we hope may in due time be forthcoming.

### From American Medicine.

The St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION was the best that has ever been held. We know that the elation following each annual meeting makes such praise habitual, but there is a unanimity and emphasis this year that we have never seen equaled. This feeling is undoubtedly due to the acceptance of the new Constitution and By-Laws prepared by the Committee on Reorganization, and to the limitation of the number of papers on the programs, whereby there was gained more time for the consideration of each, with a resultant improvement of the entire scientific work. There was a thorough leveling-up of the standards most gratifying, and this is better than the straining after brilliant discovery or incomplete research. Those who attended the section-meetings came away with a consciousness that much indefiniteness had been cleared up and many perplexing questions, if not settled, at least put in the way of decision. There was everywhere manifest the desire to limit the social features, and the politics and discussions of the general sessions, and to regret that the section-work had to be interfered with. Under the new order of proceedings next year this will be done, as after the first day the general sessions will not interrupt section-work. The profession of St. Paul and Minneapolis greeted the Association members with a hospitality and perfection of arrangements which insured the gratitude of every visitor.

The reorganization of the AMERICAN MEDICAL ASSOCIATION, according to the recommendations of the committee, is a cause for profound gratification. The long labors of the committee, motived by the sincerest desire to put the Association upon a basis that would insure reform and progress, ended in a wise general plan and a perfection of detail that disarmed criticism and reduced opposition to a minimum. Before the session had convened that so quickly adopted the new Constitution and By-Laws, hardly anyone supposed the body would have so soon found its mind and heart at once, but when the strongest opponents, feeling that the inevitable was upon them, seconded the motion for adoption, there were few negative votes left. The chief advantage of the new business arrangements is that the real legislative work of the Association will hereafter be confined to a compact body of about 150 delegates, elected for that purpose by the local state organizations. The Association will thus get its work done, the legislation and business by men selected directly as representatives and sitting uninterruptedly for those ends, while the scientific programs will be carried out by those who come to the meetings with such objects in mind. Dr. Reed has been an exceptionally able and effective President, and under him has been instituted a reform which will, we prophesy, vastly increase the power and growth of the Association.

### From St. Louis Medical Review.

The delegates to the National meeting, who have returned, bring back good tidings. Of their impressions the strongest is a sense of the importance to which the Association has attained and its certain prospect of becoming an enormous power for good to the medical profession. The bickerings of by-gone years have been laid aside in the desire to build up and organize an authoritative congress, which shall wield its influence for the glory of no man, but for the welfare of all. The scientific program was extraordinarily interesting and valuable. A noteworthy feature was the accuracy with which matters medical were reported—rhetoric and flights of fancy gave way to facts. Eighteen hundred members were there for business and it was a business session in every particular. The chief innovation in reorganizing the Association was the establishment of the House of Delegates, which shall be the legislative and fiscal body. Each state and territorial society shall be permitted to send one delegate for every 500 or fraction of resident regular members, but the total membership of the House shall not exceed 150. Members of the House will be elected every two years and to be eligible shall have been members of the Association for at least two years. The House of Delegates will elect the president, trustees and other officers of the Association, but no member of the House shall be eligible for such office. The General Sessions will include all registered members of the Association, who shall have equal rights in discussion and voting upon pending questions. As heretofore, it will be the scientific body. These changes, which were recommended by the Committee on Reorganization, were unanimously adopted and the committee given a vote of thanks. The Journal of the A. M. A. is in a very prosperous condition, and its editor, Dr. George H. Simmons, received a vote of thanks. It is expected that a general reorganization of the state and county societies will now follow to the end that a homogenous, coherent, united and authoritative organization may be effected. This great work should meet with hearty support; the revival is here and the most should be made of it.

### From Philadelphia Medical Journal.

The annual meeting of the American Medical Association should always be of such importance as to be an object of interest and obstruction to every medical man in the United States. The session just held at St. Paul was of special interest and of historical importance because the Association succeeded in reorganizing itself. This was a most significant feat, for it is one which has failed of accomplishment several times heretofore largely for lack of time. This reorganization was absolutely essential as a preliminary to a successful career for the Association as a real representative national gathering. Before this was accomplished it could scarcely be said that the Association did or could properly represent anything but itself. In fact, it was simply a huge medical society. It is now constituted with a House of Delegates, which represents the State Societies and by them the general profession, and which has a definite, determinative and effective organization. This Chamber can represent a policy, pursue a course, transact a measure, and attend to business in a way that was formerly impossible in the loosely organized association at large. If there is any virtue or force in representative government (and who doubts that there is?) the Association will now reap the benefits. It is in a position as never before to influence public opinion and to act upon legislation, but its best friends should not forget that only that form of government "which is best administered is best." The new House of Delegates can soon sink to the level of some of the State Legislatures if it is run in the same way.

It is rather too early to judge of the literary and scientific quality of the meeting. It will be time enough to do that when the original papers are put into cold type. These papers, however, were evidently of very uneven merit, as is apt to be the case in a large and miscellaneous gathering. Perhaps one of the functions of the new House of Delegates will be to keep a jealous eye open for a high standard of scientific work.

The Association put itself squarely on record in favor of some common-sense legislation, and declined to make a declaration on the subject of military morality in the Philippines when importuned to do so by some elderly parties who probably were not very well informed on this delicate subject.

The revision of the code of ethics was not favored by the majority present and was voted down. This will please the conservative members of the profession everywhere, but will probably not discourage the revisionists, who seem to be in an eternal mood of hopefulness and determination.

From the social and personal standpoint, the meeting seems to have been fairly successful. We have heard some complaints about lack of accommodations and about the great distances that separated the meeting places of the various sections. Such things, we suppose, are inevitable when the meetings are largely attended and are held in smaller cities and towns. The city of St. Paul distinguished itself for courtesy to the strangers within its gates.

## General Committee on Organization.

The name of Dr. G. R. Dean, of Spartanburg, N. C., should have appeared among the signatures to the report of the General Committee on Organization, on page 1643 of THE JOURNAL of June 8.

## Section on Ophthalmology.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The Section was called to order Tuesday, June 4, at 2 p. m., by the Chairman, Dr. J. A. Lippincott, of Pittsburg.

Dr. H. Gifford, of the Executive Committee, being absent, Dr. Leartus Connor was appointed in his stead.

Address of Chairman was read by Dr. J. A. Lippincott, of Pittsburg.

Dr. A. E. Davis, of New York, was invited to participate in the proceedings of the Section.

A paper on "Treatment of Strabismus; Measures Other than Operative," was read by Dr. Edward Jackson, of Denver.

A paper on "Treatment of Strabismus; Operative Measures," was read by Dr. C. F. Clark, of Columbus.

A paper on "Strabismus; Its Treatment," was read by Dr. A. E. Davis, of New York.

A paper on "The Cosmetic and Visual Results in Squint" was read by Dr. J. M. Ray, of Louisville.

These papers were discussed by Drs. C. M. Culver, of Albany; Frank Allport, of Chicago; F. C. Todd, of Minneapolis; G. C. Savage, of Nashville; A. R. Baker, of Cleveland; J. L. Thompson, of Indianapolis; F. C. Hotz, of Chicago; Don Campbell, of Detroit; A. B. Hale, of Chicago; W. H. Wilder, of Chicago; G. M. Black, of Denver; A. E. Prince, of Springfield; A. A. Hubbell, of Buffalo; C. A. Veasey, of Philadelphia, and H. Woods, Jr., of Baltimore.

A paper on "Concerning the Check Ligament" was read by Dr. J. E. Colburn, of Chicago.

The Section then adjourned.

WEDNESDAY, JUNE 5—MORNING SESSION.

Fiftieth anniversary of the invention of the ophthalmoscope. Exhibit of ophthalmoscopes and ophthalmoscopic literature.

"An Address on the Origin and Development of the Instrument, Together with a Description of the Historic Exhibit of Ophthalmoscopes and Publications on Ophthalmoscopy, Prepared for this Meeting," was read by Dr. H. Friedenwald, of Baltimore.

An "Address on the Life of Helmholtz" was read by Dr. Casey Wood, of Chicago.

A vote of thanks was extended by the Section to Drs. Friedenwald and Wood for their work in preparing the exhibit of ophthalmoscopes.

Dr. W. H. Wilder moved that a committee of three be appointed to try to arrange to have a permanent exhibit of ophthalmoscopes in the office of the Surgeon-General at Washington. Carried. The Chairman appointed Drs. Friedenwald, Wood and Wilder.

A paper on "Tarsadenitis Meibomica" was read by Dr. M. F. Weymann, of St. Joseph, Mo.

A paper on "A Case of Retroflexion of the Iris" was read by Dr. A. A. Hubbell, of Buffalo.

The Section then adjourned.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Executive Committee, acting as the Nominating Committee, reported the following: For Chairman, Dr. Frank Allport, of Chicago; for Secretary, Dr. C. A. Veasey, of Philadelphia.

Dr. Edward Jackson moved that the Executive Committee nominate six members of the Section from whom two should be chosen to represent the Section in the House of Delegates. Carried.

A paper on the "Treatment of Heterophoria: Non-Surgical Measures," was read by Dr. George M. Gould, of Philadelphia.

A paper on the "Treatment of Heterophoria; Surgical Treatment," was read by Dr. G. C. Savage, of Nashville.

These papers were discussed by Drs. S. D. Risley, of Philadelphia; M. F. Weymann, of St. Joseph; J. E. Colburn, of Chicago; Frank Allport, of Chicago; J. L. Thompson, of Indianapolis; C. H. Williams, of Boston; C. F. Clark, of Columbus; H. Woods, Jr., of Baltimore; Leartus Connor, of Detroit; D. B. Wylie, of Milwaukee; M. J. Sherman, of Cleveland; D. Campbell, of Detroit; A. E. Davis, of New York; H. Harlan, of Baltimore; W. B. Pineo, of Minneapolis; and J. S. Barnes, of Milwaukee.

A paper on a "Table of Paralyses of Ocular Muscles" was read by Dr. H. M. Starkey, of Chicago. This paper was discussed by Drs. F. C. Hotz, of Chicago; W. H. Wilder, of Chicago; M. F. Weymann, of St. Joseph, and Edward Jackson, of Denver.

A paper on "The Extraction of Hard Cataract Without Iridectomy" was read by Dr. S. D. Risley, of Philadelphia.

A paper on "The Spontaneous Clearing of a Cataractous Lens" was read by Dr. Hiram Woods, Jr., of Baltimore.

These papers were discussed by Drs. F. C. Hotz, of Chicago; C. F. Clark, of Columbus; A. E. Prince, of Springfield; Edward Jackson, of Denver; J. L. Thompson, of Indianapolis.

The Section then adjourned.

THURSDAY, JUNE 6—MORNING SESSION.

The Executive Committee placed in nomination the following six names from which to choose two delegates to the House of Delegates: J. A. Lippincott, H. V. Würdemann, C. A. Wood, G. E. de Schweinitz, Edward Jackson and S. D. Risley.

The ballot resulted in the election of Drs. J. A. Lippincott, of Pittsburg, and H. V. Würdemann, of Milwaukee.

A paper on the "Economic Limitations of the Visual Acuity in the Various Trades and Professions" was read by Dr. H. V. Würdemann, of Milwaukee.

A paper on the "Further Report on the Visual and Aural Qualifications of Transportation Employees" was read by Dr. Frank Allport, of Chicago.

Dr. Allport also submitted the following as a Report of the Railroad Committee of the Ophthalmological Section on Examination of Railway Employees:

REPORT OF THE RAILROAD COMMITTEE.

Mr. Chairman and Members of the Ophthalmological Section of the American Medical Association:

Your Committee, appointed three years ago, with a view of framing resolutions for the regulation of the eye and ear requirements of transportation employees, was unable, two years ago, to bring in a unanimous report. The Committee was, therefore, requested to retain its membership and endeavor to report at the following meeting. Meanwhile the Committee was lead to believe that action upon this subject would be taken one year ago by the International Medical Congress meeting in Paris. It was, therefore, deemed wise to wait until the Committee of the International Congress submitted its report, feeling that valuable ideas might be therein contained, which would enable us to improve the character of our own work. The Committee, therefore, did not report at the City of Columbus, and since then, although the Chairman of this Committee has endeavored with all possible assiduity to ascertain something concerning the nature of the work accomplished along these lines by the International Congress, he has been absolutely unable, up to the present time, although inquiry has been made along every possible avenue, to ascertain whether any work of this nature was accomplished or not. It, therefore, seemed useless to wait for the action of our European confrères, believing that it is not necessary for a country which leads all other countries in its transportation facilities to await the action of other nations. Your Committee, therefore, begs leave to submit to the Section the following resolutions, which have been unanimously adopted, and which, it is hoped, will also be adopted by the American Medical Association, and then correctly placed before the proper railroad authorities of North America.

This work should be superintended by this Section.

SECTION 1. The essential principle to be advocated is that railroad corporations shall require a scientific and correct examination of the eyes and ears of those employees at all to be concerned with the active operating of trains, or in giving or receiving signals.

SECTION 2. Such *primary* examinations should, whenever possible, be made by regularly appointed eye and ear surgeons, and this point is emphatically urged, especially as the expense of a first examination may always be borne by the applicant; but if such a course is not deemed expedient, the company's surgeon, aided by his medical assistant, might conduct them, with the understanding that all doubtful cases shall be sent to a regularly appointed eye and ear surgeon.

SECTION 3. There shall be two general standards of visual and aural requirements, viz., those for new men hoping to enter the service, and to be actively engaged in the operation of trains, and in giving and receiving signals; and, secondly, those men engaged in similar work, who have been uninterruptedly in a company's service for five years, and who have, therefore, a right to be called old employees.

SECTION 4. New men shall be required to possess perfect color sense. They shall also have a vision of 20/20 in each eye, without glasses, and have healthy eyes, and not over one diopter of hypermetropia. They shall also hear the whispered voice at 20 feet in a quiet room, and have healthy ears.

SECTION 5. For the purposes of graduated requirements old employees shall be divided into two classes as follows:

Class A—Engineers, firemen, conductors, brakemen, switchmen, signalmen, switch tenders, and engine dispatchers.

Class B—Track foremen, bridge foremen, crossing flagmen, bridge tenders, gatemen, train baggagemen, telegraph operators, station agents and station baggagemen.

Employees enumerated in Class A shall not be retained in such positions if vision sinks below 20/30 in one eye and 20/40 in the other, or if the whispered voice can not be heard in a quiet room at 15 feet by one ear and 10 feet by the other. Employees enumerated in Class B shall not be retained in such positions if vision sinks below 20/40 in one eye and 20/50 in the other, or if the whispered voice can not be heard in a quiet room at 10 feet by both ears. Employees, and especially engineers and firemen enumerated in Class A, must reach the visual standard without glasses, and will not be allowed to wear distance glasses when on duty. Employees

enumerated in Class B may reach the visual standard with glasses, and will be allowed to wear glasses when on duty, and will be required to do so if the wearing of glasses is necessary to bring vision up to the proper standard, and shall always be required to carry an extra pair of glasses, when on duty in case of accident to one pair. All employees shall have perfect color sense.

SECTION 6. Re-examinations shall be made of all men every three years, and after a severe illness, or accident, or any occurrence which seems to cast doubt on the visual and aural capacity of an individual. Re-examinations shall also be made more frequently on men known to be excessive users of tobacco, or to be suffering from syphilis, albuminuria, diabetes, or acute or chronic eye and ear diseases. Men shall always be re-examined before promotion.

SECTION 7. Men known to be excessive users of liquor shall not receive employment. Respectfully submitted,

FRANK ALLPORT, M.D., Chairman of Committee.

These papers were discussed by Drs. L. H. Taylor, of Wilkesbarre; C. F. Clark, of Columbus; H. B. Young, of Burlington; C. H. Williams, of Boston; A. B. Hale, of Chicago; M. F. Weymann, of St. Joseph; F. C. Hotz, of Chicago, and L. Connor, of Detroit.

Dr. Edward Jackson moved the adoption of the Report. Carried.

Dr. Edward Jackson moved that the incoming Chairman appoint a committee to bring the report before the Association in 1902 for its adoption. Carried.

The Section then adjourned.

THURSDAY, JUNE 6—AFTERNOON SESSION.

A paper on "Mules' Operation, with Cases," was read by Dr. F. C. Todd, of Minneapolis. This paper was discussed by Drs. Frank Allport, of Chicago; G. M. Black, of Denver; H. Friedenwald, of Boston; and H. Moulton, of Fort Smith.

A paper on "Mirror Writing and Inverted Vision" was read by Dr. A. B. Hale, of Chicago. This paper was discussed by Drs. G. C. Savage, of Nashville, and M. F. Weymann, of St. Joseph.

A paper on the "Report of Two Cases of Orbital Surgery" was read by Dr. Adeline Portman, of Washington. This paper was discussed by Dr. M. F. Weymann, of St. Joseph.

A paper on "Enucleation in Two Minutes, with Demonstration," was read by Dr. A. T. Mitchell, of Vicksburg. This paper was discussed by Dr. H. Woods, Jr., of Baltimore.

A paper on the "Newer Pathology of the Retina, with Special Reference to the Changes Produced in the Ganglion Cells by Certain Toxic Agents" was read by Dr. H. Friedenwald, of Baltimore.

A paper on "Atrophy of the Retina" was read by Dr. D. S. Reynolds, of Louisville.

A paper on a "Case of Blindness Due to Drinking Bay Rum Compared with Reported Cases Due to Methyl Alcohol and Jamaica Ginger" was read by Dr. H. Moulton, of Fort Smith.

These papers were discussed by Drs. J. M. Ray, of Louisville; H. Woods, Jr., of Baltimore; A. B. Hale, of Chicago; C. A. Wood, of Chicago; H. Harlan, of Baltimore, and R. W. Miller, of Los Angeles.

A paper on "Complete Recovery from Double Neuroretinitis, Clinically Resembling Albuminuric Retinitis, in a Case of Prolonged Hematuria, with Symptoms of Bright's Disease," was read by Dr. C. A. Veasey, of Philadelphia. This paper was discussed by Drs. W. H. Wilder, of Chicago; J. M. Ray, of Louisville; H. Woods, Jr., of Baltimore; and E. C. Ellett, of Memphis.

A paper on the "Value of Excision of the Superior Cervical Ganglion of the Sympathetic in Certain Eye Diseases" was read by Dr. G. F. Suker, of Toledo. This paper was discussed by Drs. C. A. Wood, of Chicago; G. M. Black, of Denver; W. H. Wilder, of Chicago, and C. F. Clark, of Columbus.

The Section then adjourned.

FRIDAY, JUNE 7—MORNING SESSION.

A paper on "Herpes Zoster Ophthalmicus, with Brief Report of Five Cases," was read by Dr. W. C. Bane, of Denver. This paper was discussed by Drs. Edward Jackson, of Denver; H. M. Starkey, of Chicago; S. D. Risley, of Philadelphia, and Dr. Freeman.

A paper on the "Corneal Lesions of Acquired Syphilis" was read by Dr. Wm. H. Wilder, of Chicago. This paper was discussed by Drs. S. D. Risley, of Philadelphia; Edward Jackson, of Denver, and J. A. Lippincott, of Pittsburg.

A paper on "Lachrymal Stenosis in Infants, and Its Treatment," was read by Dr. Dunbar Roy, of Atlanta. This paper was discussed by Drs. G. C. Savage, of Nashville; S. D. Risley, of Philadelphia; L. H. Taylor, of Wilkesbarre; R. W. Miller, of Los Angeles, and G. M. Black, of Denver.

Dr. G. C. Savage moved that it be recommended to the General Secretary of the Association that the expenses of the Committee on the Ophthalmoscope Exhibit, amounting to $25.24, and the legitimate expenses of the Secretary of the Section, be paid by the Association.

A paper on the "Metamorphopsia Varians, with a Report of Three Cases," was read by Dr. Wm. H. Dudley, of Easton, Pa. This paper was discussed by Drs. S. D. Risley, of Philadelphia; G. C. Savage, of Nashville, and J. A. Lippincott.

A paper on the "Injuries of the Choroid" was read by Dr. E. O. Sisson, of Keokuk. This paper was discussed by Dr. Edward Jackson, of Denver.

The Section then adjourned *sine die*.

## Section on Diseases of Children.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The meeting was called to order by the Chairman, Dr. Samuel W. Kelley, of Cleveland, in the Ryan Annex, at 2:30 p. m.

The Chairman delivered his address, which, on motion of Dr. Edwin Rosenthal, of Philadelphia, was referred to the Executive Committee.

The Chairman appointed Drs. Wahrer and A. C. Cotton as substitutes for Drs. Griffith and Tuley, on the Executive Committee.

Dr. J. B. Garber, of Dunkirk, Indiana, read a paper on "Measles." It was discussed by Drs. C. G. Slegle, of Minneapolis; Clifton Scott, of Des Moines; Brownell, of Oneonta, N. Y.; J. M. Postle, of Hinckley Ill.; Charles Douglas, of Detroit; Dr. Barber, of Minneapolis; Dr. Townsend, of New Lisbon, Wis., and closed by Dr. Barber.

Dr. J. M. Postle, of Hinckley, Indiana, read a paper on "The Pathology of Pertussis." It was discussed by Drs. Douglas, of Detroit; Slegle, of Minneapolis, and J. M. Postle, of Hinckley, Wis.

A paper by Dr. J. W. Ballantyne, of Edinburgh, Scotland, entitled "The Ante-Natal Treatment of Hemaphilia," in the absence of the author, was read by the Secretary. It was discussed by Drs. Slegle, and Clifton Scott.

On motion of Dr. F. X. Walls, of Chicago, the Secretary was requested to convey to Dr. Ballantyne the thanks of the Section for his interesting and instructive paper.

Dr. Brownell, of Oneonta, N. Y., obtained permission to report an interesting case in which a child had exhibited an extraordinary craving for chewing and eating paint and painted woodwork and plaster. The case was discussed by Drs. Isaac A. Abt, of Chicago; Charles Douglas, of Detroit; Townsend, of New Lisbon, Wis.; and the discussion was closed by Dr. Brownell.

The Chairman appointed on the Nominating Committee the Executive Committee as at present constituted, viz.: with Drs. Cotton and Wahrer acting as substitutes.

WEDNESDAY, JUNE 5—MORNING SESSION.

The meeting was called to order by the Chairman at 9:30 a. m.

The special order on the scientific program was a Symposium on Typhoid Fever in Children. Dr. J. P. Crozer Griffith, of Philadelphia, was the author of the opening paper, which was entitled "Symptoms and Course of Typhoid Fever." The paper was read by the Chairman in the absence of the author.

Dr. John Lovett Morse, of Boston, was the author of the second paper on "The Diagnosis of Typhoid Fever in the Laboratory." In his absence this paper was read for him.

Dr. Edwin Rosenthal, of Philadelphia, presented a paper on "The Treatment of Temperature by Drugs."

Dr. Isaac A. Abt, of Chicago, reported "A Case of Multiple Gangrene associated with Cholangitis and Adenoma of the Liver, complicating Typhoid Fever."

Dr. Victor C. Vaughan, of Ann Arbor, Mich., opened the general discussion, which was continued by Drs. Clifton Scott, of Des Moines; Charles D. Douglas, of Detroit; T. F. Wood, of Angola, Ind.; Barber, of Minneapolis; Johnston, of Grand Rapids, Mich.; George D. Head, of Minneapolis, and Dr. Ewing, of Salt Lake City. The discussion was closed by Dr. Rosenthal.

The Chairman then read a communication from Dr. Robert H. Harvey, of Chicago, in which he accuses Dr. Edwin Rosenthal, of Philadelphia, of having published a certain paper for the purpose of advertising.

Dr. R. H. Harvey, of Chicago: I would be glad to present this paper to the Section.

Dr. A. C. Cotton: The time for the general session has arrived, and I do not think this is the place for personal disputes. I move that this matter be referred to a committee for investigation, the committee to report at any time the Chair sees fit. Seconded and carried unanimously. The Chair appointed on this committee Drs. Victor C. Vaughan, John C. Cook, C. D. Douglas.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Section reconvened, at the call of the Chairman, at 2:30 p. m.

Dr. A. C. Cotton, of Chicago, presented the report of the Nominating Committee, which was that the committee had selected Dr. H. M. McClanahan, of Omaha, for Chairman, and Dr. Frank X. Walls, of Chicago, for Secretary. On motion, the report was accepted, and the Secretary was instructed to cast an affirmative ballot for these nominees. This ballot having been cast, these gentlemen were declared elected.

Dr. Edwin Rosenthal, of Philadelphia, then read a paper on "Prolonged Intubations." It was discussed by Drs. B. R. Shurly, of Detroit; Golden, of Chicago; I. A. Abt, of Chicago; Louis Burckhardt, of Indianapolis, and discussion closed by Dr. Rosenthal.

Dr. John A. Robison, of Chicago, read a paper entitled, "Prevention of Pulmonary Tuberculosis in Predisposed Children." It was discussed by Drs. T. F. Wood, of Angola, Ind.; Warren, of Detroit; Work, of Elkhart, Ind.; Clifton Scott, of Des Moines; Slegle, of Minneapolis; Kelsey, of Minneapolis; and Golden, of Chicago, and the discussion was closed by Dr. Robison.

Dr. F. X. Walls read a paper on "Protracted Influenzal Pneumonia in Children." It was discussed by Drs. I. A. Abt, of Chicago; B. R. Shurly, of Detroit, Campbell, of Kansas; and the discussion was closed by Dr. Walls.

Dr. Carl Beck, of New York City, read a paper entitled "Congenital Malformations with Roentgen-Ray Demonstrations." No discussion.

Dr. Charles Douglas, of Detroit, read a paper on "Membranous Colitis in Infants."

Dr. W. W. Keen, of Philadelphia, reported "A Case of Ureteral Calculus in a Boy of Ten." It was discussed by Drs. Edwin Rosenthal, of Philadelphia; Leonard, of Philadelphia; S. W. Kelley, of Cleveland, Ohio; Clifton Scott, of Des Moines; and the discussion was closed by Dr. Keen.

THURSDAY, JUNE 6—MORNING SESSION.

The meeting was called to order by the Chairman at 9:40 a. m.

Dr. A. C. Cotton, Chicago, read a paper on "Diabetes Mellitus in Children." It was discussed by Dr. C. F. Wahrer, Fort Madison, Iowa, and the discussion was closed by Dr. Cotton.

Dr. Victor C. Vaughan, of Ann Arbor, Mich., presented the report of the Special Committee on Charges against Dr. Edwin Rosenthal, of Philadelphia:

Mr. Chairman and Members of the Section:

*Gentlemen:*—Your Committee, appointed for the purpose of deciding whether or not Dr. Edwin Rosenthal, Chairman of this Section in 1900, used his official position for the purpose of advertising the product of a certain drug firm, begs leave to submit the following brief statement of the facts presented in the case, and the finding determined upon:

Dr. Rosenthal's address as Chairman of this Section in 1900 contained a statement of the results obtained by the antitoxic treatment of diphtheria. In this statement he reported 6325 cases treated with the antitoxin of one manufacturer, and less than 900 cases treated with the products of all other manufacturers, and the results seemed to show the superiority of the product of the firm that furnished the largest number of cases. This firm has used

Dr. Rosenthal's address widely for advertising purposes.

Dr. Rosenthal assures us that this use of his paper was not only without his consent, but that the firm has continued this use of the address after receiving a protest from him.

Your Committee offers the following findings, which are respectfully submitted to the Section:

1. That the conclusions stated in Dr. Rosenthal's paper, being founded upon cases so unequal in number, are wholly without value in showing the relative merits of the products of the different manufacturers.

2. That Dr. Rosenthal, as Chairman of this Section, did use his official position to advertise a certain firm of manufacturers of antitoxin. Whether this improper use of his official position was intentional or unintentional, we can not decide from the evidence before us.

3. That this Section will look with disfavor upon any firm of manufacturing chemists which uses for advertising purposes any papers, parts of papers, or statements written or made verbally by any member of this Section in its proceedings.

Respectfully submitted,

VICTOR C. VAUGHAN,
CHARLES DOUGLAS,
JOHN C. COOK.

Dr. C. F. Wahrer, Fort Madison, Iowa, moved that this report be received and adopted. Seconded by Dr. Dodson, and carried unanimously.

Dr. Rosenthal asked that this report be printed in THE JOURNAL.

Dr. John R. Rathmell, Chattanooga, Tenn., sent a paper entitled "Albuminuria in Disease of the Kidneys in Infancy and Childhood." which was read by Dr. Walls in the absence of the author.

Dr. William Jepson, Sioux City, Iowa, presented a paper on "Congenital Cystic Kidney," together with the specimen.

Dr. A. L. Wolbarst, New York City, sent a paper on "Gonorrhea in Boys." The discussion was participated in by Drs. Edwin Rosenthal, Philadelphia; Clifton Scott, Des Moines; C. F. Wahrer, Fort Madison, Iowa; and A. C. Cotton, and Cook, Chicago.

THURSDAY, JUNE 6—AFTERNOON SESSION.

The Section reconvened at 2:15 p. m.

Dr. Clifton Scott, Des Moines, presented a paper entitled "The Prevention of Infection in Babes Born of Tuberculous Parents." It was discussed by Drs. Rosenthal, Philadelphia; Johnston, Grand Rapids; F. X. Walls, Chicago; I. A. Abt, Chicago; J. Noer, Stoughton, Wis.; John C. Cook, Chicago; C. F. Wahrer, Fort Madison, Iowa; E. F. Brush, Mount Vernon, N. Y., and Clifton Scott, Des Moines.

The next order was the Symposium on School Hygiene

Dr. Leigh K. Baker, of Cleveland, sent a paper entitled "The Introduction and Management of School Hygiene," which was read, in his absence, by Dr. Warren.

Dr. John Madison Taylor, Philadelphia, sent a paper on "Physical Culture in Children, and the Objects to be Attained."

Dr. William E. Darnall, Atlantic City, N. J., read a paper on "The Pubescent School Girl."

Dr. A. W. Wilmarth, Chippewa Falls, Wis., read a paper on the "Diagnosis of the Backward Child."

Dr. G. Hudson Makuen, Philadelphia, read a paper entitled "Speech as a Factor in the Diagnosis of the Backward Child."

Dr. C. F. Wahrer, Fort Madison, Iowa, read a paper entitled "A Plea for the Backward Child."

Dr. J. Noer, Stoughton, Wis., presented "Some Considerations Regarding the Medical Criticisms of the Hygiene of Early Life."

The general discussion was participated in by Drs. Wahrer, Shelly, Kansas; Clifton Scott, Des Moines; Edwin Rosenthal, Philadelphia; Work, Elkhart, Ind.; Wilmarth, Chippewa Falls, Wis.; B. R. Shurly, Detroit; Learned, Massachusetts, and Noer, Stoughton, Wis.

On motion, the Section then proceeded to elect two representatives to the House of Delegates.

Dr. A. C. Cotton, Chicago, nominated Dr. Samuel W. Kelley, of Cleveland, the retiring Chairman, and Dr. Cook, Chicago, nominated Dr. A. C. Cotton, Chicago.

The Chairman appointed Drs. Wahrer and McClanahan tellers. The tellers reported that twelve ballots had been cast for each candidate, whereupon the vice-chairman declared Dr. Samuel W. Kelley and Dr. McClanahan to have been unanimously elected the representatives of the Section to the House of Delegates for the ensuing year.

Dr. McClanahan was then introduced as the newly elected Chairman of the Section, and after some appropriate remarks from him, the Section, on motion, adjourned, at 5:40 p. m., *sine die*.

## Married.

GEORGE W. ROBERTSON, M.D., to Miss Kate Martin, both of Macon, Ga., June 7.

HENRY J. WAY, M.D., to Miss Florence Loretta Turlay, both of Chicago, June 19.

J. E. PAYTE, M.D., to Miss Anna Florence, both of Weaverton, Ind. Ter., June 5.

WILLIAM FULLER, M.D., Chicago, to Miss Jaell Gentry, of Sedalia, Mo., June 5.

HERBERT R. SUGG, M.D., to Miss Florence Olney, both of Clinton, Iowa, June 1.

ALFRED L. ZOBEL, M.D., to Miss Maybelle Getz, both of San Francisco, Cal., June 2.

JOHN T. STEWART, M.D., to Miss Minnie M. Wood, both of Los Angeles, Cal., June 1.

FRANK EVANS, M.D., Hastings, Pa., to Miss Jessie Frantz, of Harrisburg, Pa., June 12.

EDWIN M. HUSTON, M.D., Dayton, Ohio, to Miss Lulu Hyde, of Chillicothe, Ohio, June 12.

WINSTON THOMAS MICHIE, M.D., to Miss Eva Pauline Sale, both of Memphis, Tenn., June 5.

AMOS J. THORNBER, M.D., Powellton, Ill., to Miss Anna G. Schenck, of Nauvoo, Ill., June 5.

H. W. KIRBY, M.D., Cripple Creek, Colo., to Miss Eleanor E. Bryan, at Denver, Colo., June 12.

E. WILLIAMS, M.D., Kansas City, Kan., to Miss Lilian St. John, of Manhattan, Kan., June 6.

M. P. MCELHANNON, M.D., Belton, Texas, to Miss Sue J. Wallace, of Holland, Texas, April 7.

DELAMERE FOREST HARRIDGE, M.D., to Miss Cora Frances Brown, both of Philadelphia, June 12.

L. MARTIN TRULSON, M.D., Janesville, Wis., to Miss Frederika Falk, of Stoughton, Wis., June 1.

GEORGE WRAGG LAMAR, M.D., Quincy, Fla., to Miss Sarah Attaway Duval, of Madison, Fla., June 5.

EDMUND WILLIAM STEVENS, M.D., Denver, Colo., to Miss Florence Ballance, of Peoria, Ill., June 4.

WALTER SELLMAN, M.D., Mt. Airy, Carroll County, Md., to Miss Georgia Clary, of Baltimore, June 5.

FRANK L. COOLEY, M.D., Oswego, N. Y., to Miss Fannie Rogers, of Hannibal Centre, N. Y., June 3.

CLARENCE F. SCHLITZ, M.D., Bowling Green, Ohio, to Miss Isabelle Williams, of Marengo, Ohio, June 1.

T. CLYDE ROUTSON, M.D., to Miss Margaret Millard, at Buckeystown, Frederick County, Md., June 6.

WILLIAM WILCOX DUNN, M.D., Richmond, Va., to Miss Ann Read McIlwaine, at Hampden Sidney, Va., June 3.

LEVIN I. SOTHORON, M.D., Washington, D. C., to Miss Marguerite Taylor, at King George Court House, Va., June 4.

PHILIP DOGGETT BOMLAND, M.D., Calumet, Mich., to Miss Jessica MacIntyre, of Knoxville, Tenn., at Lake Forest, Ill.

JOHN SAPPINGTON, M.D., Darlington County, Md., to Miss Rosa Seldon Jacobs, at Belair, Hartford County, Md., June 4.

GEORGE HOWITT WEAVER, M.D., to Miss Carrie Earle, daughter of the late Dr. Charles Warrington Earle, both of Chicago, June 12.

HUGH HAMPTON YOUNG, M.D., formerly of San Antonio, Texas, now of Baltimore, to Miss Bessie Mason Colston, of Baltimore, June 4

## Deaths and Obituaries.

**William L. Worcester, M.D.**, pathologist of the Danvers (Mass.) Insane Asylum, and a well-known alienist and writer on the subjects of mental pathology, died at Danvers, June 10, aged 56. His death was due, it is said, to blood poisoning, from which he had been suffering for some time. He should be put down as one of the martyrs of science, it having probably been caused from an accident in his scientific work, although we do not know the particulars. Dr. Worcester graduated from the National Medical College, Washington, in 1873, and was for a time assistant physician to the State Asylum, Kalamazoo, Mich., afterwards at the Arkansas State Asylum, Little Rock. He has held his position at Danvers for about eight years, and was one of the best-known alienists of the country. His loss is a serious one, as there are not too many scientific workers in asylums at present. He was a brother of Professor Dean C. Worcester, formerly of the Michigan University, but now one of the members of the Philippine Commission, and well known by his researches in the natural history of the Philippine Islands, and other similar work.

**D. W. Marston, M.D.**, Bellevue Hospital Medical College, New York, 1898, died at Niagara Falls, June 9, from pneumonia. He was on his way to attend the St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION, but was taken ill and left the party at Niagara Falls, where he died four days later. He was 26 years of age, a man of great ambition, of marked in-

telligence, and of wonderful energy, which secured for him a reputation rarely won by men in the profession at so early an age. He served as interne at the City Hospital, Blackwell's Island, also at the Hospital for the Ruptured and Crippled, and the Hospital of the Post-Graduate Medical School of New York. At the end of his term of service in the latter institution, he was appointed lecturer on orthopedic surgery, and also assistant visiting surgeon, to the Post-Graduate Hospital. He was also visiting surgeon to Daisy Fields Hospital, Englewood, N. J.

**Thomas Sidney Scales, M.D.,** College of Physicians and Surgeons, New York, 1867, for many years health officer, and late quarantine executive officer of Mobile, Ala., a member of the Mobile County Medical Association, and twice its president; a member of the Alabama State Medical Society, and professor of surgery and clinical surgery at the Medical College of Alabama, died at his home in Mobile, after a long illness, June 5, aged 59.

**Calvin Terriberry, M.D.,** Bellevue Hospital Medical College, New York, 1873, one of the best-known members of the profession in New Jersey, died at his home in Paterson, N. J., June 9, from uremia, consequent on Bright's disease, aged 51. He was active in the organization of St. Joseph's Hospital and had been a member of its surgical staff for twenty-three years.

**Albert J. Bloch, M.D.,** Tulane University, New Orleans, 1892, formerly on the staff of the University, a member of the Louisiana State Medical and Orleans Parish Medical associations, died at Denver, Colo., June 8, from the effects of cyanid of potassium taken with suicidal intent, aged 34.

**Eugene R. Lewis, M.D.,** Jefferson Medical College, Philadelphia, 1874, president of the Woman's Medical College, Kansas City; treasurer of the International Association of Railway Surgeons, and a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Kansas City, Mo., June 8.

**Howard A. Alexander, M.D.,** Kentucky School of Medicine, Louisville, 1875, a prominent member of the Jefferson County Medical Association, died at St. Vincent's Hospital, Birmingham, Ala., May 28, after a short illness from disease of the stomach.

**James Murray Stone, M.D.,** University of Maryland, Baltimore, 1843, died suddenly at Govanstown, Baltimore County, Md., June 5, aged 80. He was born near Salisbury, Md., and practiced until 1898 at Princess Anne, in same county.

**J. Henry McCarty, M.D.,** Atlanta (Ga.) Medical College, 1880, one of the founders of Birmingham Medical College and a member of its faculty for several years, died at his home in Birmingham, Ala., from paralysis, June 12, aged 50.

**Robert H. Timpany, M.D.,** Toledo Medical College, 1894, died from pneumonia, in Toledo, Ohio, June 7, aged 36. Dr. Timpany was formerly editor of the *American Medical Compend*, and surgeon in the Ohio National Guards.

**Joseph C. Pomeroy, M.D.,** Castleton (Vt.) Medical College, 1860, who had practiced in Waverly, Iowa, for forty years, and was a member of the county and state medical societies, died suddenly at his home, June 3, aged 62.

**George B. Noyes, M.D.,** Rush Medical College, Chicago, surgeon of the Waupaca Veterans' Home, and formerly a practitioner in Winneconne and West Superior, Wis., died suddenly at the Home, May 25, aged 55.

**William G. Thirkell, M.D.,** Royal College of Physicians and Surgeons, Kingston, Ontario, 1861, for more than thirty years a practitioner in Sodus, N. Y., died at his home in that place, May 29, aged 63.

**John Payne, M.D.,** Jefferson Medical College, Philadelphia, 1886, a practitioner of Hillman, Ala., and a member of the Jefferson County Medical Society, was shot and killed at that place, May 30, aged 35.

**E. A. Gansel, M.D.,** University of Illinois, 1900, and thereafter an interne at the Emergency Hospital, Milwaukee, died at the home of his parents, in that city, from consumption, June 2, aged 27.

**Paul Hubert Larose, M.D.,** Laval University, Quebec, 1893, a practitioner of Indian Orchard, Mass., died suddenly at his home in that village, from heart disease, May 28, aged 31.

**E. H. Iden, M.D.,** Rush Medical College, 1900, and thereafter interne in a hospital at Joliet, Ill., died at the home of his parents, in Leroy, from consumption, June 3, aged 26.

**Rufus Gillaspy, M.D.,** Missouri Medical College, St. Louis, 1884, assistant physician at the State Hospital for the Insane, Nevada, Mo., died suddenly in St. Louis, June 6, aged 50.

**Maurice Lauren Healey, M.D.,** New York University, 1887, of New York City, died at the home of his mother, in Plattsburg, N. Y., June 7, from pneumonia, aged 37.

**Edward Watson, M.D.,** University of Michigan, 1873, for some time health officer at Grand Rapids, Mich., died at his home in that city, June 17, after a lingering illness.

**J. Edward Wright, M.D.,** Jefferson Medical College, Philadelphia, 1879, a practitioner of Southwark, Philadelphia, died at his home, June 9, from consumption, aged 43.

**Seth D. Bowker, M.D.,** Kansas City (Mo.) Medical College, 1871, a pioneer physician of Kansas City, died from apoplexy at his home in that city, June 8, aged 71.

**James L. Ringo, M.D.,** Louisville Medical College, 1891, a practitioner at Elwood, Ind., and a member of the city council, died at Benton Harbor, Mich., May 28.

**Seth B. Sprague, M.D.,** Bowdoin College, Brunswick, Me., 1867, died at his home in Jersey City, N. J., where he had practiced for ten years, June 5, aged 61.

**Lemuel H. Rogers, M.D.,** Rush Medical College, 1863, of Mackinaw, Ill., died from appendicitis at St. Joseph's Hospital, Bloomington, Ill., June 3, aged 65.

**Robert H. Chilton, M.D.,** Miami Medical College, Cincinnati, 1870, died after a short illness, from paralysis, at his home in Dallas, Texas, aged 55.

**George B. Quigley, M.D.,** University of Tennessee, Nashville, 1894, a practitioner of Rocky Hill Station, Ky., aged 24, was shot and killed, May 28.

**Richard Lingle, M.D.,** University of Louisville, 1861, an army surgeon in the Civil War, died at his home in Orleans, Ind., June 10, aged 63.

**R. B. Archibald, M.D.,** Missouri Medical College, St. Louis, 1886, died at his home in Purdy, Mo., May 31, after a lingering illness, aged 55.

**John C. McKee, M.D.,** Barnes Medical College, St. Louis, Mo., 1896, died suddenly at his home in Hartford, S. D., June 2, aged 35.

**Edmond Beale, M.D.,** University of Pennsylvania, Philadelphia, 1855, died at his residence in Philadelphia, June 1, aged 81.

# Societies.

## COMING MEETINGS.

Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.
Medical Association of Nevada, Reno, July 1.
American Ophthalmological Society, New London, Conn., July 17.

**Golden Belt Medical Society.**—This society will meet in Topeka, July 3.

**Upper Cumberland Medical Society.**—The annual meeting of this Society was held in Cookeville, Tenn., May 27 to 30. Dr. R. E. Lee Smith, Doyle Station, was elected president.

**Roentgen Society of the United States.**—The second regular meeting of this Society will be held at Buffalo, N. Y., September 10 and 11, under the presidency of Dr. Heber Robarts, St. Louis, Mo.

**Decatur (Ill.) Medical Society.**—At the annual meeting of this Society, held May 30, Dr. Wilbur C. Wood was elected president; Dr. W. K. Hoover, vice-president, and Dr. C. Martin Wood, secretary-treasurer.

**Association of the Medical Officers of the Army and Navy of the Confederacy.**—This Association met, under the presidency of Dr. James M. Kellar, Hot Springs, Ark., at

Memphis, Tenn., May 28 and 29, about 200 members being present.

**Buffalo Academy of Medicine.**—At the recent election of officers for the Medical Section of the Academy Dr. Julius Ullman was elected chairman, and Dr. Albert E. Woehnert, secretary.

**Union County (Ohio) Medical Association.**—A number of physicians of Union county met at Marysville, May 28, and organized temporarily with Dr. David W. Henderson, Marysville, as president, and Dr. Stanley J. Bown, Claiborne, as secretary.

**The women physicians** of Cleveland have organized a medical society, which held its first meeting May 28. The officers of the Society are Dr. Cora Stalling Seehrist, president; Dr. Minnabel Snow, vice-president; and Dr. Fannie C. Hutchins, secretary and treasurer.

**New Mexico Medical Society.**—At the annual meeting of this Society held May 8, 9 and 10, Dr. George W. Harrison, Albuquerque, was elected president and Dr. J. Frank McConnell, Lascruces, secretary.

**De Kalb County (Ill.) Medical Society.**—The physicians of De Kalb county met at De Kalb, May 30, and organized this Society, with Dr. Charles B. Brown, Sycamore, president; Dr. Guy J. Wormley, Sandwich, vice-president, and Dr. James M. Everett, De Kalb, secretary and treasurer.

**American Medical Editors' Association.**—At the annual meeting of this Association, held in St. Paul, Dr. Alexander J. Stone, of that city, was re-elected president, and Dr. Otho F. Ball, St. Louis, Mo., secretary. Dr. Burnside Foster, St. Paul, was elected vice-president.

**Upper Des Moines (Iowa) District Medical Association.** The fourth annual meeting of this Association will be held at Spirit Lake, August 15, under the presidency of Dr. Charles B. Fountain, Valley Junction.

**Saline County (Ill.) Medical Association.**—A preliminary meeting of this Society was held in Harrisburg, May 22, at which Dr. S. L. Cheany, Harrisburg, was elected president, Dr. M. D. Empson, Hartford, vice-president, and Dr. Joseph B. Baker, Harrisburg, secretary and treasurer.

**Barnstaple District (Mass.) Medical Society.**—This Society held its annual meeting at Hyannis, May 9, and elected Dr. Louis Edmonds, Harwich, president; Dr. Edwin M. Parker, South Yarmouth, vice-president; Dr. George N. Munsell, Harwich, treasurer and librarian, and Dr. James H. Higgins, Marston's Mills, secretary.

**Clinton County (Ill.) Medical Society.**—The annual meeting of this Society was held in Carlyle, May 28. Dr. William P. Gordon, Carlyle, was elected president; Dr. Theophilus Gaffner, Trenton, vice-president; Dr. M. Broening, Carlyle, secretary, and Dr. Philip H. Leibrock, New Memphis, treasurer.

**Minnesota State Medical Society.**—This Society held a business meeting at St. Paul, June 3, at which Dr. William A. Hall, Minneapolis, was elected president; Dr. John P. Humes, Winnebago City, vice-president; Dr. Thomas McDavitt, St. Paul, secretary, and Dr. Richard J. Hill, Minneapolis, treasurer.

**White River Medical Association.**—At the annual business meeting of this Association, held at White River Junction, Vt., Dr. Alanson C. Bailey, Randolph, Vt., was elected president; Dr. Howard N. Kingsford, Hanover, N. H., and Dr. Mark P. Stanley, White River Junction, Vt., secretary and treasurer.

**Bedford County (Tenn.) Medical Society.** — This Society met for reorganization at Shelbyville, June 1. Dr. Frank B. Reager, Shelbyville, was elected president; Dr. George L. Landis, Unionville, vice-president; Dr. William G. Frierson, Nashville, secretary, and Dr. J. Isaac Campbell, Shelbyville, treasurer.

**Richland County (Wis.) Medical Association.**—Representatives of the medical profession of Richland County met May 18 at Richland Center and organized this Society with the following officers: Dr. H. Jackson Wall, president, Dr. Robert H. DeLap, vice-president, and Dr. Frank W. McKee, recording secretary and treasurer, all of Richland Center.

**Indian Territory Medical Association.**—At the annual meeting of this Association, held in Vinita, Dr. George W. West, Eufaula, was elected president; Dr. Bagby, Vinita, first vice-president; Dr. William A. Haley, Durant, second vice-president, and Dr. Fred S. Clinton, Tulsa, secretary and treasurer. The next meeting will be held at Muscogee in December.

**Massachusetts Medical Society, Essex South District.**—The annual meeting of this branch of the Society was held in Salem, May 28. Dr. Herbert W. Newhall, Lynn, was elected president; Dr. Herbert J. Hall, Marblehead, vice-president; Dr. Charles H. Bangs, Lynn, secretary; Dr. George Z. Goodell, Salem, treasurer, and Dr. George C. Littlefield, Salem, librarian.

**Mason County (Ky.) Medical Society.**—At the meeting of this Society at Maysville, May 29, the following officers were re-elected for the ensuing year: Dr. James Shackleford, Maysville, president; Dr. Alexander Hunter, Washington, vice-president; Dr. Amos G. Browning, Maysville, secretary; Dr. A. N. Elles, Maysville, corresponding secretary, and Dr. Samuel R. Harover, Maysville, treasurer.

**Fourth District Branch of the New York State Medical Association.**—This branch met for its seventeenth annual session, at Buffalo, May 31. The following officers were elected: Dr. Charles A. Wall, Buffalo, president; Dr. J. William Morris, Jamestown, vice-president; Dr. Bernard Cohen, Buffalo, secretary, and Dr. William Irving Thornton, Buffalo, treasurer. The 1902 meeting will be held at Chautauqua.

**Detroit (Mich.) Medical Society.**—After an existence of only a little more than a year, this Society, at its first annual meeting, May 29, showed an enrollment of 355 against the charter membership of 43 with which it was organized in April, 1900.

**Alumni Association of the College of Medicine and Surgery of the University of Minnesota.**—The annual meeting and luncheon of this organization was held in St. Paul, June 6. The following officers were elected: Dr. Louis B. Wilson, Minneapolis, president; Drs. George B. Head, Minneapolis, and Frank W. Dean, Council Bluffs, Iowa, vice-presidents, and Dr. Warren A. Dennis, St. Paul, secretary and treasurer.

**Doniphan Brown (Kan.) Medical Society.**—At the annual meeting of this Society, composed of physicians from Doniphan and Brown Counties, held at Highland, May 30, the following officers were elected: Dr. William E. Lewis, Highland, president; Drs. Aaron Herring, Highland Station, and J. H. McGauhey, White Cloud, vice-presidents, and Dr. William Boone, Highland, secretary and treasurer.

**Connecticut River Valley Medical Association.**—The secretary of this association calls our attention to a mistake in the list of newly-elected officers which appeared in THE JOURNAL of June 1, page 1576. The list should have been as follows: Dr. James A. Craig, Westmoreland, N. H., president; Dr. Frederick L. Osgood, Townshend, Vt., vice-president; Dr. J. Sutcliffe Hill, Bellows Falls, Vt., secretary, and Dr. Edward R. Campbell, Bellows Falls, Vt., treasurer.

**Delaware State Medical Society,**—The annual meeting of this Society was held at Lewes, June 11. It was decided to hold the next meeting at Newark. The following officers were elected: Dr. Edward D. Dwight, Smyrna, president; Drs. Robert Ellegood, Delmar, and Harry G. M. Kollock, Newark, vice-presidents; Dr. John Palmer, Jr., Wilmington, secretary, and Dr. William C. Pierce, Wilmington, treasurer. The next meeting will be held at Newark.

**American Pediatric Society.**—The list of officers elected by this Society which appeared in THE JOURNAL last week is incorrect. The correct list is as follows: Dr. Walter S. Christopher, Chicago, president; Drs. Charles W. Townsend, Boston, and John Dorning, New York City, vice-presidents; Dr. Samuel S. Adams, Washington, D. C., secretary; Dr. J. Park West, Bellaire, Ohio, treasurer, and Dr. Walter Lester Carr, New York City, recorder and editor.

**Alumni of Albany Medical College, Central New York Association.**—This branch of the Alumni Association was organized at Utica, N. Y., May 29, with the following officers: Dr. Charles J. Bacon, Fulton, president; Drs. Earl D. Fuller, of Utica, Eben A. Wood, of Syracuse, Irving S. Edsall, of Middleville, William C. Fawdrey, of Lorraine, Charles Bernstein, of Rome, and Arthur C. Hagedon, of Gloversville, vice-presidents; Dr. Frederic H. Brewer, Utica, secretary, and Dr. Erwin J. Cusack, Fulton, treasurer.

**American Medico Psychological Association.**—The fifty-seventh annual meeting of this Association was held in Milwaukee, June 11 to 14. The council recommended the establishment of a laboratory for medico-psychologic research, in Washington. Dr. Robert J. Preston, Marion, Va., was elected president. Dr. George A. Blumer, Providence, R. I., vice-presi-

dent, and Dr. C. B. Burr, Flint, Mich., secretary-treasurer. Montreal was decided on as the next place of meeting.

**International Association of Railway Surgeons.**—The fourteenth annual meeting of this Association was held in Milwaukee, June 10 to 12. The following officers were elected: Dr. Rhett Goode, Mobile, Ala., president; Drs. John A. Barr, of McKeesport, Pa., Walter M. English, of London, Ont., Lester Keeler, of Ironton, Ohio, Bacon Saunders, of Ft. Worth, Texas, Samuel R. Miller, of Knoxville, Tenn., Benj. Thompson, of Tama, Iowa, and Albert L. Peterman, of Parker, S. Dak., vice-presidents; Dr. Louis J. Mitchell, Chicago, secretary, and Dr. James A. Duncan, Toledo, Ohio, treasurer. The Association will meet at St. Louis next year.

**Association of American Medical Colleges.**—After ten years, harmony has been secured in this Association, at its annual meeting, in St. Paul, June 3, by the admission to membership of twelve southern medical colleges, making a total membership of seventy-seven. Dr. Victor C. Vaughan, Ann Arbor, Mich., was elected president; Dr. William L. Rodman, Philadelphia, first vice-president; Dr. H. Bert Ellis, Los Angeles, Cal., second vice-president, and Dr. Bayard Holmes, Chicago, secretary. Kansas College of Medicine, Topeka, and University Medical College, Kansas City, Mo., which had been suspended for infractions of rules, were reinstated and the charges preferred against the Hospital College of Medicine, Louisville, Ky., were not sustained.

**Maryland Public Health Association.**—The fifth annual meeting of this Association was held at Baltimore, May 23. A bronze mural tablet bearing a portrait of the late George H. Rohe, was presented to the Medical and Chirurgical Faculty by Dr. J. S. Fulton on behalf of the Association, and Dr. Harry Friedenwald received the gift on behalf of the Faculty. The tablet will be affixed to the wall in the Faculty's rooms on North Eutaw street. The following officers were elected: Mr. Henry Brauns, Baltimore, president; Drs. James Bosley, Baltimore, Thomas B. Owings, Ellicott City, Clotworthy Birnie, Taneytown, Edward R. Trippe, Easton, and Augustus Stabler, Brighton, vice-presidents; Dr. John S. Fulton, Baltimore, secretary, and Dr. L. Gibbons Smart, Baltimore, treasurer.

**Rhode Island Medical Society.**—The ninetieth annual meeting of this Society was held at Providence, June 6. The annual address was delivered by Dr. G. Alden Blumer, Boston, on "The Yesterday and To-day of Mental Medicine." The following officers were elected: Dr. George F. Keene, Howard, president; Drs. William R. White, Providence, and Christopher F. Barker, Newport, vice-presidents; Dr. Frank L. Day, Providence, recording secretary; Dr. Herbert Terry, Providence, corresponding secretary; Dr. Frederick T. Rogers, Providence, treasurer, and Edmund D. Chesbro, James H. Davenport, John C. Pegram, Jr., George S. Mathews and Frank E. Peckham, all of Providence, board of examiners.

**Greene County (Ohio) Medical Society.**—The annual meeting of this Society was held in Xenia, June 6. The following officers were re-elected: Dr. Asa C. Messenger, Xenia, president; Dr. T. Marion Kent, Spring Valley, vice-president; Dr. Miron I. Marsh, Cedarville, secretary; Dr. David E. Spahr, Clifton, treasurer. Dr. John C. Oliver, Cincinnati, was the guest of the Society, and read a paper on "Strangulated Hernia."

**Tri-County Texas Medical Society.**—The physicians of Covington, Blanton, Blum, Heron and Kimball met at Blum, May 18, with Dr. Joseph M. Hanks, temporary chairman; and organized a society for the purpose of making a closer study of the science of medicine, and up-building of the profession in general. The following officers were elected: Dr. James S. Terrell, Blanton, president; Dr. Joseph M. Hanks, Blum, vice-president; Dr. C. Gallaway, Blum, secretary, and Dr. W. H. Mauer, Blum, treasurer.

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## CALIFORNIA ACADEMY OF MEDICINE.

*Regular Meeting held May 28, 1901.*

Dr. Philip King Brown in the chair.

### Pott's Fracture.

Dr. Harry M. Sherman exhibited a patient on whom he had operated for the correction of the deformity which follows Pott's fracture. The man had sustained a fracture in 1900, the usual deformity supervening after the splints were left off, the foot going into valgus and equinus so that when it was put on the ground it touched only along the border of the big toe. He corrected this deformity, and osteëctomy was done on the inner malleolus, removing all the excessive callus which had been thrown out; and an open osteotomy was done on the fibula just below the point of the original fracture. An achillotomy corrected the equinus. The severed malleolus was now fastened to the shaft by a long nail, all wounds were closed, and the leg and foot put up in plaster. Healing was uneventful. When the splints were left off about eight weeks after the operation a little motion was found to exist in the ankle, and this has since slowly increased.

### Gangrene of Leg Following Confinement.

Dr. C. A. von Hoffmann reported a case of a woman 28 years of age, with gangrene of the right foot and leg, which came on after an apparently normal confinement. On the morning of the sixth day after her confinement she suddenly turned her head to the right and got a convulsion which lasted ten minutes, followed by three more, each one increasing in duration, the last persisting about an hour. A catheterized specimen of urine showed albumin. Two days later the patient turned suddenly to the right, but had no convulsion. After about thirty minutes she opened her eyes, but could not speak. Pencil and paper were given her and she tried to write. She was able to write "I w" and continued to write w's, looked at it and shook her head, but could not speak. She understood questions asked her perfectly. After 15 minutes she motioned for pencil and paper again and wrote "I want you to tel," then put pencil down, and, commencing to write again, made only l's, looked at it, shook her head, and put the pencil down. An hour later she pronounced the words "I want you to tell me how my baby is," hesitating between the words. After that she continued to speak. During this day the husband noticed dark purplish spots on her face. The following morning she complained of intense numbness in the left leg, and swelling in the right leg could be detected. The left leg became very dark below the knee and further down the right one showing the same changes, but not quite so intense, and later there was found to be loss of sensation in the toes which spread over the foot as far as the ankle. During the first week after confinement the patient had suffered from asthma, but was free from it after the first convulsion. The right leg continued to get worse until the patient entered the Children's Hospital. At the time of entrance her pulse was 140, temperature 39.2 C, respiration 32, very much exhausted, breathing in a very labored manner, with burning pain in the right leg. The whole right foot was gangrenous, but there was no line of demarcation. The left foot had a dark spot over the instep, and on the heel. The pulse in the left wrist could not be felt, sensation was normal in the left foot, entirely gone in the right. She coughed a good deal, and this condition remained practically unchanged until Dr. Sherman saw her five days later.

Dr. H. M. Sherman reported that he saw this patient at Dr. von Hoffmann's request on December 18, and found the right foot and leg gangrenous up to the junction of the upper and second quarters of the leg, where a line of demarcation had formed. The gangrene was dry, the toes being already desiccated. About the left ankle were several areas of necrosis in the skin. The tip of the fourth toe on the left foot was gangrenous. Pulsation could be felt in each femoral, but not very well, chiefly because of the weak heart, but also because of the adipose tissue. Pulsation could not be obtained in the left radial at the wrist. The heart was weak, rapid, and irregular, but there were no murmurs. An acute nephritis was present, the urine containing albumin, hyaline, granular and blood casts, and red and white blood corpuscles. Wishing to wait for some possible improvement in the heart and kidney condition, operation was temporarily deferred, but was undertaken on the 28th. The leg was amputated through the knee-joint by a Stoke's modification of Gritte's amputation. When the stump was dressed a week later the flap was a little dark colored but had adhered in its place; no pus, no hyperemia, no tension or accumulation in the stump. At the present time, five weeks after the operation, the stump is fairly healed. Examination of the leg showed post-mortem clots in the arteries and veins; by post-mortem he meant clots that had formed after the death of the tissues by gangrene. At the

point where the popliteal artery divides into the anterior and posterior tibials, was a larger, harder and firmer clot which he thought was an embolus, which plugged the arterial circulation at that point, but as it had to be acknowledged that no cardiac lesion could be found to explain the formation of a hard clot, it may be that it was an arterial thrombus and not an embolus. The occurrence of superficial gangrene in the skin of the left ankle must have been due to a similar cause—embolic fragments plugging small arterioles, or thrombi forming in arterial branches.

### Amputation for Gangrene Due to Periarteritis.

DR. WALLACE I. TERRY reported a case "Amputation for Gangrene Due to Periarteritis" in a man aged 31, by occupation a leather stamper, who came to the City and County Hospital February 8, complaining of pain in the right foot and leg, and gangrene of the big toe of the same extremity. The following history was obtained: He used alcohol moderately; cigarettes to excess. Father died of cancer, mother of cholera. He had had urethritis twice, epididymitis once. Lues denied. In 1887 both feet became swollen, red and painful. This attack lasted for six months. A second similar attack came on a year later. A third attack in 1894 with swelling of both legs, and a fourth in 1897, but only affecting the left leg. He had some pain in both legs at times since then. About six or seven weeks before admission, the right big toe became red and painful, apparently from an ingrowing toe-nail. Swelling soon extended up the foot and a couple of incisions were made by a physician on the dorsum of the foot. On the day before admission the first phalanx became black. Examination showed a rather thin neurotic individual. Gangrene of the right big toe; swelling of the foot; great pain and tenderness in leg and foot. Heart and lungs normal. Urine normal, although patient stated that it had been very dark colored at times. On the day after admission he disarticulated the big toe at the metatarsophalangeal joint, leaving the wound open. The metatarsal bone was apparently sound. Two days later the second and third toes grew dark in color and were soon gangrenous. No further operative measures were deemed advisable until a more definite line of demarcation was established. The foot was dressed antiseptically and kept warm. By the beginning of March, the lower third of the foot was gangrenous, the process having gradually extended, so an amputation of the leg at the lower third was done by Dr. Huntington. The stump healed well except for a small patch of gangrene on the posterior flap. On May 27, 1901, the patient had gained in weight and was looking well, but had had some pain in left leg within the past few days.

DR. H. M. SHERMAN also reported a case of "Amputation for Gangrene Due to Periarteritis." A man of 40 years of age, who had for several years suffered pain on the top of the left instep, which had been treated for rheumatism. Apart from the pain his health had been good. In October, 1896, he was suffering greatly, and thought he had an ingrowing big toe-nail. He was treated by a chiropodist, the result being a septic wound, which finally necessitated the amputation of the toe. The stump, however, did not heal and the local condition progressing he finally lost all the other toes, except the little one. In April, 1897, an ulcer came spontaneously on instep, which not healing, it was decided to curette it when the bone, being found very fragile and friable, an impromptu operation was done 5 inches above the ankle. This stump also did badly, and another amputation removed 4 more inches of the leg. This stump followed the course of the others; an ulcer persisted which would not heal under any treatment until the hot-air baths were tried, and under them it nearly closed, so that an artificial leg could be worn. Sometime after, his stump became worse, and then his right foot began to pain him. He then began the hot-air baths for his stump, and the ulcer fully healed, but the right foot was worse, pain being complained of in the sole and instep. An ulcer formed on the little toe for which the distal phalanx was removed, but this made matters worse. Pus burrowed into the sole, red, swollen areas developed in the dorsum, and there was danger that the local sepsis would become more and more extensive, so, after incisions being made on the sole and dorsum without any relief, amputation of the leg was done at the junction of the upper and middle thirds. At this operation it was noticeable that there was no hemorrhage from the anterior tibial artery in general, the tissues of the stump looked darker than they should, and the blood from them was also darker than normal. From then on healing proceeded uneventfully but slowly.

DR. A. E. TAYLOR presented pathological reports on the last two cases. Dissections of the anterior and posterior vessels were done, and it was noted, particularly for the anterior vessels, that they were surrounded by an abnormal amount of connective tissue, which was very dense and unlike the normal areolar tissue usually found about the vessels. The vessels were then measured and fixed. Thrombosis was noted in both anterior tibial vessels, in both anterior veins and their subdivisions, and in the posterior veins in the case of Dr. Terry. As compared to the normal these arteries displayed a great reduction in the total diameter, and a normal thickness of the wall with a great reduction of the diameter of the lumen. Normal arteries of the same total diameter as these would have much thicker walls so that these walls, though apparently normal, were really increased in thickness. In no case was the area of the diseased vessels as much as 1/10 of the normal area, while in the anterior tibial vessels in Dr. Terry's case it was but 1/100. Microscopic sections of the vessels showed the elastic tissue and the muscular coat to be qualitatively normal. The intima was not notably thickened in either case, except in the areas of thrombosis, where it was involved in the process of obliterative fibrosis. No signs of lime salts could be found. The endothelial cells lining the vessels were normal in the patulous portions. The adventitia was thickened; it was usually well outlined from the surrounding excessive fibrous tissue. In the areas of thrombosis the process was an obliterative arteritis. The portions of the vessels not submitted to microscopic section were dissected. The process of thrombosis did not extend along the entire length of the vessels involved, except in the case of the anterior artery in Dr. Terry's case. There were small portions in which the lumen was patulous. These portions were carefully examined with a hand glass, for areas of atheroma. None were found. The vessels were not at all tortuous, but perfectly smooth and straight. The veins presented no other lesions than the thrombosis.

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## THE CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

*Regular Meeting, held May 2, 1901.*

DR. WILLIAM E. CASSELBERRY, in the chair.

DR. JOHN EDWIN RHODES read a paper on "Some Interesting Throat Paralyses in a Case of Locomotor Ataxia of an Irregular Form." (See "Original Articles," p. 1769.)

DR. OTTO T. FREER—The paralysis of the crico-arytenoideus posticus muscle, or abductor of the vocal cord, mentioned in the case reported by Dr. Rhodes, is one that is characteristic of tabes dorsalis. Felix Semon made this the subject of especial research; he finds that though there are some cases of total paralysis of the recurrent laryngeal nerve and also of the superior laryngeal as the result of tabes; these are rare exceptions compared with the great frequency of paralysis or paresis limited to the most vulnerable fibers of the recurrens, those that supply the crico-arytenoideus posticus. The paralysis may be uni- or bi-lateral. If unilateral there are no symptoms and the difficulty is only discovered during laryngeal inspection. The affected cord can be seen fixed in the median position while the other one is abducted and leaves plenty of room for respiration. Where the paralysis is bilateral, both cords are adducted, but generally not so forcibly but that respiration can be carried on without marked dyspnea unless the patient exerts himself or catarrhal swelling closes the small chink of the glottis. In some cases, however, dyspnea is urgent and dangerous. The voice is unimpaired.

A second characteristic form of tabetic nervous disturbance of the larynx is the so-called laryngeal crisis. This presents varying grades of severity. In the mildest form there are simply violent paroxysms of coughing which recur with great

obstinacy and for which no local reason can be found in the respiratory tract. In the degree of next greater severity the coughing spells are accompanied by spasm of the glottis with severe dyspnea and tickling, and scratching sensations with other laryngeal paresthesiæ. The attack lasts from a few seconds to a few minutes and is intensely distressing. In the severest cases the suffocation is sufficient to cause loss of consciousness, involuntary defecation and urination with epileptic seizures. Even these grave attacks are seldom fatal.

A patient in my care presents the mildest form of these three grades of laryngeal crises. He has a paralysis of the third nerve, with the characteristic paralysis of the ocular muscles in addition to the usual signs of tabes. He complains constantly of paroxysmal cough, for which no local cause can be discovered in the respiratory tract.

Dr. Rhodes' paper is interesting in that it emphasizes what may in some cases be the earliest sign of tabes dorsalis, paralysis of the crico-arytenoideus posticus muscle. Paralysis of the abductors of the cords may be the first evidence of beginning locomotor ataxia. If the laryngoscope were more generally used, and especially if more pains were taken to become reasonably skilful in its employment, this obscure and valuable sign would doubtless be discovered far more often than it is now; but as abductor paralysis does not alter the voice and as it does not always create noticeable obstruction to respiration, even if bilateral, it is sure to be overlooked if the larynx is not inspected. The examination for suspected tabes should always include the use of the laryngoscope.

Dr. E. Fletcher Ingals read a paper entitled "Diagnosis of Diaphragmatic Hernia." (See page 1770.)

Dr. Otto T. Freer—Dr. Ingals has mentioned me as one of those to whom he kindly awarded the privilege of seeing the remarkable case he has described. Though there were times when the diagnosis pneumothorax seemed possibly correct to me, observation of the long course of the ailment and summing up of the signs observed makes me think that the case can only have been one of diaphragmatic hernia.

Those who contended for pneumothorax have furnished no reasonable pathological basis for their opinion. Tuberculosis was advanced as an etiologic factor. The patient presented no evidence of tuberculosis. He had no fever, no wasting and no general signs of tuberculosis. He was a robust man in every respect and perfectly healthy with the exception of the affection under consideration.

Another theory advanced explaining the occurring of pneumothorax was that the lung was adherent at some point to the chest wall and that deep inspiration had violently pulled on this place, causing a tear in the lung tissue. This seems very unlikely when we consider the enormous frequency of pleuritic adhesions and the rarity of pneumothorax. If a tear in the lung parenchyma of this kind had occurred it certainly could not have penetrated very deeply from so slight a traumatism and the little wound would have soon closed after the lung had collapsed in the region of the tear. We know how soon similar openings in the lung tissue complicating rib fractures close when the chest wall has not been perforated. Another argument against this theory is that at no time were we able to demonstrate the presence of fluid in the chest cavity, yet a rent of the lung tissue sufficient to cause a prolonged pneumothorax would surely have led to a pronounced hemothorax when we consider the very vascular pulmonary tissue. A hemothorax would certainly have been followed by a pleuritic effusion as we know from clinical experience. There is no history of hemothorax or pleuritic effusion in this case. The rapidity with which bleeding into the pleural sac is followed by serous effusion I can illustrate by a case of my own in which the patient had stabbed himself with a penknife. Within two days after the injury he had a marked collection of fluid in the pleural cavity that had been penetrated. This subsided after about two weeks.

The gurgling sounds I heard only on my first examination and I was surprised at their loudness and metallic character. They were certainly as loud as I have ever heard them over the abdomen. They were not frequent and I chanced to hear them while I was listening in the region just below the angle of the scapula. The metallic tinkling or falling drop sound was loud and unmistakable, and when I was listening was rhythmical, occurring at intervals of a few seconds. This sound could not have been produced in a pleural cavity that did not contain enough fluid for the drop to splash into, yet we never could demonstrate the presence of fluid in the pleural sac at any time. The inference is that the drops were falling into fluid within some hollow organ in the chest cavity.

The loud gurgling sounds were heard much higher in the thorax than it is usual to hear transmitted abdominal sounds and they were of surprising intensity. It was contended that a pneumothorax would favor transmission of these noises. Air in the pleural cavity certainly does not favor conduction of respiratory sounds to our ear, therefore I can not understand why it should favor transmission of abdominal ones. Respiratory sounds are far better carried by the parenchyma of the expanded lung. Fluid is even a better conductor than air and yet we know how a pleuritic effusion will dampen and suppress sounds from the lung.

To explain the rather sudden appearance of the symptoms of diaphragmatic hernia in this case we must assume that a small hernia had existed for a long time and that it had gradually enlarged to a point which made its sudden increase from a slight cause easy.

Dr. John Edwin Rhodes—I wish only to say that I appreciate very fully the care with which Dr. Ingals has investigated this case, and the strong argument that he has advanced in favor of diaphragmatic hernia. I could not fully decide that it was a case of diaphragmatic hernia, although my findings were much in favor of it rather than that of pneumothorax. The reasons for believing that it is a case of diaphragmatic hernia have been clearly stated by Dr. Ingals, from the examinations I made and the points that have been brought out by him. I am inclined to accept his diagnosis.

Dr. William E. Casselberry—The essayist has made an excellent argument in favor of a diagnosis of diaphragmatic hernia. I must confess to being, as yet, unconvinced. Of course, conviction in such a case is difficult from a mere report without seeing the case itself, no matter how carefully the details are given.

What impressed me as faulty in the diagnosis of diaphragmatic hernia is the disappearance of the intestinal gurgling sounds late in the case; and that while they were present early and were heard by both Drs. Ingals and Freer in their first few examinations, in later examinations they failed to hear these sounds. If there was a loop of intestine, colon, or stomach that passed through the diaphragm, I do not see why there should not be nearly all the time, when digestion was in progress, some gurgling or bubbling sound. I would suggest in this connection that, if opportunity offers, the patient be given a cathartic, and that an examination be made at the proper time during its action, under which circumstances the gurgling sounds one would expect to be increased very markedly in frequency and intensity, and with unmistakable identity to the well-known gurgling sounds which are heard over the intestine. Again Dr. Freer has referred to these or other sounds as "metallic tinkling." "Just like a drop falling into a bottle of fluid." Now, there is really no similarity between the sounds of intestinal gurgling or stomach splashing and real metallic tinkling in pneumo-hydrothorax. Is it not possible that both were present and that the gurgling sound was simply transmitted from the colon in its normal situation?

In favor of diaphragmatic hernia would be the total absence of fluid from the pleural cavity, for, as remarked by the essayist, communication of the bronchial tract with the pleural cavity almost certainly leads to infection and effusion. Without fluid in the pleural cavity the sound could not have been real metallic tinkling. I must say, however, that I believe it would be possible for a small amount of fluid to be in the pleural cavity without causing distinct physical signs and without being caught by an aspirating needle. I am quite certain that I have aspirated unsuccessfully at times in cases of pleurisy with slight effusion. In other words, I have failed to get the fluid which I believed to be there. I know it is difficult to do these things, but if aspiration had been made

more than once, not depending upon a single aspiration. I would have more confidence in this test.

DR. INGALS—Aspiration was made twice.

DR. CASSELBERRY—I accept that statement as being a further verification of Dr. Ingals' diagnosis of diaphragmatic hernia except that the fluid might have escaped even a double aspiration.

A point in favor of diaphragmatic hernia is the variation in the position of the heart, not that the heart was merely at first pushed far to the right, and late in the case to the left, which might have been caused by a continuous absorption of air from a possible pneumothorax, but that it was one time far to the right and the next time to the left, arguing, as Dr. Ingals has said, in favor of a variation in the amount of distention by the loop of intestine or stomach that happened to be through the diaphragm. Yet even with this sign one can conceive of a small bronchial perforation having forced through it into the pleural cavity at different times a varying quantity of air dependent perhaps upon the degree of respiratory activity.

DR. MORLEY D. BATES—The patient told me that at one time he felt as if something gave way in his chest on the left side, in the region of the third interspace, and that he felt a sensation of air blowing through the opening thus produced. It was a whistling, blowing sensation on deep inspiration, and at times it would subside, after which he thought the heart was pushed farther to the right. I do not know whether that point was mentioned or not.

DR. INGALS—I think I mentioned that the patient often felt a splashing sensation, and at one time, shortly before the last examinations were made, he spoke of having felt something give way, pushing his heart to the right side.

DR. BATES—When I examined him I heard a gurgling sound in the lower portion of the thorax, on the left side, but I think these sounds were transmitted in a measure from the distended intestine, or from the stomach. I heard them low down, not up any farther than the sixth rib.

DR. INGALS (closing the discussion)—The patient never had any evidences of pleurisy; there was no collapse of the upper portion of the lung at any time. The area of vesicular sounds present varied from one to two inches at the lower part of the acting portion of the lung, which could not have been the case with air in the pleural cavity. In answer to Dr. Casselberry I may say that it was suggested that the patient take a cathartic but he did not care to do so. I heard the gurgling sounds on several occasions, but at many of the examinations I did not hear them.

## PHILADELPHIA ACADEMY OF SURGERY.

*Meeting May 6, 1901.*

President Dr. DeForrest Willard in the chair.

### Empyema.

DR. R. H. HARTE reported five cases and exhibited three of the patients. Two patients had suffered from pleurisy with effusion, the fluid subsequently becoming purulent. In these two cases the temperature ran a zigzag course, one being regular, the other more sharply defined. As to the measures to be adopted in these cases, he believed in the resection of portions of two or three ribs, and subsequently inserting an extra-sized drainage tube. A very large tube is always necessary, since smaller ones become easily occluded by flakes of lymph. Frequently these flakes of lymph may wall off a collection of fluid within the pleural cavity and produce a rise of temperature. To break up these pockets so produced a metal sound had been of advantage. As to the incision, he preferred one made in the mid-axillary region. This incision might be vertical or curved. In one of the cases he had made a longitudinal incision. In old cases of empyema the incision of Godley frequently gives good results. In empyema it is astonishing how quickly the patients improve after the operation.

DR. R. G. LECONTE had seen two of these cases previous to operation, and agreed that they had been desperate ones. He also believed in resection of the ribs to permit drainage. In those cases where there was a very extensive collection of fluid, a preliminary puncture might be resorted to previous to the resection of a rib.

DR. W. J. TAYLOR stated that several years ago he had been called out of the city to see a case of empyema in which there had been a very large collection of fluid present. In this instance he had made an incision under the breast, thus allowing drainage to occur. Later he had resected a rib, thus effecting a cure. In this case considerable purulent material had drained off.

DR. H. R. WHARTON believed in resection of a rib in empyema, and also thought that a very large drainage tube was advisable. In the case of children he did not believe that immediate resection of a rib was advisable, simple drainage usually being effective. In cases of empyema of long standing or in those cases where a sinus exists he resects a rib at the primary operation.

DR. G. G. DAVIS does not believe in irrigation of the pleural cavity at the primary operation. In some instances in which the cavity communicates with a bronchus, this might be a dangerous process.

DR. J. H. JOPSON had treated five cases of empyema of children recently. In these instances, simple drainage had given relief.

DR. DEFORREST WILLARD believed in the resection of a rib in children, since in these instances the ribs were so closely placed together that drainage was not always effectual. As to irrigation, he never resorted to this procedure unless the purulent material had an odor.

DR. HARTE, in closing, stated that as a rule he generally resected a rib in empyema of children, the same as in adults. As to irrigation, he disapproves of it. He prefers ether as an anesthetic.

### Ligatures of External Carotid; one for Hemorrhage after Tonsillotomy, the Other for Hemorrhage after Intranasal Operation.

DR. W. W. KEEN believed that as a rule ligation of the external carotid artery presented no serious difficulty. In Case 1 the patient, aged 22 years, had suffered from hypertrophy of the tonsil, which had subsequently been removed with a tonsillotome. At the time of operation no special hemorrhage had occurred, but three hours later hemorrhage had been profuse, requiring ligation of the external carotid. In Case 2, Mr. M. B., several years previously had had a polyp removed, and at the present time was suffering from a hypertrophic process affecting the septum. This growth was curetted by a physician, and sharp hemorrhage occurred, about 20 ounces of blood being lost. The nares were firmly packed, but more or less oozing still continued. Nearly all known remedies were tried to stop the hemorrhage without relief. These remedies included: the actual cautery, trichloracetic acid, gauze packing, ham fat, adrenalin, but hemorrhage continued for several weeks, the patient losing in all probably 10 pints of blood. At last ligation of the external carotid was done, and hemorrhage at once ceased. Recovery in both instances was prompt.

### Cases of Facial Anthrax Treated by Injections of Carbolic Acid.

DR. L. H. MUTSCHLER referred to certain cases of anthrax which had been reported before the Philadelphia Pathological Society by Dr. J. H. Jopson in December, 1899. In the first one of the speaker's cases the man had been 21 years of age, and had been handling goat skins imported from China. After some time a pimple had developed over the eyebrow, and in the center of this pimple a dark spot had occurred. Surrounding this was considerable edema, though little pain was present. The temperature remained about 99.2 F. In this case a solution of carbolic acid of 95 per cent. had been injected in eight localities surrounding the initial pimple, and later a bichlorid dressing was applied, and on the third day the slough separated and recovery occurred.

In Case 2, the patient had been a man 44 years of age, and had been employed in a factory in which he had to handle goat skins. These products had been imported from Russia. In this instance a spot developed on the face, causing edema

of the neck, scalp and jaw. In this instance the edema had been confined to one side of the neck, but there was no glandular enlargement. A black slough occurred in the center of the region affected. There was no pain accompanying the part involved. Pure carbolic acid when injected around the site of disease effected a cure. In both cases pure cultures of the anthrax bacillus were found, which, when injected into mice, caused death within 13 hours. The speaker had wondered why the Government had taken no action to prevent the importation of infected hides.

DR. J. H. JOPSON referred to the cases of anthrax he had reported. Up to this time there had been ten cases of anthrax reported in Philadelphia, and doubtless there had been many cases throughout the country which had never been recognized.

DR. J. CHALMERS DACOSTA had seen two cases of anthrax, one of which he had mistaken for malignant edema.

DR. W. J. TAYLOR had seen the first case reported by Dr. Mutschler, and stated that after the injections of carbolic acid recovery had been prompt.

DR. R. H. HARTE wondered why it was the habit of hospitals not to admit these cases. He desired to go on record as believing that they should be admitted to hospitals.

### Ultimate Result in a Case of Interscapulo-thoracic Amputation.

DR. R. G. LECONTE reported the case which had been reported before the society at a former meeting. It was one of sarcoma affecting the left shoulder, and of a recurrent type. During a part of 1899 patient's health had been good, but in January, 1901, another operation had to be performed, at which time a portion of a rib was removed. Some time later asthmatic attacks developed, with bloody expectoration, small pulse, dyspnea, and finally death occurred Feb. 25, 1901. At the post-mortem examination pleural adhesions were found. The apex of the right lung showed fibroid degeneration. In the right lung a growth the size of an orange was found. The liver showed fibroid change, and the spleen showed whitish growths. The tumor of lung when examined microscopically was found to be made up of spindle cells, with spindle-shaped nuclei and with nucleoli. Dense hyaline degeneration products were found over the spleen. Some giant cells were also found. It is somewhat remarkable that this tumor had affected the left shoulder in the beginning of the attack, and afterwards had given metastasis in the right lung.

## TRANSACTIONS OF THE WOMAN'S HOSPITAL SOCIETY OF NEW YORK.

*May Meeting, 1901.*

Dr. Joseph E. Janvrin in the chair.

### A New Method of Nephrorrhaphy.

DR. P. F. CHAMBERS read a paper with this title, and said that although he had not been able to learn of any practical objections to the method in vogue of fixing the kidney by needle and suture passed through the cortex, theoretically he had always been opposed to it, and he felt assured that, sooner or later, cases would appear showing that an injury had been done to the kidney. Only a few years ago it was thought perfectly safe to leave a permanent suture, such as silkworm gut or silver, buried, fastening the kidney to the back muscles. That was soon proven to be a fallacy. He could not see the advisability of leaving the wound open for granulations, for, after all, it is simply the surface of the kidney which adheres, and it is held no more firmly whether the surface to which it is adherent be granulation tissue 2 inches thick or merely the adhesion which would take place between two raw surfaces.

His cases were of two unmarried women who were admitted to his service in the Woman's Hospital with markedly displaced or floating right kidneys, and with all of the symptoms attending such trouble. An operation for fixation was unquestionably advised in both cases and performed according to the following method:

The patient being placed in the usual position on her side and abdomen, the vertical incision was made and the kidney caught with the fingers and pulled through the opening. Then with the forefinger and thumb of the left hand as a guide, a bunch of median-sized catgut was carried around the kidney by a Cleveland ligature carrier. This was carried around the kidney just below the pelvis, between the kidney and the ureter. Then, with the same carrier, the sutures were carried through the muscular fibers, or aponeurosis, in the upper edge of the wound. The sutures were then temporarily left until the capsule of the kidney could be cut and pushed back about half an inch on each side of the incision. With fine catgut the capsule was drawn back and fixed to the under surface of the muscle. The bunch of catgut sutures was then tied, holding the kidney firmly up against the under surface of the muscle to which it was wished to have it adhere. The muscular fibers which had been torn and the muscular fascia were brought together with a running suture of catgut. The wound was then thoroughly washed out with a normal salt solution and closed with catgut. The patient was put to bed on her back and the foot of the bed slightly raised, and she was kept in that position for at least two weeks. By that time the catgut had been absorbed and the wound healed. She was gradually allowed to assume the sitting posture and, at the expiration of three weeks, she was allowed to leave her bed. But before allowing her to assume the upright position a snug-fitting abdominal supporter was adjusted, and she was directed to adjust it before leaving the bed for at least a year. No injury had been done the kidney. The operation was attended with no danger and with but little inconvenience to the patient. Median-sized catgut was used, just large enough to prevent cutting into the kidney tissue and sufficiently large to suspend. With the finger in the incision, passing it around the kidney, feeling that the ureters and blood vessels were out of the way, all outside of the proposed line of suturing, the sutures were then passed around the kidney, hugging it closely, outside its capsule, between it and the ureter. The sutures penetrated into the fatty and cellular tissue. When the sutures were tied they were tied higher up than the level of the plane of the kidney so as to keep the kidney pushed up underneath the ribs. Dr. Senn's method was similar to this, but he used gauze, which was passed around the kidney. The wound was left open and the gauze removed at the expiration of three or five days; of course, in such an instance, the wound had to heal by granulations. When the capsule was pulled back it was sewn to the under surface of the muscle and so attached by its raw surface, and that was the only part of the kidney that becomes adherent. Even when you penetrate the kidney with a needle armed with silkworm gut, with catgut, or other material, the object simply was to hold it there until adhesions took place, when the sutures are withdrawn. His sutures, which suspend the kidney in position, last fully as long as those sutures which penetrate the kidney tissue itself. He had never seen any injury, nor did he know of any case, where any injury had been done the kidney by the old method, but theoretically he had always been opposed to it. He did not think we could pass a ligature through the kidney without injuring it. He thought the method described of holding it in place did equally as well, and was a better procedure than when the kidney tissue was penetrated.

DR. GEORGE H. MALLETT said that the question of floating, or movable, kidney interested him very much. He had not settled in his mind the value of the operation as a means of relief. A good many men have stated that 20 per cent. of all the patients who apply for gynecologic treatment are cases of floating kidney.

### A Case of Utero-Intestinal Fistula.

DR. L. GRANT BALDWIN read a paper with this title. He wished to report the case on account of its rarity and the results obtained. This occurred in a woman, about 37 years old, who was confined in April, 1900. About the third day after her confinement she became septic, and was then curetted by her family physician, who was a most competent obstetrician. Nothing untoward happened and the symptoms of sepsis disappeared. At the end of the tenth day after the curetting, fecal matter was noticed coming through her vagina.

At the end of two weeks after the curetting he was asked to see her. At that time she had a temperature of 101, pulse 120, foul tongue, and she looked rather wretched. The physician had told him that fecal matter appeared through her uterus, but he was inclined to be rather skeptical, thinking that the fistula was in the vagina. By placing the patient in the Sims position and thoroughly exposing the parts, fecal matter could be seen oozing out of the cervix. Her bowels had not moved by way of the rectum for several days. Intestinal gas passed through the uterus. There was a mass one-half the size of a fetal head in the left iliac fossa immediately connected with the cul-de-sac. There being no inflammatory material present, and the patient being in fairly good condition, it was thought advisable to wait and keep the uterus and vagina as clean as possible. The fever and pulse began to get less, her appetite improved and, at the end of two weeks after that, some little gas passed by way of the rectum. She gradually improved, and in the early part of June went to the country. About the middle of July he was told that fecal matter had not passed by way of the vagina for several days. She gained in flesh and her condition became most satisfactory. When she returned from the country, about the middle of September, she had gained 20 pounds in flesh, and she was the picture of health. Except for a little thickening back of the uterus on the right side she is a perfectly well woman and has menstruated for two months normally, a normal amount, and without pain.

The question as to how this condition occurred and how it healed up was an interesting one to him, and his only opinion was one of speculation. Probably the uterine wall was injured at the time she was curetted and a localized peritonitis occurred, with adhesions of the bowel to the sigmoid flexure, because by rectal examination nothing could be felt. It must have occurred low down, because the fecal matter was not the contents of the small intestine; the food was thoroughly digested and resembled the products of digestion. As the uterus contracted, as involution went on, the sigmoid remaining stationary, the opening was stretched out into a canal, and, as the uterus went down further and further in the pelvis, it still more stretched and finally became obliterated in that way. That is the most probable way in which healing occurred that he could imagine.

DR. J. DOUGAL BISSELL asked Dr. Baldwin if she had ever had a laceration and if it was an instrumental delivery.

DR. BALDWIN replied that there was an old laceration of the perineum and cervix, but it was not marked. There were no symptoms of rupture of the uterus present whatever. The labor was a normal one. The curettage was done for the sepsis.

DR. P. F. CHAMBERS asked if a sharp or a dull curette was used, because he thought the sharp curette was a most dangerous instrument. After parturition he had made it a rule never to use it. He had seen a number of cases where he had been satisfied that injury had been done by the sharp curette. The sharp curette cuts in soft tissue and leaves a number of raw surfaces for the absorption of septic material. The dull curette will do everything that the sharp one does, and does no harm.

DR. JOSEPH E. JANVRIN did not think one should ever use the sharp curette after confinement, on account of its danger. Personally he never used it, but always the dull curette, using a good big one which is large enough to catch hold of anything contained within the uterine cavity and pull it down. The instrument that he liked was called Mundé's, which was very light, but larger than the Thomas curette. Any case where the uterus is subinvoluted and with the cavity quite large required a good-sized blunt instrument to get hold of and pull down any material within that organ.

DR. S. SHAILER suggested as a cause of the fistula that perhaps it was due to the gut passing into the cavity of the uterus through an opening made by the curette, the pressure externally pushing the bowel in. The adhesion formed between the bowel and uterus was so firm that the feces did not get outside the uterus into the peritoneal cavity, so accounting for the non-appearance of peritonitis.

## NEW YORK ACADEMY OF MEDICINE.
## —SECTION ON PEDIATRICS.

*Stated Meeting May 9, 1901.*

DR. W. L. STOWELL in the chair.

### An Investigation of Adenoids, Especially with Reference to Bacterial Infection.

DRS. M. NICOLL, JR., and A. J. LARTIGAU had made a careful bacteriologic investigation of 11 adenoids, with the result that 5 of the specimens gave sterile tube and plate cultures, while the remainder showed a few micro-organisms, chiefly streptococci. Where tests had been made for virulence, these organisms had been found to be non-virulent. They had also examined 75 adenoids for tuberculosis, using half of each specimen for inoculation experiments and half for microscopic study. Of the cases, 10 per cent contained both tubercle bacilli and the histological lesions of tuberculosis, while 5.3 per cent contained tubercle bacilli without any definite lesions of tuberculosis. At least 10 sections had been examined from each adenoid. This investigation also comprised a study of 46 specimens with regard to the thickness of the epithelium. From this it was learned that of the 46 specimens studied, 13 showed a normal thickness of epithelium, and the others great variations from the normal. In the specimens containing tubercle bacilli these organisms were in all situated rather near the surface, and it appeared that the adenoid had become infected from the surface without any break in the epithelium.

Dr. Nicoll commented on the significance of the fact that 10 per cent. of these cases had shown tubercular foci in the respiratory tract. He was inclined to think that in the near future tubercular adenoids would assume a more important rôle than previously.

### A Dozen Cases of Spinal Analgesia in Operations on Children Under Six Years and a Half.

DR. W. S. BAINBRIDGE had used this method of inducing anesthesia in various operations upon children, including osteotomy, circumcision, cauterization of the rectum for prolapse, and the radical cure of hernia. The youngest of these patients was four months. He had carefully compared the action of cocain and beta-eucain, and had demonstrated that the latter was unreliable and very unsatisfactory. The speaker said that he had reported the only two cases in literature in which subarachnoid injections of cocain had produced a complete analgesia of the entire body.

DR. J. LEONARD CORNING said that he had carefully refrained from saying much in the recent discussions of this method, yet he felt that it was not likely to be discarded by surgeons. For that very reason it should be thoroughly studied, and it was quite probable that it would be considerably modified. He had endeavored himself to do this, as, for example, by varying the specific gravity of the fluid injected, and by substituting cataphoresis for puncture of the membranes.

DR. CHARLES M. FORD, who had witnessed most of Dr. Bainbridge's operations under cocain analgesia, emphasized the value of the method in children, and commented upon the remarkable calmative action of the cocain injection even in very nervous and apprehensive children.

DR. W. E. YOUNG said that as house surgeon of the hospital in which these operations had been done he had had an excellent opportunity of watching these patients for a number of months. Bad effects had not been observed, and rarely any great variation in the body temperature. Ethyl chlorid had been used in connection with the injections of cocain, and although the injections had been given at varying levels, it had not greatly affected the result. Anesthesia had been induced in periods varying from half a minute to fifteen minutes after the completion of the injection. All of the patients had retained tactile sensibility and the ability to distinguish between heat and cold, but none had experienced pain from the application of the actual cautery. The only unpleasant sequela had been headache, and this could be quickly relieved

by the hypodermic injection of 1/100 of a grain of nitroglycerin, and could sometimes be altogether prevented by the previous administration of bromid of sodium. Most of the patients had been able to retain food within a few hours and had slept well the first night. In no case had there been infection.

DR. J. H. LARKIN said that he had been called upon to make an autopsy upon an apparently healthy woman who had suddenly died six hours after the removal of her tubes and ovaries under analgesia induced by intraspinal cocainization. The respiratory apparatus and all of the viscera had been practically normal, and the same was true of the brain. Corresponding to the site of injection was a punctate mass involving the periphery of the cord.

DR. BAINBRIDGE said that he had carefully studied the 1080 reported cases and had been unable to find a death wholly attributable to this method. If the injection were made very low down, the cord could not be injured.

## CHICAGO PATHOLOGICAL SOCIETY.

*Meeting held May 13, 1901.*

The president, Dr. L. Hektoen, in the chair.

### The Cellular Changes in Tubercular Meningitis.

DR. I. B. DIAMOND stated that plasma, lymphoid and phagocytic cells form the greater portion of the cell-infiltrations in the vascular and extravascular areas of the leptomeninx in acute tubercular meningitis. The plasma and lymphoid cells emigrate largely from the lymph spaces of the arterial adventitia and from the finer capillaries. They proliferate largely by indirect division; a certain number, however, are derived from lymphoid cells. There are two kinds of phagocytes, 1, those which proliferate from the endothelial lining of the capillaries and lymph spaces, and 2, those from the subendothelial intimal connective tissue.

The most important of the vascular changes—the tubercular endarteritis—develops in the following manner: Plasma and lymphoid cells accumulate underneath the endothelium of the intima; later the subendothelial intimal connective-tissue cells are found mixed with the former. They proliferate next to the elastic coat, are to a certain degree phagocytic and resemble epithelial cells. They also run together and form giant cells, and in this manner characteristic intimal tubercles develop. Changes of the endothelial lining of the arteries occur later, especially when there is caseation or hyaline degeneration of the collection underneath.

Of interest is the great production of plasma cells which is analogous to the cell changes described by Councilman in acute interstitial nephritis, while on the other hand, the production of phagocytic cells is analogous to the cell changes described by Mallory as occurring in typhoid fever.

### Bubonic Plague Specimens.

DR. LEWELLYS F. BARKER presented gross and microscopic specimens of the buboes and internal organs removed from Chinese, dead of plague, in San Francisco. The demonstration was accompanied by a brief description of the pathology and pathogenesis of bubonic plague. In the bubonic form of the disease the lesions in the lymph glands and surrounding tissues—edema, hemorrhage and necrosis—are very characteristic. The changes in the spleen are more marked in the septicemic form than in the bubonic form. The specimen of spleen under the microscope showed extensive necrosis of the splenic framework and pulp, with wandering in of polymorphonuclear leucocytes.

Primary plague pneumonia is distinguished from aspiration pneumonia and from embolic pneumonia occurring as complications of plague. The enormous number of bacilli present, the abundance of blood in the exudate, and the small part played by fibrin are interesting features.

The question of portal of entry was discussed in connection with the various clinical types, and an effort was made to explain the fact that local lesions in the skin and mucous membranes and lymphangitis are rarely present, the first outspoken lesions occurring in the nearest packet of lymph glands.

### Ovarian Follicles.

DR. LEO LOEB demonstrated microscopic sections showing the differenee between the atresia of follicles in different stages of maturity; also microscopic sections of two ovaries of a guinea-pig in which all follicles presented the picture of hypertrophy of the epithelium and in which the atresia without exception started by the ingrowth of connective tissue and capillaries into the follicular epithelium. Two slides were demonstrated showing follicles in the process of atresia, each one of which contained two ova. In one of these two follicles both eggs showed progressive changes, in the other follicle one ovum was unchanged and well preserved, the other ovum was segmented. In a third atretic follicle, of which a slide was shown, in which three ova were present, two of these were unchanged, the third ovum had undergone certain changes, the exact nature of which could not with certainty be determined. Another specimen showed a structure resembling very much a small corpus luteum, in the center of which, however, two successive sections demonstrated the presence of an ovum. At present it must be left undecided, if in this case the ovum of a ruptured follicle was retained and a corpus luteum had formed around it, or if under certain conditions a follicle which had not ruptured previously might in the stage of atresia give rise through hypertrophy to a structure similar to a small corpus luteum.

### Gastrolith.

DR. MAXIMILIAN HERZOG presented a gastrolith composed of persimmon seeds which had caused perforation of the stomach and death in a 3-year-old boy in the practice of Dr. Cargile, of Bentonville, Ark.

# Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

### Treatment of Neurasthenia with Anemia.

Dr. J. P. Miller recommends the following in the neurasthenic state accompanying disturbances of the gastro-intestinal tract:

| | | | |
|---|---|---|---|
| R. | Ext. Sumbul | gr. i | 06 |
| | Asafetidæ | gr. ii | 12 |
| | Mist. Blaud. | gr. iii | 18 |
| | Acidi arsenosi | gr. 1/30 | 002 |
| | Strychninæ sulphatis | gr. 1/60 | 001 |
| | Phosphori | gr. 1/100 | 0006 |

M. Sig.: One such pill three or four times a day on an empty stomach.

### For Tympanites in Infants.

| | | | |
|---|---|---|---|
| R. | Sodii sulphocarbolatis | gr. v | 30 |
| | Syr. aurantii amari | ʒiss | 6 |
| | Aq. menthæ pip. | ʒvi | 24 |

M. Sig.: One small teaspoonful three times a day.

### Treatment of Psoriasis.

E. J. Angle, of Lincoln, Neb., states, in *Western Med. Rev.*, that arsenic should never be given during the acute stage of psoriasis, but when once determined upon it should be continued for several months or even years. The initial dose should be small and taken after meals, well diluted. He prescribes arsenic in the following form:

| | | | |
|---|---|---|---|
| R. | Liq. potass. arsenitis | ʒii | 8 |
| | Aq. menth. pip., q. s. ad | ʒiv | 128 |

M. Sig.: One-half to two teaspoonfuls after each meal in water; or:

| | | | |
|---|---|---|---|
| R. | Acidi arsenosi | gr. ii | 12 |
| | Pulv. piperis nigræ | | |
| | Pulv. glycyrrhizæ rad. āā | gr. xl | 2 66 |

M. Ft. pilulæ No. xl. Sig.: One pill after meals.

### Treatment of Tuberculosis.

The following is recommended by Fliesburg, to be given hypodermically:

| | | | |
|---|---|---|---|
| R. | Iodi puri cryst. | gr. xxiiss | 1 50 |
| | Phosphori puri | gr. iv | 25 |
| | Thymol | | |
| | Menthol, āā | gr. xl | 2 66 |
| | Guaiacol | gr. xx | 1 30 |
| | Ol. Morrhuæ steril | ℥iss | 50 |

M. Sig.: Inject one to three syringefuls once daily every four to eight days.

### Treatment of Infantile Eczema.

Kistler, in *L. Mod. Med.*, recommends the following as an ointment, in infantile eczema, to relieve the itching:

| | | | |
|---|---|---|---|
| R. | Acidi salicylici | gr. xv | 1 |
| | Bismuthi subnit. | ℥iv | 16 |
| | Pulv. amyli | ℥iss | 48 |
| | Ung. aq. rosæ | ℥ii | 64 |

M. Sig.: To be applied locally.

He also recommends the mild chlorid of mercury to be given twice a week to increase elimination from the bowels and kidneys.

### Treatment of Chronic Purulent Otitis Media.

In the treatment of a case of chronic purulent otitis media, Dr. J. F. McKirnon, in *Med. News*, states that we should keep three objects in view: 1, the cure of the otorrhea; 2, the improvement of the hearing; 3, the relief of the distressing subjective sounds, if present. After thoroughly cleansing the ear he advises the following as a non-irritating germicide, which has been of benefit in his hands:

| | | | |
|---|---|---|---|
| R. | Acidi boracici | gr. xx | 1 33 |
| | Sol. hydrarg. bichlor. (1-1000) | ℥ii | 8 |
| | Spts. vini rectificati, q. s. ad | ℥i | 32 |

M. Sig.: Cleanse the ear thoroughly.

In cases where there is a large amount of granulation tissue present he recommends a solution of adrenal tissue as an application, especially when it is properly applied to the base of the growths.

### The Preventive Treatment of Hepatic Colic.

According to Chauffard, in the *St. Louis Med. Rev.*, among the best medicaments for preventing attacks of hepatic colic are the salicylate and benzoate of sodium. He administers the following, varying the dose according to the severity of the case:

| | | | |
|---|---|---|---|
| R. | Sodii salicylatis | | |
| | Sodii benzoatis, āā | gr. ii | 13 |

M. Ft. capsula No. i. Sig.: One such capsule at meal time.

He is in the habit of adding to the above combination, one or two grains of Carlsbad salts. This treatment he continues for ten or twenty days in the month, for a year or longer. He states that if this line of treatment is persisted in, a cessation of the crises will be obtained.

### Acne.

Dr. Allen, in *Post-Grad.*, states that disturbances in uterine function is often a cause of acne in women. Especially is this the cause in the variety limited to the region of the mouth and chin. He recommends, in such cases, the following:

| | | | |
|---|---|---|---|
| R. | Ext. ergotæ flu. | ℥iiss | 10 |
| | Tinct. ferri chloridi | ℥iss | 6 |
| | Glycerini | ℥ss | 16 |
| | Ext. cascaræ fluidi | ℥i | 4 |
| | Syr. simplicis | ℥ii | 64 |

M. Sig.: One teaspoonful three times a day in water.

In cases where the superficial epidermis has been rubbed off, leaving the follicles exposed to local infection, he recommends the following:

| | | | |
|---|---|---|---|
| R. | Ichthyol | gr. x | 66 |
| | Resorcin | gr. x | 66 |
| | Pulv. calaminæ | gr. xx | 1 33 |
| | Ung. zinci oxidi | ℥i | 32 |

M. Sig.: Apply locally three times a day.

### Erythematous Eczema.

In cases of erythematous eczema Dr. Allen advises the following:

| | | | |
|---|---|---|---|
| R. | Pulv. calaminæ præp. | gr. xx | 1 33 |
| | Zinci oxidi | ℥ss | 2 |
| | Glycerini | ℥iii | 12 |
| | Aq. camphoræ | ℥iv | 128 |

M. Sig.: Shake, apply locally and allow to dry.

### Dermatitis Following Trichophytosis.

In dermatitis following ringworm of the scalp in children he uses the following:

| | | | |
|---|---|---|---|
| R. | Acidi carbolici | gr. x | 66 |
| | Ung. picis liq. | ℥ii | 8 |
| | Ung. acidi borici | ℥vi | 24 |

M. Sig.: Spread upon a piece of gauze and apply to the bald areas. After the dermatitis has subsided an application of chrysarobin or ointment of ammoniated mercury may be substituted.

### Local Application of Guaiacol.

The *New Eng. Med. Month.* recommends guaiacol applied locally as a safe and reliable remedy in relieving pain of arthritis deformans, acute or muscular rheumatism, sciatica, orchitis, and epididymitis. One part of guaiacol to ten or fifteen parts of vaselin or lanolin should constitute the application.

### For Insect Stings.

The following applications are recommended by Bernbeck, in the *Jour. des Practiciens*, as acting promptly in allaying the pain and inflammation of insect stings:

| | | | |
|---|---|---|---|
| R. | Collodion (flexible) | ℥x | 40 |
| | Acidi salicylici | ℥i | 4 |

M. Sig.: Apply locally; or:

| | | | |
|---|---|---|---|
| R. | Collodion | ℥iii | 12 |
| | Hydrarg. chloridi corros. | gr. iss | 09 |

M. Sig.: For local application.

### For the Removal of Corns.

| | | | |
|---|---|---|---|
| R. | Acidi salicylici | ℥i | 4 |
| | Acidi lactici | ℥i | 4 |
| | Cerati simplicis | ℥viii | 32 |

M. Sig.: Apply locally night and morning.

Or:

| | | | |
|---|---|---|---|
| R. | Acidi salicylici | ℥i | 4 |
| | Resinæ | ℥ii | 8 |
| | Adipis | ℥iv | 16 |
| | Olei amygdalæ dulcis | ℥ii | 8 |

M. Sig.: Apply locally.

### Seasickness.

The following is recommended by the "Encyclopedia of Med." in treatment of seasickness:

| | | | |
|---|---|---|---|
| R. | Acidi citrici | ℥ii | 8 |
| | Aq. destil. | ℥iv | 16 |

Misce, and mix with:

| | | | |
|---|---|---|---|
| | Potassii bromidi | ℥i | 4 |
| | Potass. bicarb. | ℥i | 4 |
| | Aq. destil. | ℥iv | 128 |

M. Sig.: Combine a tablespoonful of each and drink while effervescing.

Three days before sailing and for three days after, the following:

| | | | |
|---|---|---|---|
| R. | Ext. taraxici | | |
| | Ext. colocynthidi co. āā | gr. xx | 1 33 |
| | Ext. hyoscyami | gr. iii | 18 |
| | Ext. nucis vom. | gr. v | 30 |
| | Massæ hydrarg. | gr. xv | 1 |

M. fiant pil. No. xx. Sig.: One or two pills to be taken at night.

FOR THE NAUSEA AND VOMITING.

| | | | |
|---|---|---|---|
| R. | Spts. chloroformi | | |
| | Tinct. nucis vom., āā | gtt. x | 66 |
| | Tinct. lavendulæ comp. | ℥i | 4 |
| | Aq. destil. | ℥x | 40 |

M. Sig.: Shake and take a teaspoonful every hour until vomiting has ceased.

# Medicolegal.

**Bars Opinion from Appearance at Time of Treatment.**—The Supreme Court of Michigan holds, in the case of Rose vs. the Supreme Court, Order of Patricians, that the statute will not allow a physician to give an opinion based upon the appearance of a patient at the time of treatment. The case, it points out, is very different from where the physician was not asked for any information or knowledge of the patient's appearance while he treated him, but, having seen him many times after his employment had ceased, was asked for an opinion based on patient's appearance, expressly limited to the latter period.

**Compensation to be Fixed by Board of Health.**—The Supreme Court of Michigan, in explaining the case of Pease vs. the Common Council of the City of Saginaw, says that the party bringing it, a physician, under the direction of the board of health of the city, had performed professional services for the city in certain contagious disease cases. He presented his bill for $480 to the board of health, and that body allowed it at that sum. The bill was then certified to the controller and the committee of the council on finance and auditing, who, after taking testimony as to the value of the services, reached the conclusion that the usual charge was $3 per visit, instead of $5, as charged in this bill, and thereupon reported to the common council recommending that the claim be allowed at $292, and that the latter sum be tendered in full settlement of the claim. This recommendation was adopted by the common council, the bill was allowed at that sum; and the order drawn therefor was accepted. Subsequently a petition for mandamus was filed, and it is in that case which the Supreme Court of Michigan here holds that an order should be entered directing the council to pay the amount found due by the health board. It holds that inasmuch as the ordinance creating the city board of health provided that the latter should possess all the powers and perform all the duties imposed upon boards of health of townships, that the value of the services of a health officer must be determined by the city board of health, the board of health in townships being empowered to fix the compensation of health officers and to audit all fees and charges of persons employed by them in the execution of the health laws and their own regulations. Nor does it consider that this was rendered otherwise by a provision in the city ordinance mentioned that any and all expenses incurred by the health officer or assistant health officers in the removal or abatement of any nuisance or in the putting of any premises in a sanitary condition should be certified to the city controller, and should be audited and paid in like manner as other claims against the city, etc. And the acceptance of a part of the amount fixed by the board of health, the court holds, will not preclude the health officer from receiving the whole.

**Prohibiting Burials Within City Limits.**—The Supreme Court of Oregon says, in the case of Wygant vs. McLauchlan, that a cemetery is not a nuisance, except conditions be present which corrupt or foul the atmosphere by unwholesome or noxious stenches, or impregnate the water of wells or springs in the vicinity by percolation through the soil, thereby endangering the public health; hence the authorities agree that it is not nor can it be regarded a nuisance per se, or in and of itself. And whether the act of depositing a dead body in its place of sepulture is the commission of a nuisance depends entirely upon its proximity to the habitations of the living and the manner in which it is accomplished. Moreover, under the doctrine that a city authorized by its charter to declare what shall constitute a nuisance cannot declare that to be a nuisance which is neither such in itself nor under the common law nor made so by statutory enactment, the court holds that the city council of such a city is not authorized to declare generally that to deposit a dead body in any portion of the inhabited district shall constitute a nuisance, when it is conceded that such an interment may be made in the usual way in some sections thereof, without giving offense to the senses of any human inhabitant, or endangering in the least measure the health of the community. Power "to provide for the health, cleanliness, ornament, peace, and good order of the city," the court pronounces no doubt ample to authorize the city to adopt reasonable measures prescribing rules and regulations, as it respects the place and manner of burials within the limits; but it declares that the city can not arbitrarily prohibit them, unless such prohibition be a reasonable exercise of the power. There being within the city limits considerable tracts of land which were sparsely inhabited, so that, for example, interments could be made on some of them so that they would he distant a half mile or more from any human inhabitant or public thoroughfare, it was assuredly not a reasonable regulation, as a police provision, or for the conservation of the health or good order of the community, the court holds, to exclude burials from the whole territory save certain districts enumerated by the ordinance. On the other hand, if the legislature had granted special and express power to exclude burials from within the city limits, the adoption of such an ordinance would be a legitimate exercise thereof, and no one could question its validity.

**Doctrine of Ordering Physical Examinations Reviewed.**—The Supreme Court of Indiana says, in City of South Bend vs. Turner, an action instituted by the latter party, that, while the question of ordering the physical examination of the plaintiff in a personal injury case has but recently engaged the attention of the courts of last resort, the fundamental principle is an ancient doctrine of the common law. As such, it was limited, it is true, to a few classes of cases, among them mayhem and divorce cases wherein impotency was charged. But as the sources of evidence have been extended, to parties and in many other ways, its application has been expanded to meet new conditions. The doctrine rests upon the principle that justice is the object of judicial investigation, and that courts charged with its administration, as a necessary means of attaining that end, have inherent power to require the production of the most infallible evidence. That its application to personal injury cases is a modern practice does not disprove its common-law origin. Beginning with a Missouri case, in 1873, there have followed many adjudications upon the power of the trial court to order a physical examination of the plaintiff in suits for personal injuries upon the request of the defendant. In this first case, the power, upon slight consideration, was denied. In 1877, in a well-considered Iowa case, the power was affirmed. Following this lead, the states of Alabama, Arkansas, Georgia, Kansas, Kentucky, Michigan, Missouri, Minnesota, Nebraska, Pennsylvania, Ohio, Texas and Wisconsin have reasserted the rule as announcer in the Iowa case. The cases wherein they have done it establish the following propositions: 1. That trial courts have the power to order the medical examination by experts of the injured parts of a plaintiff who is seeking to recover damages therefor; 2, that a defendant has no absolute right to demand the enforcement of such an order, but the motion therefor is addressed to the sound discretion of the trial court; 3, that the exercise of such discretion is reviewable on appeal, and correctible in cases of abuse: 4, that the examination should be applied for and made before entering upon the trial, and should be conducted under the direction of the court, whenever it fairly appears that the ends of justice require a more certain ascertainment of important facts which can only be disclosed or fully elucidated by such an examination, and such an examination may be made without danger to the plaintiff's life or health or the infliction of serious pain; 5, that the refusal of the motion when the circumstances appearing in the record present a reasonably clear case for examination, under the rules stated, is such an abuse of discretion in the trial court as will operate to reverse a judgment for the plaintiff; 6, that such order may be enforced, not by punishment as for a contempt, but by delaying or dismissing the proceeding. The discretion lodged in the trial court, as fairly deducible from the decisions, is a sound discretion, based solely upon legal considerations. When serious and permanent injuries are claimed by the plaintiff, and he or she has submitted to examination by a chosen physician or surgeon, who appears as a witness in the plaintiff's behalf, and the nature, extent, and effect of the injury are to be deduced from objective conditions, and so fully from no other source, no degree of sentiment will justify a denial of the motion. When it becomes a question of

probable violence to the refined and delicate feelings of the plaintiff, on the one hand, and probable injustice to the defendant, on the other, the law will not hesitate; the court, in making such orders, with respect to time, place, and persons, in every case, having such due regard for the feelings of the plaintiff and proprieties of the case as the ends of justice will permit. So far as the court's researches have revealed, the federal supreme court now stands alone in denial of the power. The decisions of New York were confused, and the rule both affirmed and denied in inferior courts, until established by legislative enactment in 1893. In Illinois, the supreme court, in 1882, disposed of the question in a single line, as follows, "The court had no power to make or enforce such an order," but, in subsequent decisions, while not expressly overruling that one, has recognized the existence of the power when properly and timely invoked. Indiana, also, now falls into line, and upholds the power.

# Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

### Philadelphia Medical Journal, June 8.

1 *What I Have Learned from One Hundred and Sixty-one Operations for the Relief of Senile Hypertrophy of the Prostate Gland. (To be continued.) Orville Horwitz.
2 Progress of Medicine in the United States During the Nineteenth Century. Charles W. Dulles.
3 *A New Clinometer for Measuring Torsional Deviations of the Eye, Delimiting Paracentral Scotomata and Metamorphosia and Detecting Simulation of Blindness. Alexander Duane.
4 Membranous Enteritis Erroneously Treated for Phthisis—Presentation of Patient. J. Preston Miller.
5 *The Knee-Jerks in Chorea. Augustus A. Esbner.
6 Heredity as a Factor in Mental Deficiency. T. Alexander MacNicholl.

### Medical News (N. Y.), June 8.

7 *The President's Address, American Medical Association. Charles A. L. Reed.
8 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
9 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
10 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

### American Medicine (Philadelphia), June 8.

11 *The President's Address, American Medical Association. Charles A. L. Reed.
12 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
13 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.
14 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.

### Medical Record (N. Y.), June 8.

15 *The President's Address, American Medical Association. Charles A. L. Reed.
16 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
17 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
18 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

### Boston Medical and Surgical Journal, June 6.

19 *The Value of Clinical Microscopy, Bacteriology, and Chemistry in Surgical Practice. John A. Wyeth.
20 *The Surgical Treatment of Gastric Ulcer, with Report of Cases. F. B. Lund.
21 *Idiopathic Abscess of the Kidney. A. T. Cabot.
22 *The Effects of Training; Second Paper. Eugene A. Darling.

### St. Louis Medical Review, June 1.

23 *The Use and Abuse of Anesthetics. Alfred Roulet.
24 Application of Bacteriologic Examinations to Clinical Surgery. Hermann B. Gessner.
25 Acute Active Cerebral Hyperemia, with Report of Two Cases. A. C. Brown.

### June 8.

26 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.

### New York Medical Journal, June 8.

27 *The Address of the President of the American Medical Association. Charles A. L. Reed.
28 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
29 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
30 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

### Cincinnati Lancet-Clinic, June 8.

31 *Diseases of the Gum Borders and Sockets of the Teeth. C. M. Wright.
32 The Oppositions to Sanitary Science. Brose S. Horne.
33 Atmospheric Causes of Disease. Davis R. Emmons.
34 An Outlook. H. H. Spiers.
35 Nearly Bloodless Cesarean Section. P. D. Covington.
36 Appendicitis. Jacob M. Hall.
37 Nasal Surgery. B. Merrill Ricketts.
38 Membranous Enteritis. Mark A. Brown.
39 Is There an Inherited Tendency to Appendicitis? Wm. H. DeWitt.

### Virginia Medical Semi-Monthly (Richmond), May 10.

40 Insects as Disseminators of Disease. Ch. Wardell Stiles.
41 Scarlet Fever in the District of Columbia. J. E. Walsh.
42 Report of Cases: 1. Eczema Squamosum; 2. Ambulatory Typhoid Fever; 3. Lacerated Cervix Uteri, Cervical Endometritis; Prolapsed and Subinvoluted Uterus—Operation under Cocain Hypodermically—Remarks on Bright's Disease and Oxaluria; 4. Hemorrhoids Removed with Angiotribe; 5. Recurrent Appendicitis Treated without Knife. Bittle C. Keister.

### May 24.

43 Empyema of the Frontal and Ethmoidal Sinuses, Complicated with Orbital Abscess. D. Kerfoot Schnte.
44 Devirgination. N. E. Aronstam.
45 Medical Aspects of Cancer of the Breast. William Osler.
46 Problem Involved in the Treatment of Eclampsia, with Illustrative Cases. J. Whitridge Williams.
47 Sweet Chalybeate Springs, Va. T. M. Baird.

### Medical Age (Detroit, Mich.), May 25.

48 *The Legal and Medical Aspect of Food Adulteration. H. W. Wiley.
49 Importance of Clinical Teaching—Pulmonary Tuberculosis. Louis F. Bishop.

### Pennsylvania Medical Journal (Pittsburg), May.

50 Medicine: Past and Present. H. D. Hockenberry.
51 The Electro-magnet in Eye-Surgery, with Presentation of One, with Demonstrations, and Report of a Number of Cases. Edward B. Heckel.
52 Typhoid Fever and Its Treatment by the Woodbridge Method. John M. Bertolet.
53 Leukemia. Adelaide M. Underwood.
54 Chloroform and Ether—Their Administration. W. A. Marsh.
55 A Series of One Hundred Appendicitis Operations Performed During the Last Thirty-one Months. Evan O'Neil Kane.
56 The Closing of the Century. R. H. Milnor.
57 New Remedies and New Uses of Old Remedies. T. C. Rich.

### Medicine (Chicago), June.

58 *Some Points of Practical Importance in the Symptoms and Treatment of Acute Pneumonia. Robert H. Babcock.
59 *A Description of the Appearances in Five Cases of Diaphragmatic Hernia. C. A. Parker.
60 *Neurasthenia. Sanger Brown.
61 *The Diagnosis and Variations of Epilepsy as Ordinarily Recognized. Harold N. Moyer.
62 Prostitution: Its Suppression or Control. F. R. Sturgis.

### Maryland Medical Journal (Baltimore), June.

63 A Notice of the Life and Writings of Valescus De Tarenta. Frederick P. Henry.
64 An Unusually Large Polypus Presenting in the Pharynx. A. V. Milholland.

### Canada Lancet (Toronto), May.

65 Filariae and Filariasis. J. H. Elliot.
66 Dysmenorrhea. D. Gilbert Gordon.
67 A Case of Multiple Neuritis Succeeding Typhoid Fever with Permanent Paralysis. R. Parsons and Chas. P. Lusk.
68 The Prevention of Tuberculosis. J. E. Elliott.
69 A Case of Ainhum. H. B. Anderson.

### Albany Medical Annals, June.

70 *Relation of the Sympathetic Nervous System to Functional Ambiyopia. Harry S. Pearse.

### Medical Sentinel (Portland, Ore.), May.

71 Some Points on the Diagnosis of the More Common Forms of Nasal Obstruction, and Their Radical Relief. E. DeWitt Connell.
72 Gunshot Wound of the Lung. Operation, Recovery. H. H. Hanson.

### Toledo Medical and Surgical Reporter, June.

73 The Relation of the Medical Profession to Education. Wm. D. Stewart.
74 The Best Means of Using Opportunities. Campbell Coyne.
75 Cathartics. Harrison Hathaway.
76 Rupture of the Eye-ball. Charles Lukens.

### Annals of Surgery (Philadelphia), June.

77 *A Loop Around the Hyoid Bone as an Aid in Narcosis During Certain Operations on the Lower Jaw and in the Mouth, and in After-Treatment. Christian Fenger.
78 *Excision of the Intact Gasserian Ganglion. Willard Bartlett.
79 *The Pathology of Trigeminal Neuralgia, Illustrated by the Microscopic Examination of Two Gasserian Ganglia. Sidney I. Schwab.
80 Osteoplastic Amputation of the Arm: With the Description of a Useful Saw for Osteoplastic Amputations. Willy Meyer.
81 Cases of Laceration of the Spleen and of the Kidney Followed by Recovery After the Removal of the Injured Organ. Samuel J. Mixter.
82 *The Operative Treatment of Cirrhosis of the Liver. Charles H. Frazier.
83 Angina Ludovici. George G. Ross.
84 Complications in Fractures Involving the Hip-joint. John E. Owens.
85 Fracture of the Pelvis. Thomas M. Paul.
86 A New Knot-tightener. Hugo Ehrenfest.
87 The Value of the X-ray in Surgery. J. Rudis-Jicinsky.

### Therapeutic Gazette (Detroit), May 15.

88 Hemorrhagic Malarial Fever—Its Treatment. W. E. Sparkman.
89 The Treatment of Malarial Hematuria. T. H. Watkins.
90 The Treatment of Malarial Hemoglobinuria. James M. Parrott.
91 A Case Illustrating Extraordinary Idiosyncrasy to Quinin. H. A. Hare.
92 General Considerations of Treatment of Placenta Previa. Charles P. Noble.
93 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. (Concluded.) D. D. Stewart.

### Ophthalmic Record (Chicago), May.

94 Ruptnre of the Sphincter of the Iris and V-Shaped Rupture of the Choroid on the Nasal Side from Contusion of the Eyeball. G. E. de Schweinitz.
95 *Pterygium Operation, Method by Subconjunctival Anteroinferior Fixation. John O. McReynolds.
96 *The Closed Artificial Eye. J. L. Borsch.
97 Successful Removal of Steel from Vitreous. Clark W. Hawley.

### Oklahoma Medical Journal (Guthrie), May.

98 Chorea. D. W. Griffin.
99 Early Diagnosis and Treatment of Cancer of the Cervix. Dr. Thompson.
100 Katatonia—Its Symptoms and Characteristics. John W. Duke.

### Canadian Journal of Medicine and Surgery (Toronto), June.

101 Vaccination. P. H. Bryce.
102 Diphtheria of the Conjunctiva. James MacCallum.

### Louisville Monthly Journal of Medicine and Surgery, June.

103 The Importance of Studying the Condition of the Heart Muscle in Disease. Hobart Amory Hare.
104 Tuberculosis of Bone. J. Garland Sherrill.
105 Chronic Empyema of the Maxillary Sinus: Operation and Treatment. J. A. Stucky.
106 The Operative Clinic in Abdominal Surgery and Gynecology at the Kentucky University, Medical Department. Louis Frank.

### St. Paul Medical Journal, June.

107 *The Role of the Infections in Diseases of Women. Charles A. L. Reed.
108 A Surgical Clinic. Carcinoma of the Pylorus; Salivary Calculus; Right Oblique Inguinal Hernia; Mastoiditis Following Primary Tubercular Otitis Media. N. Senn.
109 Cancer of the Common Bile Duct. Report of a Case of Carcinoma of the Duodenal End of the Common Duct with Successful Excision. William J. Mayo.
110 *Some Further Notes on the Extension of the Principle of Bisection in Abdominal Surgery. Howard A. Kelly.
111 *A Few Observations upon the Microscopical Pathology of Appendicitis. D. H. Lando.
112 Etiology and Treatment of Pyorrhea Alveolaris—Stomatitis Ulcerosa Chronica. F. Forchheimer.
113 *A Clinical Study of the Surgery of the Kidney. Archibald MacLaren.
114 Cases of Epididymitis Treated with Unguentum Crede. Geo. M. Coon.

### Medical Dial (Minneapolis), June 1.

115 Rest in Health and Disease. C. K. Bartlett.
116 Treatment of Acute Diarrheal Affections. A. J. Black.

### Journal of Medicine and Science (Portland, Me.), May.

117 The Live Animal in Its Relation to Medicine and Pharmacy. Frank E. Taft.
118 The Metric System—Its Advantages and Disadvantages. O. W. Jones.
119 *Discussion of Dr. Foster's Nine Questions on Syphilis. G. Frank Lydston.

### Colorado Medical Journal (Denver), April.

120 Chronic Gonorrhea. Donald Kennedy.
121 Papillomata of the Soft Palate, Turning into Sarcomata. Melville Black.
122 Neglect of a Great Opportunity for the Advancement of Medicine and Surgery in Denver. Henry Sewall.

### Southern California Practitioner (Los Angeles), May.

123 Battle Royal Between Science and Superstition—An Historical Study. Fred Baker.
124 Nervous Diseases of Children. Elizabeth F. Kearney.

### Medical and Surgical Monitor (Indianapolis), May 15.

125 Ephraim McDowell. Wm. Lane Lowder.
126 *Some Points in Operating for Mastoiditis. George F. Keiper.
127 Cerebrospinal Meningitis—Report of Case. A. T. Stewart.
128 Drug Helps in Diagnosis. John T. Scott.
129 The Old Preparations. N. E. Aronstam.

### Medical Mirror (St. Louis), May.

130 Scope and Usefulness of the Physician in the Educational World. James Lee.
131 Notes from the Other Side. Henry Patch.
132 A Front-rank Man of Medicine—A Sturdy Surgeon—A Lovable Man—Professor Chas. A. L. Reed—A Sketch. I. N. Love.

### American Medical Compend (Toledo), June.

133 Obstipation, Blood, Pus and Mucus in the Rectum. Thomas Charles Martin.
134 Treatment of Tubercular Joints. B. Becker.
135 Tincture of Iodin in Morning Sickness of Pregnancy. P. H. Strausz.
136 An Efficient Local Treatment for Inflammation and Allied Conditions. D. E. Bowman.
137 Complicated Fractures, Their Diagnosis and Treatment. Thomas H. Manley.
138 The Relation of the Medical Profession to Education. W. D. Stewart.

### Laryngoscope (St. Louis), May.

139 *A New Technique for the Reduction of Turbinal Hypertrophies. M. A. Goldstein.
140 *The Effects of Epidemic Influenza on the Mucous Membranes of the Upper Respiratory Tract. D. Braden Kyle.
141 Abscess of the Sphenoidal Sinus Occurring with Acute Mastoiditis. Oscar Dodd.
142 Sensory Neurosis of the Nose. H. L. Myers.
143 Cornu Cutaneum Auris. John C. Lester.
144 Therapeutics of Iodoform Emulsion. Victor Urbantschitsch.
145 Accidents Attending Adenoid Operations. Christian R. Holmes and H. Stowe Garlick.
146 Foreign Body (Tooth) in Larynx of a Man 51 Years Old. Gottlieb Kiaer.
147 Tubercular Laryngitis in Child of Three Years. Gottlieb Kiaer.
148 A Few Cases of Suppurative Middle Ear Disease, the Complications and Operations. Albert B. McKee.
149 Animate Bodies in the Auditory Canal. J. M. Ingersoll.
150 Syphilis of the Nose and Throat. Edward D. Capps.

### Richmond Journal of Practice, May.

151 The Treatment of Tuberculosis. Geo. E. Barksdale.

### Kansas City Medical Index-Lancet, June.

152 *The Tender Point in Pressure—Paralysis of Peripheral Nerves. Wm. Browning.
153 Auto-inocular Cystitis. Samuel C. James.
154 The Place of Sentiment in a Professional Life. John R. Brown.
155 Locomotor Ataxia in Its Modern Aspect. John Punton.
156 Report of a Case of Phlegmon of the Orbit. W. H. Schulz.

### New Orleans Medical and Surgical Journal, June.

157 Strychnin—Its Clinical Uses. J. M. Barrier.
158 The Annual Report of 1901, with an Historical Summary of Educational Progress, to the President of the Tulane University of Louisiana, at the Annual Commencement of the Medical Department, May 1, 1901. Stanford E. Chaille.
159 Ptomain Poisoning; Duration of Cases in Children. L. G. LeBeuf.
160 Dandruff—Its Treatment. J. N. Roussel.
161 Scarlatina and Diphtheria—A Case with Bacteriologic Examination—Remarks on Antitoxin. E. M. Dupaquier.

### Carolina Medical Journal (Charlotte, N. C.), May.

162 *Albuminuria without Manifest Organic Renal Lesions. W. A. Deas.
163 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.

### Columbus Medical Journal, May.

164 The Professional Man and Twentieth Century Citizenship. William O. Thompson.
165 Pelvic Injuries. R. Harvey Reed.
166 The Treatment of Influenza Otitis. John Edwin Brown.
167 Wounds of the Eye—Their Sequelæ. C. S. Means.

Southern Practitioner (Nashville, Tenn.), June.

168 *The "X" Fever of the South from a Biologic Standpoint. Hayden A. West.

Peoria Medical Journal, May.

169 The Treatment of Acute Appendicitis. C. U. Collins.
170 Introductory Discussion of Rectal Dilatation in the Practice of Medicine. A. B. Middleton.
171 What of Electricity? O. B. Will.

## AMERICAN.

1. **Prostatic Hypertrophy.**—The different methods of treatment of prostatic hypertrophy are noticed by Horwitz in detail. The operations performed are classified and number 11, including vasectomy, castration and the combinations of suprapubic and perineal prostatectomy and Bottini's operation. He thinks that the latter proves in a large majority of cases perfectly satisfactory. Local anesthesia may be used. The operation is comparatively safe if performed early and the patient is confined to his bed but for a few days. It is also applicable to a large number of advanced cases, removing the obstruction; while a double vasectomy will avoid the danger of recurrent attacks of orchitis, dependent upon frequent catheterization. As regards vasectomy as a curative measure he offers the following conclusions: 1. As a curative measure vasectomy is of little value, and is not to be recommended. 2. The operation appears to be most effective when performed on patients between 50 and 60 years of age, in whom the prostatic enlargement is of the soft glandular variety. The genital organs of patients of this age are usually in a healthy condition, and the individuals usually object to any operation that is liable to interfere with their sexual functions. 3. The operation is serviceable in those cases where the physical condition of the individual renders him unfit to undergo surgical procedure, who will not submit to a more serious proceeding, who has to depend upon the frequent use of the catheter, or who suffers from periodical attacks of orchitis. 4. Sexual vigor is not diminished by the division of the vasa deferentia. 5. Atrophy of the testicle does not result from the operation. Suprapubic cystotomy is indicated when retention exists and the usual methods of evacuation are impracticable; also as a palliative means in the "break-down period attending catheter life," where resisting powers have disappeared and secondary involvement of the bladder and kidneys has occurred. More serious operations are precluded by the patient's condition, but immediate relief is demanded by the obstructing prostatic gland. It is also indicated in feeble old persons, where there is a fibrous growth, rendering catheterization difficult and the passage of the Bottini bougie impossible. Where there is long-standing chronic cystitis and probably diseased kidneys, which preclude prostatectomy, suprapubic cystotomy may be selected as the least dangerous and most satisfactory operation.

3. **New Clinometer.**—Duane describes at length a new clinometer for measuring torsional deviations of the eye, delimiting paracentral scotomata and detecting simulation of blindness, together with the method of its employment in these various conditions.

5. **Chorea.**—Eshner notices Gordon's recent article, editorially noticed in THE JOURNAL, p. 1258, and confirms the latter's statement to a certain extent. The phenomena are not elicited in every case. When present they seem to represent an intensification or reinforcement, or in some instances, to act as an excitant of the choreic movement.

7.—See THE JOURNAL of June 8, p. 1599.
8.—Ibid., p. 1606.
9.—Ibid., p. 1611.
10.—Ibid., p. 1617.
11.—Ibid., p. 1599.
12.—Ibid., p. 1611.
13.—Ibid., p. 1617.
14.—Ibid., p. 1606.
15.—Ibid., p. 1599.
16.—Ibid., p. 1606.
17.—Ibid., p. 1611.
18.—Ibid., p. 1617.
19.—Ibid., p. 1611.

20. **Gastric Ulcer.**—The following is the summary given by Lund of the indications for the surgical treatment of gastric ulcer, and the conclusions of his paper. He reports a case of perforative ulcer and chronic intractable ulcer and discusses the literature and treatment: 1. That in perforation immediate operation is absolutely indicated. 2. That in cases in which the symptoms fail to yield after medical treatment for a reasonable period, operation, consisting either of excision of the ulcer or gastro-enterostomy, should be performed, and this before the patient has become so exhausted as to render surgical intervention dangerous. 3. In hemorrhage, where slight, frequently repeated bleeding promises to produce grave anemia or exhaustion, similar early operation should be done. 4. Where a patient has suffered more than one copious hemorrhage, operation should be performed, and the extent and nature of the procedure should be decided upon according to the power of the patient to withstand operative manipulations, and the conditions found during the progress of the operation. Only active ulcer and its complications are considered in this paper, and the after-effects such as pyloric contractions, adhesions, etc., are purposely left unconsidered.

21. **Kidney Abscess.**—Abscesses of the kidney, according to Cabot, may be due to injury, to extension or inflammation of contiguous parts, and to an inflammation extending through the pelvis. The parasites producing the disease are streptococcus and staphylococcus, the colon bacillus, pneumococcus and typhoid bacilli. All these undoubtedly circulate in the blood and are eliminated in the kidneys, the latter especially in large quantities. The greater number of cases of this character occurs in the course of general infection, the toxins in the blood depress the circulation, enfeeble nutrition, favor fine clogging of the vessels and infection of local tissues. When the heart is involved the kidneys are still more easily infected. A case is reported in which the disease was due to invasion by the colon bacillus, though the recovery of the patient prevented the discovery of the primary lesion. As regards the diagnosis of pelvic abscess, he says in the presence of chills, high and variable temperature, and delirium, together with local renal symptoms, swollen and sensitive kidney, the diagnosis is not difficult, especially with confirmatory evidence by urinary examination, as is possible in most cases. The only conditions that may be confounded are acute exacerbation of inflammation in a tubercular kidney, acutely inflamed calculous kidney, and highly congested and hydronephrotic kidney due to mobility. In either of the first two conditions there is usually a history of long-standing trouble, though this can not be always relied on. In every case of doubt he thinks it advisable to explore the kidney by incision. If abscess is not found, incision of the capsule will render the intense congestion of the kidney less severe. If there is any question of calculus, opportunity for a thorough search is afforded and for removal, and if the kidney is movable and suffering from congestion or intermittent hydronephrosis, from twisting of the vessels and ureters, it can be fixed. Operation, therefore, is advisable in every case.

22. **Effects of Training.**—Darling has continued the investigation of the effects of training instigated by the Harvard Athletic Committee during the season of 1899 and 1900, and has obtained the assistance of Prof. Atwater and Dr. Benedict of Middletown in studying the dietary. They found the effects of foot-ball similar to those of rowing, but deviations from the normal were not so great, the exertions being more intermittent and intervals of rest occupying a large portion of the time of play. Both sports appear to accustom the heart, kidneys and other organs to the extraordinary demands, so as the season progresses they do their work more easily. An investigation of rowing was made and is of some interest on account of an accident occurring at the time to one of the members of the crew requiring a substitute in his place, and the effects of increased exertion and practice on the crew and on the substitute are given. In the case of the substitute the sudden re-

sponsibility and work affected him more seriously than the others and he was much prostrated with the symptoms of collapse due to overexertion when not in perfect condition. The after-effects of training are also studied upon the rowing squad of 1899, and the author says no ill effects which may be reasonably attributed to training are to be discovered nine months after stopping.

23. **Anesthetics.**—Roulet describes the technique of the precautions to be employed in the use of anesthetics. He is rather an advocate of chloroform, considering that its dangers have been exaggerated, while those of ether have been correspondingly minimized, but he insists on the necessity of the perfectly pure article in either case. As regards subarachnoid cocainization, he considers it much more dangerous than chloroform, its dangers being partially due to the treacherous nature of cocain, the dangers of sepsis and of hemorrhage into the cord from the divided blood vessels. He gives a tabulated statement of some 900 cases, calling attention particularly to some of the embarrassments of the method.

26.—See THE JOURNAL of June 8, p. 1161.

27.—Ibid., p. 1599.

28.—Ibid., 1606.

29.—Ibid., 1611.

30.—Ibid., 1617.

31. **Riggs' Disease.**—The conditions producing Riggs' disease are noticed at length, and the anatomical conditions. Wright holds that it has a relation with morbid conditions in almost every portion of the body and its cause is often a neurosis, but any kind of disordered condition may have to do with its production. Its effects also are multiple and he says he can not point out even the partial and obvious diseases, which may result from neglected pyorrhea alveolaris, but the interdependence of the health of the organs upon one another is too well known to let us permit the whole organism to become undermined by this progressive, chronic, and curable disease. He maintains that the treatment of this disease should be raised to the same plane as the treatment of diseases of the eye, ear, nose and throat and it be considered no longer as a purely dental condition. If this can not be done, we had better fall back on the old method and recommend extraction and plates.

48. **Food Adulteration.**—Wiley first notices the action of arsenic in the recent beer-poisoning epidemic in England. The ostensible purpose of all the pure-food laws is restrictive, and he classifies them as follows: 1. General laws, which do not mention any food by name, but consist of general principles. 2. The discriminating laws, including those which specify certain articles of food. He objects to this as a rule, as not being favorable to fair trade, and believes that the general laws, of which he gives an example, would meet the proper indications best. 3. The prohibitive laws, and of these there are two kinds: Those which prohibit the manufacture and sale of food products which are wholesome and nutritious; and laws which prohibit the manufacture and sale of added deleterious substances. Examples of the first kind are found in a few states, and relate mostly to the manufacture and sale of oleomargarin. Their injustice needs no comment. The second class, aside from the fact that they are discriminating, are advisable, providing the deleterious effect of the contained substance is beyond question. The fact is that there have been very few attempts to determine impartially the character of many of the prohibited articles. The fourth class of legislation is what he calls fiscal, because it lays a tax on food products for the purpose of raising revenue, and is also discriminating. Having thus classified the legislation he passes to the question of adulterants which may be divided into two categories. 1. Innocuous adulterants, including those which are neutral or even nutritious, and 2, noxious or directly or indirectly injurious to health. According to the circumstances many kinds of adulterants may be in one class and another at different times and from the point of view of medical jurisprudence the classification is not important. The principal processes of food adulteration may be classified as follows: 1. Adulteration secured by the elimination of some valuable constituent. The most common form is the abstracting of cream from milk. 2. The addition of some harmful diluent. Dairy products furnish another example of this practice, illustrated in the joke of the well and the milk-pail. 3. Adulteration by the substitution of a cheaper for a dearer product, as in the case of cotton-seed oil for olive oil, oleomargarin for butter. 4. Adulteration by coloring an inferior product to resemble a superior, which is a very common practice. 5. Food adulteration by the addition of antiseptics, which is the most common of all and found in all perishable articles of food. He mentions the substitution of infant foods for milk, and calls attention to the importance of age as regards the effects of these substitutes. Adults can stand impurities, which may injure infants and he lays down the rule that any form of adulteration which by any final action upon a healthy organism or by any immediate action on a weakened organism produces harmful effects should be prohibited. On the other hand, those adulterants which are indicated on the label and work no deception may be permitted provided they do not, under the above circumstances, produce any injurious effects. Of the adulterants that are not injurious to health he mentions glucose, which if properly prepared is thoroughly wholesome; but if it is manufactured with sulphuric acid containing a trace of arsenic, as in the English poisoning cases, it may be very dangerous. Another harmless adulteration is oleomargarin, and many vegetable oils of this class, such as cotton-seed oil, sunflower oil, and olive oil; this is reprehensible, but not on hygienic grounds. As regards the coloring materials he mentions particularly coal-tar products, which in minimum quantities probably are harmless, but there is a presumption of guilt on those who employ them. These colorings are absolutely indigestible, and by far the most dangerous, however, of the deleterious substances are those added to prevent decay. In all, 67 different samples of antiseptics which are advertised in the market have lately been examined in the Department of Agriculture. Of these 33 contained borax or boric acid; 8 sulphites of sodium, potassium or calcium; 5 contained salicylic acid or its sodium salts; 4 benzoic acid or its sodium salts; 1 was a mixture of boric and salicylic acid; 1 boric acid and ammonium fluorid; 3 formaldehyde; 2 pyroligneous acid; 1. ammonium fluorid; 1 beta-naphthol. One-half of these consist of borax or boric acid, which is the least objectionable of the common preservatives. Indeed, while he goes so far as to say that he does not so much object to boric acid food products, if it is plainly described on the label, the most objectionable of the antiseptics is salicylic acid, the use of which, even in small quantities, should be condemned. There are many others not on the list of those examined; they include notably saccharin and nitrate of potassium. Of these saccharin is objectionable, while nitrate of potash may be permitted in condimental doses. Formaldehyde even in minute doses may be injurious to infants and weakened adults. The use of fluorin should be prohibited, at least until it is demonstrated harmless. These preservatives are sold under trade names, which give no clear idea of their composition and the sale of injurious substances under fanciful names is a crime which should be adequately punished.

58. **Pneumonia.**—The points brought out in this paper by Babcock are: 1. That a pneumococcus pneumonia is not necessarily a lobar pneumonia. 2. That the gravity of the symptoms in many cases does not depend upon or bear any relation to the extent of the pneumonic process, but is the result of the infection. He reports a case which illustrates both of these points. The pneumonia was limited to scattered and small exudates and the patient suffered from paralysis of the vasomotors with consequent capillary paresis and cardiac asthenia. Death occurred in less than three days from the invasion, the temperature being subnormal in the axilla. This last he accounts for by capillary dilatation, causing rapid radiation and cooling of the skin, thus making a deceptive reading of the thermometer. The practical point is the effect of invasion on these nerve centers. He thinks it is advisable in such cases to give diffusible stimulants, frequently administered. Aside from the pure heart stimulants in these cases, he knows of

nothing so efficient as full hypodermic doses of strychnia as a cardiac tonic, in 1/30 or 1/20 of a grain every two hours and even hourly in very urgent cases. He recommends also the administration, both by rectum and subcutaneously, of physiologic salt solution to aid in the elimination of toxins; in cases of cyanosis blood letting is undoubtedly of service at times and will promote the action of the salt infusion. Finally the inhalation of oxygen is also to be recommended and it should be given freely and if need be continuously.

59. **Diaphragmatic Hernia.**—Five cases of this condition are described by Parker, who concludes that diaphragmatic hernia is of fairly frequent occurrence, the diagnosis being rarely made—in no more than 2 per cent. of the cases. The absence of the sac is the rule, it being present in about 10 per cent. of all cases, and only 1 per cent. of traumatic ones. Although the so-called weakened places predispose to hernia in some traumatic cases, in shot and stab wounds no such causal relation exists. Stab wounds are usually on the left side, being the side naturally opposed to the stroke from the opponent's right hand. The contents are most frequently omental, but may include almost any contents of the abdomen. Complicating intercostal hernia is not infrequent. Although many of the acquired lesions of the diaphragm are incompatible with life, yet gross defects in its structure may occur with little or no disturbance of health. The diagnosis is aided by the presence of local scars or lesions. Skiagraphy may also be of value. The immediate danger is due to the injury of the adjacent viscera; the remote danger is from contraction of the opening and constriction, and is greatest in small wounds. Spontaneous cure may result from contraction of the orifice and atrophy of the contents composed of unimportant structures. Treatment is necessarily surgical and limited, on account of the infrequency of the diagnosis, severity of gross lesions, and the inaccessibility of the parts. In all wounds in the range of the diaphragm the possibility of injury to that muscle should be remembered and all wounds and its structures be closed at once to prevent hernia.

60. **Neurasthenia.**—Brown coins a new word "neurenergen," which he defines as an ultimate form of organic matter contained in the neuron, through whose agency it is convertible into waste products, and the various manifestations of nervous energy. According to this conception, there is in health a current of neurenergen constantly flowing into the neurons and being transformed by them. It is at its minimum in repose and its maximum during activity and while there may be wide differences there must be an available neurenergenitie reserve which may be drawn upon as occasion demands. The exciting cause of neurasthenia then may be looked for in those influences which demand an exhaustive expenditure of nervous energy and the lack of balance from demands of this kind. He reviews the symptoms, causes, etc., and points out the distinctive types, the motor as shown in the "stale" athlete, the sensory and the mental neurasthenic, the symptoms as regards the special senses and the vegetative functions. The rest treatment he thinks is adapted to neurasthenia in females, and he gives its advantages and disadvantages. The neurasthenic man should shorten his hours; he should take out-door exercise and diversion, with suitable food; absence of anxiety is necessary. This forms an ideal treatment for many cases, though it is often carried on for too short a time. He says that the physician who thoroughly studies his patient, estimates his capacity and limitations, and by patient persuasion induces him to adhere to a mode of life consistent with the fullest measure of success, comfort and happiness possible to him, earns and sometimes enjoys the grateful appreciation of his patient, but never receives compensation at all commensurate with the value of his services. He concludes that the changes observed in the body of the neuron after administration of arsenic suggest its employment in neurasthenia.

61.—See abstract in THE JOURNAL of May 11, p. 1340.

70. **Amblyopia.**—Pearse argues for the action of the sympathetic in producing amblyopic conditions, especially hysteric ones, holding that the effect on the circulation of the fundus is mechanical in hysteric blindness. He says our knowledge of the manifold manifestations of hysteria does not permit us to say positively that the retinal elements or the conducting channels of the visual centers themselves are free from the influence of this disease. The effect on the visual apparatus of fright, shock, emotion, mental exhaustion, overexertion, etc., is essentially the same as in hysteria, and whether the sympathetic is involved in these results is as yet a question. In view, however, of the known action of the sympathetic, and many cases observed, which present the same conditions in the vessels of the fundus that are produced by the sympathetic elsewhere in the body, he asks if the sympathetic does not influence the fundus, what does. Until a more plausible source of influence is positively demonstrated, we can not do better than accept this explanation, which is far removed from being a theory.

77. **Loop Around the Hyoid Bone.**—Having lost a patient after extirpation of one-half of the inferior maxilla, which can only be attributed to asphyxia from sinking back of the tongue, Fenger has since passed a loop of silk or wire around the body of the hyoid during narcosis so that the bone can be pulled forward if necessary and the larynx freed. It is easy to pass the loop of silk through a small longitudinal incision over the middle of the body of the hyoid, around its posterior surface up over the upper border and out through the wound. A small pad of iodoform gauze is placed in the wound and the loop tied over it, the ends being left long enough to permit of manipulation by the operator on the anesthetizer. At the close of the operation the loop is left in place and attached to a plaster-of-Paris cast, loosely covering the dressing at the field of operation, with traction on the hyoid sufficient to prevent sinking back of the larynx and epiglottis and thus keeping the entrance to the larynx open even during sleep. Fenger usually leaves it three or four days until the patient is able to breathe without difficulty with the head and body in any position. He shows by illustrations the *rationale* and efficiency of this procedure.

78. **Gasserian Operation.**—Bartlett reports two cases of excision of the intact Gasserian ganglion, following Cushing's inferior temporal procedure in preference to the Hartley-Krause operation, which former he thinks is less tedious and somewhat superior, as the middle meningeal is not endangered and primary ligation of the external carotid made needless. Both his patients had violent paroxysms shortly before passing under the anesthesia, but since the operation neither has known one twinge of the neuralgia.

79. **Trigeminal Neuralgia.**—Schwab gives the findings in two extirpated Gasserian ganglions as illustrating the pathology of trigeminal neuralgia. In both the nerve cells were pathologically altered, but in neither to such a degree as to consider them primarily affected. From these two ganglions it is evident that trigeminal neuralgia is not a definite disease, but merely a symptom of various processes affecting the fifth nerve anywhere in its course. It is probable that no disease of the nerve cells *per se* exists as a parenchymatous affection. With our present knowledge we are justified in making two classes of trigeminal neuralgic affections. The first and most common is the neuritis beginning in the terminal division and tending to ascend. The second is the interstitial inflammation, chronic and progressive, of the ganglion body itself. Of the two specimens studied he places one in each category. A third division is possibly a central neuritis or neuralgia affecting the sensory root on its way to the pons. The operation for removal of the ganglion has a definite standing, for wherever the process is located it must be the final means of relief. The question is: When is it justifiable? In regard to the so-called central neurites he fails to see their bearing on the utility of the operation. The sensory root, if diseased, he says, can only degenerate to the terminal ends of the neurons involved and there the process must stop. The pathologic processes in the brain itself, other than those due to pressure and those affecting the meninges, cause no symptoms of pain, and as the Gasserian ganglions contain the cells of nutrition of the sensory root, their removal is equivalent to placing this portion of the nerve outside the realm of active

symptomatology. What we need is such an improvement of the operative technique as to render the operation comparatively safe and such an improvement in our clinical knowledge that it will be possible to tell what portion of the trigeminus is affected, so that peripheral or ganglion operation can be chosen.

82. **Cirrhosis of the Liver.**—Frazier reports a case in which Morrison's operation was performed, describes the method, and believes that, though our experience is limited, this operation has a future in properly selected cases, namely, those where the liver is cirrhotic, those where there is reason to believe that liver-cells are not devoid of function, those where internal medication and paracentesis fail to afford relief, and lastly those in which there is no reasonable contra-indication.

95. **Pterygium Operation.**—The method of transplantation has been far more satisfactory to McReynolds than any method of simple abscission, and after a very thorough trial of the various methods he has adopted the following plan: 1. Grasp completely the neck of the pterygium with a strong, narrow fixation forceps. 2. Pass a Graefe knife through the constriction and as close to the globe as possible, and then with the cutting edge turned toward the cornea shave off every particle of the growth from the cornea. 3. While the pterygium is still held divide the conjunctiva and sub-conjunctival tissue along its lower margin with a pair of slender straight scissors, commencing at its neck and extending toward the canthus, a distance of one-fourth to one-half of an inch. 4. Still holding the pterygium with the forceps, separate the body of the growth from the sclera with any small non-cutting instrument. 5. Now separate well from the sclera the conjunctiva lying below the oblique incision made with the scissors. 6. Take black silk thread armed at each end with small curved needles and carry both of these needles through the apex of the pterygium from without inwards, and separated from each other by a sufficient amount of growth to secure a firm hold. 7. Then carry these needles downward beneath the loosened conjunctiva lying below the oblique incision made by the scissors. The needles, after passing in parallel directions beneath the loosened lower segment of the conjunctiva until they reach the region of the lower fornix, should then emerge from beneath the conjunctiva at a distance of about one-eighth to one-fourth of an inch from each other. 8. With the forceps lift up the loosened lower segment of conjunctiva and gently exert traction upon the free ends of the threads, and the pterygium will glide beneath the loosened lower segment of the conjunctiva, the threads may then be tied, and the surplus portions of thread cut off, leaving enough to facilitate removal after proper union. It is important that no incision should be made along the upper border of the pterygium, because it would gap and leave a denuded space when downward traction is made upon the pterygium. The elasticity of the conjunctiva is such that when this downward traction is exerted on the head of the pterygium it becomes thinned and smoothly applied to the sclera corresponding to the former site of the body of the growth and the margin of the conjunctiva coincides accurately with the sclero-corneal junction. Thus, when the operation is completed and the speculum removed, the stitches are hidden by the lower lid and the only denuded area is on the cornea. The former site of the body of the pterygium is covered by thin and comparatively non-vascular conjunctiva. What blood vessels remain are directed downward and hence do not tend to encroach again upon the cornea, while the vascular activity is concentrated beneath the lower lid, where it is not only removed from view, but protected, and atrophy surely and naturally follows. The corneal wounds heal quickly and the thin conjunctival tissue becomes closely adherent to the sclera. After a few days the single stitch can be removed and the old pterygium be found firmly adherent to the sclera and hidden beneath the loosened lower segment of the conjunctiva. If the head of the pterygium is very large it may be cut off before the growth is drawn down. The general direction of the traction thread is vertical, but it is usually best to incline them in such a way that they will emerge from that part of the conjunctiva that lies below the cornea. This is often necessary so as to permit the denuded sclera to be completely covered by smooth conjunctiva and if the conjunctiva should slightly overlap the cornea at any point it can easily be trimmed away without interfering with the desired results.

96. **Artificial Eyes.**—Borsch describes his experience with artificial eyes and recommends closed hollow ones, which he finds have many advantages, being less irritating, and without sharp edges to cut the tissues.

107. **Infections in Diseases of Women.**—The following are the conclusions of Reed's article: "1. The epithelial surface of the genital tract, in its integrity, is an efficient barrier against invasion of the underlying structures by pathogenic micro-organisms that establish parasitic and saprophytic relations to the vagina. 2. The normal cervix and its contained secretions are adequate barriers against the invasion of the uterus by pathogenic bacteria that are capable of maintaining a habitat in the vagina. 3. The vagina possesses certain powers of self-disinfection which work only against the organisms that are at once true parasites and facultative aerobes. 4. Certain pathogenic bacteria, notably the gonococcus of Neisser, the Klebs-Loeffler bacillus and the oidium albicans, find in the warmth and moisture of the genital epithelium conditions favorable to their propagation and to the increase of their virulence whereby the epithelium itself may be destroyed, to the extent of losing its protective properties. 5. Pathogenic bacteria innocuously present in the genital tract may become virulent when introduced into the underlying structure through a breach in the protective epithelium. 6. Pathogenic bacteria when introduced into previously normal tissues immediately provoke the process called inflammation, the essential phenomena of which is the speedy deposit and rapid extravascular migration of the leucocytes, which act as phagocytes in preventing the further invasion of the system. 7. Pathogenic bacteria that are thus overcome by the leucocytes may enter either by the lymphatic or the sanguiniferous circulation, producing secondary phenomena, septicemia, pyemia, and even the death of the patient."

110. **Bisection in Abdominal Surgery.**—Kelly's article is elaborately illustrated and methods described. The summary of the latter is given as follows: "1. Vertical section of anterior and posterior walls into cervix or into vaginal vault in pelvic inflammatory diseases and in carcinoma of the cervix. 2. Vertical section in cases of fibroid tumors wedged in the pelvis, or held down by bilateral pelvic inflammatory disease; also in cases of large fibroid tumors filling the lower abdomen. 3. Section of the anterior wall of the uterus followed by division of the posterior wall where the fundus is adherent. 4. Transverse division of the cervix followed by vertical section of the uterus from below upwards in cases of dense adhesions of the fundus and the posterior surface. 5. Bisection of intraligmentary myomata; bisection of intralgamentary cysts; bisection of adherent ovarian cysts."

111. **Appendicitis.**—The microscopic appearances in cases of appendicitis are described by Lando. They show proliferation in the crypts producing elongated duets, almost resembling an adenoma; also infiltration between them and of the submucosa and outside a greatly hypertrophied muscle layer, limited to the inner circular layer. He asks the question why the appendix becomes gangrenous or perforated without undergoing distention, while the Fallopian tubes, which are in structure quite similar, are capable of enormous distention, and finds the explanation in the well-developed circular muscular coat in the latter as compared with its poverty in the former. This, however, is only one factor; those of shock, virulence, intoxication, etc., have a bearing on the pathologic condition produced.

113. **Kidney Surgery.**—After reporting a number of cases of various operations on morbid kidney conditions, MacLaren concludes that: 1. That surgery of the kidney is in its infancy, and that there is a great field for conservative work. 2. That nephrorrhaphy is of questionable utility. 3. That cystoscopy with the Kelly tubes, in women, and with the Preston instrument in men, combined with catherization of the ureters and the Harris separator, together with the modern Roentgen

photography, are valuable aids to diagnosis in obscure kidney diseases. 4. That exploration of the kidney, loosening it from fatty capsule, bringing it to the surface and bisecting it if necessary, with the exploration of the ureters through the pelvis, is often a justifiable proceedure and ought to be more commonly adopted. 5. That stone in the kidney is not so rare a disease as we have generally believed; that if left to itself it sooner or later causes death, or disorganization of the kidney and invalidism. 6. That pyelitis, cysts, tumors or local tuberculosis can be cured by exploration and drainage or by resection of the kidney. 7. That tuberculosis or septic disorganization of one kidney demands nephrectomy, which is not a dangerous operation, provided the other kidney is competent.

119. **Syphilis.**—Lydston discusses the answers in regard to syphilis which appeared in a former number of this journal. He does not believe that as many as 10 per cent. of the population in this country are affected with syphilis in one form or another, though that may be the correct figure in large cities. He makes his estimate from impressions derived from various sources, his practice and that of his confrères, the incidental confessions of others, etc. As regards the diagnosis of syphilis he is conservative where he formerly was positive in these matters. In respect to treatment he thinks that nitrate of silver only aggravates the lesion, excepting in cases of granular sores which requires stimulation. One answer given in regard to the curability of syphilis he thinks is too positive, that is that it naturally tends to a cure. Nature's efforts to cure syphilis are not productive of very satisfactory results. The disease will run its course without treatment, but what a course! The marriage of syphilitics is a very important question, for which it is impossible to lay down rules. Lydston criticizes the opinion of Dr. J. M. Mathews that syphilities should never marry. He also critieizes him in regard to the opinion as to the transmission to children and doubts whether he has given the subject the study that is its due.

126. **Mastoiditis.**—The technique of the operation for mastoiditis is described by Keiper, who discards gown and aprons which render the physician over-warm. He thinks it is best to take off all outer clothing, including the white shirt, and put on a sterilized negligé shirt, and over these a sterilized linen suit with canvas slippers and a sterile cap. He emphasizes making a free incision as elose to the auricle as possible to expose at once all the surface to be operated upon and be able to give the periosteum the attention it should receive. The trephine he thinks a splendid instrument to begin with. Some have boasted that they pay no attention to the possible injuries of the facial nerve; he thinks they have been lucky rather than wise. Sterilized sponging will do away with the necessity of irrigation, which has its disadvantages, and he believes in making the inspection of the brain cavity and lateral sinus under strict asepsis to be sure of their non-involvement.

139. **Turbinal Hypertrophies.**—Goldstein objects to turbinotomy or turbinectomy on account of the extensive destruction of the physiologic vital tissues, the discomfort and pain to the patient, the frequency of post-operative hemorrhage, and the possibility of infection. He has devised a special trocar for the cautery operation in this condition as suggested by Pierce. The trocar is armed with an obturator and sliding ring which may be fixed so as to gauge the penetration. After cocainization and sterilization he locks the obturator in the trocar and adjusts it to any desired depth by the ring, and introduces it into the hypertrophied tissue parallel with the turbinal bone and along its surface as close as possible. Then withdrawing the obturator he uses the probe with a bead of chromic acid fused on its end, also with guard to secure proper penetration, and passes it through the trocar into the tissues, gradually withdrawing them both, so that the entire turbinal area to be cauterized is brought in contact with the chromic acid, and there is an even distribution along the whole route. He concludes the technique with an oily campho-menthol spray and introduces a cotton tampon saturated with benzoinol into the nares with the hope of producing mild and constant pressure on the hypertrophied mass during healing and cicatrization. There is no hemorrhage, the time is short, the patient suffers little or no pain, there are no untoward after-effects, no destruction of physiologically vital tissue, and no formation of synechia, as all inflammatory exudate is submucous.

140. **Influenzal Effects on the Upper Respiratory Tract.**—Kyle describes briefly the various conditions following influenza in the upper respiratory tract. The virus has a peculiar faculty of getting into all sorts of localities. He has seen both middle ears involved, and both mastoids in a short time, and the frontal sinus becomes involved early in the disease and reaches its greatest degree of disturbance during the height of the disease. The ethmoidal cells are involved early or during the attack, and the disease frequently continues as a suppurative ethmoiditis distinguished by its virulent infectious character. Tonsillar and peritonsillar involvement is quite common. The mucous membranes are affected in various ways: blood clots form on the surface, yet there may be no distinct hemorrhage. There is often a thickening of the membrane afterwards, not an edematous swelling, but a tough and infiltrated condition. A curious fact is that local treatment with nitrate of silver, iodin, chlorid of zinc, etc., aggravates and makes worse the inflamed area, while sedative oily solutions seem to relieve. Where there is need to use a germicide, he prefers the Loeffler solution. He believes that there is a marked alteration in the local constituents of the blood; the exudate from vessels in this disorder is a highly coagulable albuminous material infiltrating the tissues, obstructing secretion and causing interference in function as well as nutrition.

152. **Tender Point in Pressure-Paralysis.**—Browning states that in a former article he called attention to this tender point, but the feature was not perhaps sufficiently emphasized to gain recognition. He has since verified his observation and can more thoroughly estimate its value. The tender spot can be demonstrated in most cases during a considerable period in the course of nerve injuries, and it consists of a circumscribed point to be made out where the harmful pressure has been exerted. If the path of the musculospiral nerve around the back of the upper arm, early in a pressure case of the common radial type, be closely palpated, a very definite tender spot can generally be discovered. It is not excessively sensitive, but can be detected by running up and down over the course of the nerve with the finger tips, pressing firmly. Sometimes the patient can find it best. The time in which it develops is uncertain; in some cases it appears early, and it may not be found even after a long period of time in others. The practical and theoretical importance is considerable. It indicates that there are pathologic changes at the point of injury and leaves the presumption that there is a limited congestion or effusion at the affected spot and probably slight alteration in nerve structure, sufficient to interrupt conduction, without as a rule causing any degeneration. It is useful also in the diagnosis in determining the character of the case. Any slight inflammation in or about the nerve with a sort of focal neuritis, if left undisturbed, tends to prolong the paralysis and is an indication for local treatment. By applying counter-irritants or local derivation directly over the tender spot we attack the cause of the trouble and materially hasten the cure. Of course, this local treatment should be supplemented by other measures.

162. **Albuminuria.**—Dean finds from his statistics that there is a functional albuminuria occurring with more or less frequency and persistency. The cases have been traced to various causes, such as dietetic, neurotic, and oxaluric conditions. Under whatever form they occur there is reason to believe that vascular changes in the kidneys exist, that there is a true local congestion which may lead to more serious trouble if persistent. There is no reason, he thinks, for believing in a true physiologic albuminuria.

168. **"X" Fever of the South.**—This disorder, which has been previously noticed, is described by West. It seems to

bear close resemblance to typhoid in some respects. It is ushered in by not more than three days of fever, the temperature rising suddenly and remaining between 103 and 104 F. for from two to eight weeks. The bowels are generally constipated, though in three cases there was diarrhea and tympanites. The nervous symptoms are conspicuously absent. The object of his study was to determine the presence or absence of three things: 1. The hematozoon of malaria. 2. The bacillus of typhoid. 3. The presence or absence of any other infectious organism. A bedside study of wet blood films was usually made each day; in two cases this was made only three times a week. The Widal serum test was employed and attempts were made at isolation from the feces and urine. Culture experiments were also made. The results obtained were: 1. The hematozoon of malaria was never found in any of its forms. 2. The Widal reaction was not positive at any period during the course of the fever. 3. Typhoid bacilli were never isolated from stools or urine. 4. No growth resulted from inoculations made from the patient's blood. In conclusion, he says that the etiologic factor concerned in typhoid and malarial fever is not present in this fever, and it remains for more refined technique and further research to bring out the cause of X fever. In the discussion which followed some of the speakers seemed to think that this disorder was associated with malarial fever, though not malaria itself, and hence maintained that it is a disease *sui generis*.

## FOREIGN.

### British Medical Journal, June 1.

**The Pathogenesis of Tabes and Allied Conditions in the Cord.** CHALMERS WATSON.—The author criticizes the more generally accepted view in regard to the pathogenesis of tabes, viz., that it is a disease primarily of the nerve cells. He holds that tabes is not a nervous disease in the sense usually apprehended and the lesions in and around the vessels are of primary importance, the lesions of the neurons being determined by the local interference with the blood supply. (This does not include the conditions of varying vitality of the neurons as an important factor in disease.) Further, there is, he thinks, grounds for the belief that the condition is dependent upon chronic intoxication, the vascular lesion being to some extent general, but tending to be more advanced locally, and that the more advanced local changes demonstrate the failure of nutrition in the adjacent nerve elements. If these views are correct the disease ought to be curable in its early stages. He deprecates the tendency to differentiate tabes sharply from other diseases of the cord. We should rather investigate the nature of different toxins and the conditions which have brought about the variation in the result of their action. The arguments in favor of his views are drawn from the facts of comparative pathology, from histologic appearances of the cord in early tabes, from the fact that we have no occurrence of the disease where the vascular origin can be definitely excluded, and from what he considers clinical evidences in its favor. He believes that the vascular theory would explain the anomalous cases, the relation of the onset of the disease to traumatism, exposure, etc., and would account for the transient paralyses and the association of paresis, muscular atrophy, etc., which point to involvement of portions of the cord having no direct continuity with the part most affected. The epileptic attacks that occur in the disease, and the mental symptoms, also, are, in his opinion, supporters of this view. As regards the syphilitic origin of tabes, he considers it a mere *non sequitur* from the fact that syphilitic history can be traced in a large number of tabetic subjects. He can only say he believes that syphilis alters the physiologic condition in such a way as to favor the attack and the operation of the actual causes of tabes and allied conditions.

### The Lancet, June 1.

**Acroparesthesia, Erythromelalgia, Sclerodactylia, and other Angioneurotic Disturbances.** THOMAS D. SAVILL.—After reporting a number of cases of acroparesthesias and allied conditions, Savill discusses their causation, classification, and the relation they bear to Raynaud's disease. As regards the etiology of acroparesthesia, out of 35 cases recently observed, 29, or 82.8 per cent., were females. Excluding 2 children, the average age was 32.4 years. In 10 patients these conditions were secondary to other maladies, such as neurasthenia, hysteria, Graves's disease, acromegaly and general paralysis, but the rest applied for relief of the acroparesthetic conditions directly. "Acroparesthesia, erythromelalgia, and the other many and varied vasomotor symptoms have certain features in common. 1. They are much more frequently met with in the female sex, the proportion, I find, usually being much higher than that above mentioned. I imagine that something like 90 per cent. of these cases occur in female patients. 2. Vasomotor conditions appear to be due to some inherent and very often inherited tendency in the patient, for they recur again and again in one form or another during the life of an individual. Thus, a patient may have migraine at one time, severe flushings at another, and syncopal attacks at another, though I have generally found that there is a tendency to a recurrence of the same disorder. There are, moreover, two epochs of life which are specially prone to their development—namely, puberty and the climacteric. 3. The onset of the symptoms, whatever they may be, is always more or less sudden. 4. They are in all cases paroxysmal—i. e., they occur in the form of attacks. There is a sudden rise, when the symptoms soon reach their acme, followed by a gradual descent. In severe cases the attacks may be so frequent as to resemble a continuous malady, but close observation will detect that there are well-marked exacerbations. 5. In the great majority of the patients flushes or flush-storms occur from time to time during the patient's life; should these be absent there are generally other evidences of vasomotor instability. 6. A great many of them—particularly of the vasodilator kind—are amenable to treatment by bromids, which relieve them at any rate for a time. These six features are very instructive, and many of them may be explained by the study of the physiology of involuntary muscular fiber." He makes the following clinical classification: Cases due to vasodilation are, 1, early stage (chronic); attacks of redness, tingling, burning, etc.; 2, late stage; symptoms attended by swelling which gradually becomes permanent (erythromelalgia); 3, if the process takes an acute course the symptoms go to gangrene, usually moist gangrene (Raynaud's disease—congestive or asphyxial type). Cases due to vasoconstriction are, I, early stage (chronic); ischemia, attended by numbness, tingling, "pins and needles," "dead fingers," etc. (ischemic acroparesthesia); 2, late stage, sclerosis of skin and subcutaneous tissue; 3, if process takes an acute course dry gangrene probably results (Raynaud's disease—syncopal type). It will be seen that these varieties correspond to the different varieties and phases of Raynaud's disease, which begins in one or other of the above ways and may go on to gangrene. These cases are also probably related to the condition described by Dr. Henri Meige and others under the name of "chronic hereditary atrophedema. He remarks that the attacks of perspiration sometimes met with in the extremities, probably come under the same category, but are not included in the above classification, because although the derangement is probably situated in the sympathetic nerves and the sweating is generally attended by flushing, we are not sure that it is not controlled by separate nerves. The idea of his paper is to show the relation as it appears to him, of these conditions to each other and to Raynaud's disease. We know comparatively little of the sympathetic nervous system. Laboratory experiments have not thrown much light on the subject; therefore, he believes the first step is to get a clear notion of clinical phenomena and their relation to each other.

**Arterial Hypertonus and Arteriosclerosis: Their Relations and Significance.** WILLIAM RUSSELL.—The author calls attention to the application of the term "arteriosclerosis" and criticizes the signification given to it of recent date through German influence. He reports a number of personal observations and sums up the views of other authorities, showing that the term is applied to three diseases: 1. to atheroma; 2. to a generalized endarteritis; and 3. to a thickening of the intima compensatory to dilatation of vessels from weakening of their middle coat. The results which he arrives at through

his own studies are: 1. Atheroma and arteriosclerosis are two totally distinct clinical and pathological entities. 2. Atheroma is a localized and patchy affection of the arteries characterized by degenerative changes which have long been recognized. 3. Arteriosclerosis is a generalized affection of the arteries and is characterized by (*a*) thickening of the tunica media, this thickening being primarily a true hypertrophy, although it may ultimately show some degeneration; (*b*) thickening of the tunica intima from fibrous hyperplasia of the subendothelial connective tissue without atheromatous degeneration; and (*c*) in some instances fibrous thickening of the tunica adventitia. 4. The changes in the arteries in the kidneys differ from those in the radial, or even in the renal arteries themselves before they enter the kidneys. They differ in the following respects: in the kidney the thickening of the intima is proportionally greater, the media is not appreciably thickened, it may even be atrophied and may have undergone hyaline degeneration. (The atrophic changes in the kidneys are in proportion to the sclerotic changes in the vessels.) 5. The lumen of the radial arteries and of the arteries in the kidneys is markedly diminished. 6. The changes in the nutrient arteries of the brain, and probably of the cord, correspond with those in the arteries inside the kidneys. 7. Arteriosclerosis may be associated with more or less atheroma in the same subject. His cases contradict Thoma's view that thickening of the intima is compensatory to weakening and yielding of the media. Much of the confusion has arisen, he thinks, from failure to separate the points of similarity and dissimilarity in the changes that take place in the arteries inside and outside the kidney. Inside the kidney changes are most marked in the intima, outside in the media. In both the intima is thickened. Inside the kidney the media may disappear and often atrophies; outside this never occurs. He analyzes also certain features of the pulse and contraction of the vessel wall which is not usually recognized excepting in a few distinct morbid conditions, such as angina pectoris and some renal troubles. He therefore uses the term hypertonus as indicating the condition which he believes exists. A number of cases are reported and illustrated by sphygmographic tracings, illustrating this fact. The condition occurs at all ages. In strong persons it is associated with and a part of heightened blood-pressure and high-tension pulse. In aged people with failing heart it does not lead to increase in the blood-pressure, but the reverse, and is not infrequently the precursor of heart failure. In all ages it is produced in the great majority of cases by poisons introduced from without or by auto-intoxication. It may even be caused by syphilis and probably occurs in all diseases where there is absorption of toxins. Hypertonus is connected, in his opinion, with arteriosclerosis, in that the recurring or continuing hypertonus leads to hypertrophy of the muscle media of the arteries under the physiologic law of hypertrophy from increased action. The thickened intima in the arteries is explained by the circulation in the blood of deleterious substances of various kinds acting on the subendothelial connective tissue.

**The Bacteriology of Sporadic Cerebrospinal Meningitis.** WILLIAM HUNTER and ALEXANDER W. NUTHALL.—In this paper are described the bacteriologic findings in a number of cases of meningitis. In all the cases the diplococci had been isolated from the cerebrospinal fluid. In nine the fluid was obtained by lumbar puncture during life. This diplococcus has the same morphologic and biologic characteristics as Weichselbaum's diplococcus intracellularis meningitidis. In some it occurred in the pure culture, in others it was associated with other microbes, such as influenzal and tuberculous bacilli. The clinical picture and pathologic changes in these cases are those met with in so-called "posterior basal meningitis," which in all probability is simply a sporadic manifestation of cerebrospinal meningitis and produced by the same micro-organism. The cases reported number ten, and their bacteriologic findings in culture experiments are given in detail.

Bulletin de la Soc. des Hop. de Paris, May 23.

**The Pupil Reflex in Syphilis.** G. BABINSKI and CHARPENTIER.—These writers announced two years ago that the absence of the pupil reflex to light, if permanent and unaccompanied by any changes in the eyeball or optic nerve, or paralysis of the third pair, is almost pathognomonic of hereditary or acquired syphilis. Further experience has convinced them that the absence of the pupil reflex under these circumstances may be the only sign of an organic affection of the nervous system, and that patients thus affected are liable to be attacked by tabes, general paralysis or confirmed cerebrospinal syphilis. This sign, therefore, may be of great importance as it enables specific treatment to be instituted in the incipient stage.

Gazette Med. de Paris, May 25.

**Contraction of the Pylorus in Gastric Pathology.** M. BAUDOUIN.—Commenting on the case reported by Lépine (See THE JOURNAL of June 8, p. 1668), in which the pylorus by its contraction had served as a protecting sphincter against the escape of arsenic in the stomach and consequent intoxication, Baudouin states that he has had a somewhat similar experience, quite frequently during the last ten years, during attacks of neurasthenic migraine. He notes a sensation of constriction at the point corresponding to the pylorus. This continues during the vomiting but vanishes as the vomiting brings a little bile. He always rejoices when he sees the bile as it is evidence that his attack of migraine is terminated. The bile can not flow into the stomach unless the pylorus is open.

Presse Medicale (Paris), May 8.

**Temporal Periostitis of Otitic Origin.** H. LUC.—Four patients have been treated by Luc for a periostitis involving the temporal bone. The inflammatory tumefaction was restricted to this bone and the rear upper wall of the auditory canal, while the mastoid region proper was not involved at all in the process, which may or may not terminate in suppuration. He finds that this temporal periostitis, unaccompanied by intra-osseous suppuration, usually occurs in the course of a mild infection of the tympanum characterized by an exudate which does not always result in the perforation of the membrane and is frequently to be discovered only by auscultation. The pain is moderate but the fever may be slight or intense. The external manifestations are an edematous tumefaction over the temporal region, and, in case of suppuration, a swelling of the upper wall of the auditory canal where the pus collects at the lowest portion of the temporal fossa. A long, thin bistoury easily opens the abscess at this point, incising from without inward, the entire accessible length of the upper wall of the canal, passing through all the soft parts down to the bone. Pressure on the temporal region will evacuate the collected fluids through this incision, and a small drain should be introduced and left for two days.

May 15.

**The Flora of the Human Body and the Evils of the Large Intestine.** E. METCHNIKOFF.—This lecture, delivered at Manchester, states that the human body shelters from sixty to seventy different kinds of microbes. There are less on the skin than elsewhere; about thirty are found in the mouth where their secretions attract the leucocytes and are thus beneficial; about thirty in the stomach, fourteen in the small intestine and forty-five in the rest of the intestines. The microbes in the gastro-intestinal canal do not seem to influence digestion, but certain species evidently prevent the development of others. The cholera vibrio, for instance, kills a nursing rabbit, while it is completely harmless for the adult rabbit, after its intestines are tenanted by microbes. Most of the products secreted by the microbes inhabiting the large intestine are poisonous for the human organism, and the auto-intoxication may assume all forms. Even a chronic inflammation of the large arteries has been noticed in calves as the result of intestinal auto-intoxication. During our entire existence we have to submit to the noxious action of the poisons secreted by our intestinal flora. Attempts to sterilize the intestines have proved futile. The best means of getting rid of the microbian flora in the intestines would be to follow the example of the birds, and evacuate the contents of the intestines the moment that digestion is finished. Recent experiences have shown that persons can survive in good health after the removal of a considerable portion of the alimentary canal—four individuals

are now alive whose stomachs have been removed. Ciechomski, of Warsaw, has reported the case of a woman of 50 who had carried a spontaneous abdominal fistula for more than three years without interfering with her occupations or child-bearing. The entire large intestine was found completely atrophied. Comparative anatomy shows that the vertebrates with the smallest amount of large intestine are the longest-lived. Parrots and ravens live for 60 to 100 years, while the horse, with its exceptionally developed large intestine, lives but 20. Ostriches and cassowaries live only for 23 to 35 years, and these are the only large birds with a large intestine. Man is not immunized against his microbian flora, and natural selection has failed to liberate him from his large intestine, which is an absolutely harmful and dangerous organ, not merely from the poisonous products of its microbian tenants, but also because it is the seat of many fatal lesions. Most of the poisons which intoxicate, which gradually enfeeble us and render us old before our time, originate in the large intestine. If it is still impossible to attack the evil at its root by having the surgeon remove the large intestine, there is yet a possibility of relief by means of microbicidal and antitoxic serums and by reinforcing the noble elements of our organs. The cytotoxins which Metchnikoff and his pupils have produced, which in large doses destroy red corpuscles, spermatozoids, kidney and liver cells, etc., injected in small doses, have an opposite effect, stimulating instead of destroying the functions of the elements in question.

May 18.

**Lateral and End-to-end Suture of Veins.** G. Clermont.—After the successful suture of the internal jugular vein during the extirpation of a cervical adenitis, Clermont tested various kinds of sutures on rabbits and dogs to determine the best technique. He concludes that large veins alone can be sutured to advantage, although he succeeded in suturing a vein 4 mm. in diameter on a rabbit. On man he would never attempt it on a vein smaller than the external jugular. No. 00 silk is preferable to catgut or any absorbable material, but linen thread is as good as silk. The best method of suture is that which entails the least contraction of the vessel. The blood that accumulates in the stitch holes coagulates at once and closes them tight. An over-and-over-suture is perhaps best for a lateral closure but for end-to-end approximation he found the ideal method the "suture rabattue," or fell suture. The inner edges of the wound are brought together and the needle is passed through the base of fold formed by the two margins and back again in opposite direction. The outer margins are then brought together above and sutured with the same thread, the ends tied together finally outside. This method is ideal as there is no projection into the lumen of the vein and normal permeability is retained. The aseptic suture of a deep-lying vein was not followed by thrombosis in any of his experiments. Tikhoff reports that microscopic examination of the wound in the vein in dogs, one to thirty-three days after suturing, showed that a parietal thrombus formed over the line of suture inside the vessel, while the blood circulated freely over it. Small round cells then developed between the severed tissues and the thrombus, and the line of suture is thus isolated by this layer of cells and the thrombus from the interior of the vein. By the end of fifteen days this isolation of the suture had continued until it seemed to be pushed out into the perivenous cellular tissue by the proliferation within. The endothelial cells gradually extended over the thrombus and closed it in completely. It serves at first as a temporary protection over the suture and finally becomes an integral part of it, until it is absorbed, and the cicatrix at last becomes a narrow band of cicatricial connective tissue. Lateral ligature is so frequently followed by secondary hemorrhage that it should be definitely rejected.

**Orthoform Eruptions.** W. Dubreuilh.—Occasionally the use of orthoform causes an erythematous eruption, local or generalized, complicated with vesicles or pustules in most cases. Rarely the eruption has a gangrenous character. Asam has described nine cases in which orthoform dressings of wounds or of varicose ulcers caused a gangrenous ulceration, the aspect resembling that of an ulcerated lupus after treatment with pyrogallic acid. In exceptional cases the gangrene was deep, with thick, fetid, black eschars. The gangrene appeared after a few days, accompanied by intense pains, aggravated by renewed applications of the orthoform. Dubreuilh reports two cases of gangrene, but the intense pain in these instances could be relieved only by renewed application of the orthoform, which thus kept up a circulus vitiosus. In the first observation, the gangrene was diagnosed as a trophoneurotic lesion. The patient was a woman of 38 who had suffered from a fetid diarrhea followed by a violent anal pruritus. Orthoform was applied to the region of the anus, and it was not long before the pruritus was replaced by violent burning pains and gangrenous ulcerations, horribly painful and relieved solely by repeated applications of orthoform. The patient finally recovered. His second patient was a woman of 30 with a history of a pustulous eruption in childhood and a recent eruption of white pustules on the hands followed by almost necrotic erosions, extremely painful spontaneously at times, but not tender. A salve containing 10 per cent. orthoform was applied and a few days later a diffuse and intense dermatitis appeared on the hands and arms. An application of dermatol and salol caused such intense pain that orthoform had to be applied again. This relieved the pain at once and for several hours. The dermatitis gradually passed away, but the gangrenous erosions multiplied and became aggravated, accompanied by intense spontaneous pains. The similarity between these erosions and the anal ulcerations in his first case, suggested that the orthoform might be the cause, and the lesions gradually healed after its suspension. Morphin was required several times during the first days of the suspension as the pains were unbearable, but in eighteen days all the lesions were cicatrized, and the pains had disappeared.

Revue Hebd. de Laryngologie (Bordeaux), May 18.

**Nasal Hydrorrhea.** J. Molinié.—Nasal hydrorrhea is not a morbid entity, but is always a secondary phenomenon. In some cases the discharge comes from the brain and in others from a sinus, owing to a growth or accumulation of fluid therein. In other cases the nasal mucosa is the source of the discharge. Molinié classifies all the varieties of aqueous secretion from the pituitary as: 1, spasmodic rhinitis, in which he includes hay fever; 2, hydrorrheic rhinitis, in which a quart of fluid may be discharged during the twenty-four hours. This variety usually accompanies the arthritic, nervous, malarial or hepatic predisposition. It is aperiodical and the only circumstances which seem to have an influence on its production are emotions and cold. Treatment should be local and addressed also to the underlying predisposition. The third variety is the reflex rhinitis, due usually to intranasal irritation or cold as the principal extranasal factor. In ectopic rhinohydrorrhea the flow may proceed from the skull either spontaneously or after a traumatism. Huguenin has reported four cases of hydrocephalus cured by the spontaneous evacuation of cerebrospinal fluid by the nose. This craniohydrorrhea may persist indefinitely. One case is on record in which it lasted nine years. Recovery is exceptional; 50 per cent. of the patients have died, usually from tuberculosis or a cerebral complication. Traumatism was noted in the antecedents of three cases. The average age was between 15 and 30. No solution of continuity was discovered at the autopsy in most cases, and the fluid must have found its way through the perineural sheaths or the holes in the cribriform plate or the lymphatic passages which terminate in the nasal mucosa, but which normally are impermeable. The treatment must be addressed solely to the primary cause of the hydrorrhea. In sinusohydrorrhea the fluid flows drop by drop until the sinusitis is cured. In Berg's case the sphenoidal sinus was the seat of the hydrorrhea and the other symptoms were constant headache, exophthalmia and atrophy of the papilla. The fluid is not usually perfectly clear in these cases which are always due to some polycystitic degeneration or dropsy. The differentiation between hydrorrhea from the skull or from a sinus may require puncture of the sinuses. He distinguishes still another group which he calls aberrant rhinohydrorrhea, of medicinal origin, and concludes by citing several puzzling cases which do not seem to belong in any of the groups above described. One patient had a constant hydrorrhea for two years, which ceased during

an attack of typhoid fever. Ekkert's patient has suffered from constant hydrorrhea for more than two years, rebellious to all treatment and remarkable on account of an elevation of temperature every morning, accompanied by chills, sweats and aggravation of a cough. The nose, blood and urine seem entirely normal.

Semaine Medicale (Paris), May 22.

**League Against Syphilis.** A FOURNIER.—A society has been formed at Paris for "Sanitary and Moral Prophylaxis," composed of physicians, business men, officials and others, the aim being an actual campaign against syphilis. The progress of science has shown that syphilis is more serious and more dangerous than ever imagined until recently. Fournier is convinced that the number of syphilitics is increasing and estimates that the proportion to the male population of Paris is from 13 to 18 per cent. There is no other disease whose domain has grown so rapidly by annexations. This can be seen by comparison of the text books during the last fifty or even ten years. Even as late as ten years ago tardy hereditary syphilis was still unsuspected, and parasyphilis has been added to the black record still more recently. By parasyphilis he refers to tabes, general paralysis and buccal leucoplasia, with its frequent sequel, cancer of the tongue. These incurable affections prey by preference on syphilitics, and by their gravity and frequency and their resistence to antisyphilitic treatment, have rendered the prognosis of syphilis very different from the general acceptation of twenty years ago. The prognosis is at least tenfold more serious than in the days of our fathers. Many practitioners now forbid marriage under four to six years of treatment. The new society aims to have a large representative membership from all classes and to utilize all measures in the campaign against syphilis and its great procuress, prostitution; education of the public in the dangers of venereal diseases, official regulation, medical prophylaxis by public evening dispensaries with private consultations and circulars of instruction and warning, besides measures of a religious and moral order. He endorses the value of official regulation of prostitution, imperfect as it is, mentioning that 25 to 48 per cent. of the clandestine, that is, unregistered prostitutes of Paris are syphilitics, and that 873 in the contagious stage were arrested during 1897 for street solicitation, and sent to the hospitals for treatment. The innocent wives and children are protected somewhat by this official regulation, but even at its best fully 48 per cent. of the children in private practice are slain by syphilis and nearly 86 per cent. in the special hospitals. Among the measures which the League is advocating is training girls to some trade, the closing of saloons with private rooms, opening the liberal careers more freely to women, warning young girls of the dangers that threaten them, fixing "paternal responsibility" and legal penalties for damages from venereal contamination. In regard to warning young men, he quotes with approval: "the fear of syphilis is the beginning of wisdom." The public should be warned of the dangers of extragenital contagion. He has three patients who infected their mothers by a filial embrace. In one case he found the children's nurse developing a typical chancre on the lip unnoticed by the family.

Centralblatt f. Chirurgie (Leipsic), May 18.

**Magnesium for Absorbable Surgical Appliances.** E. PAYR.—The advantages of an absorbable material for buttons for entero-anastomosis and interposed plates to prevent the development of anchylosis in operations on joints, are generally recognized, and magnesium is proving all and more than Payr hoped for in his first communications on the superiority of this material for appliances in surgical technique. There have been no inconveniences from its use. He has found delicate, magnesium hollow cylinders extremely useful and satisfactory for the primary or secondary suturing of nerves and vessels. Narrow strips of magnesium laced together with catgut are a safe and reliable means of arresting hemorrhage in parenchymatous organs. Pegs made of magnesium are also very useful to hold rebellious fractures and in pseudarthrosis. Previous communications on magnesium for surgical appliances have been noticed in THE JOURNAL, xxxvi, 1901, pp. 294, 1357, etc.

June 1.

**Improved Turpentine-Ether Narcosis.** E. BECKER.—The familiar properties of the volatile ethereal oils in inhibiting mucous secretion, are utilized by Becker to diminish the secretions during ether narcosis. He finds that oleum pini pumilionis is the best adapted for the purpose. It closely resembles oil of turpentine but has an agreeable, aromatic odor which masks that of the ether. He adds twenty drops—about 1 gm. —to 200 gm. of ether. It dissolves readily and he administers the mixture the same as the ether alone. He has been much gratified with this improved method of narcosis in his experience with about 500 patients and considers it a distinct advance.

Deutsche Med. Wochenschrift (Berlin and Leipsic), May 23.

**Treatment of the Uric Acid Diathesis.** DETERMEYER and BUETTNER.—Clinical tests on several patients at Salzbrunn i. Schl. showed that the waters of the alkaline spring, Oberbrunn, had besides the diuretic effect and the general dilution of the corporeal juices, a specific action on the urine, conferring upon it the power to dissolve uric acid and the urates in vitro and in vivo. The urine at first contains an enormous amount of uric acid after these waters have been used for a time. This can be explained only by the assumption that the uric acid throughout the organism, in the tissues or in the deposits of urates, is dissolved out by the action of the waters. After this has proceeded for a time, the general production of uric acid is diminished, the excess has been dissolved and eliminated and consequently the amount in the urine becomes and remains very small. In taking these or any alkaline waters the amount should not be sufficient to abolish the acid reaction, on account of the danger of precipitating the phosphates, and the formation of phosphatic calculi. Close supervision is therefore kept over the urine of patients taking the Oberbrunn waters. A comparatively small amount is found most effectual.

May 30.

**Tendon Transplantation for Contraction of the Knee.** L. HUESNER.—In three severe cases of recurring contraction of the knee after various affections of the joint, the tendency to contraction was permanently cured by transplanting the tendon of the semitendinosus or gracilis muscles. The incision should be very long in order to amply isolate the tendons and muscles involved. Then a small median incision upward from the patella enables the flexor tendons inside and outside of the aponeurosis of the quadriceps, to be slit and sutured in place.

**Cerebral Hemorrhage with Verrucose Endocarditis.** M. SIMMONDS.—The post-mortem examination of two children showed that the cause of death had been cerebral hemorrhage from a ruptured aneurysm in the course of a verrucose endocarditis. The same coccus was derived from the thrombosed vessels that had been isolated from the verrucose endocarditic vegetations, a staphylococcus. Material containing bacteria had evidently been transported from the heart-valve to the smaller cerebral vessels, and had there occasioned the destruction of the vessel wall and the formation of an aneurysm. The connection between the endocarditis and the cerebral hemorrhage was evident. In two cases in young women death had occurred in consequence of the rupture of an aneurysm in the right sylvian artery in one patient. The remainder of the vascular system and the kidneys were intact and other conditions were normal, except that recent and old verrucose vegetations were discovered on the mitral valve. In the other patient no less than four aneurysms were found at the base of the brain, and the hemorrhage had evidently proceeded from a fifth. Verrucose lesions, recent and old, were found on both the aortic and mitral valves. No bacilli could be discovered in either case. In three others a cerebral hemorrhage was the cause of death, but no aneurysm could be found. There was a history of chronic, recurring verrucose endocarditis in each case and preceding articular rheumatism in one. A mere coincidence between the verrucose affection and the cerebral hemorrhage is, of course, possible, but Simmonds believes that all

the seven cases described indicate that there is a close connection between the bacterial verrucose endocarditis and the consecutive cerebral lesion, in the absence of alcoholic or syphilitic antecedents, and with the rest of the vascular system and the kidneys intact.

Muenchener Med. Wochenschrift, May 14.

**Mixed Ether and Chloroform Narcosis.** H. BRAUN.—For several years Braun has been using an apparatus for the administration of ether and chloroform which allows the combination of the two at will. A metal case contains two bottles which project above through the cover, the larger holding ether and the other, chloroform. A shallow flat box fits hermetically over the tops of the bottles. It has a stopcock in each side near the center, and rubber tubes emerge above and below. The upper tube terminates in a rubber bulb. The second tube passes into the anesthesia mask. When both stopcocks are open the ether and chloroform pass into the mask together in the proportion of 4 to 1. A leather strap suspends the entire apparatus from the neck of the anesthetizer. After the mask is applied, the bulb is compressed at each inspiration of the patient. When the limit of tolerance has been reached the chloroform is shut off and the narcosis continued with ether alone. Slight pressure on the bulb is sufficient to keep the patient under the influence of merely traces of ether during protracted operations. A whiff of chloroform may be added from time to time as required. In 250 anesthesias by this method, an average of 54 c.c. of ether and 12 c.c. of chloroform was used, the length of the operation varying from fifteen minutes to three and a half hours, average forty-seven minutes. The patients awoke remarkably easily and normally. Vomiting occurred in one-fifth of the cases, usually only once on awakening. By this method the advantages of both ether and chloroform are secured and their disadvantages avoided. The narcosis can be individualized to the case; 15 to 20 c.c. of pure ether will be found sufficient for a child, while a hard drinker may require 40 to 50 c.c. of chloroform, with little, if any, ether.

**Inguinal Hernia of the Ovary.** QUADFLIEG.—Three cases are described, two of which were congenital. One infant was operated on at two months. The painful tumor in the left inguinal region contained a cystic degenerated ovary, which was removed. The second infant was about three months old, and the ovary was twisted and gangrenous. The third patient was a woman of 41, in the fourth month of pregnancy. She had noticed a bunch in the right inguinal region for nine years, and had suffered from digestive troubles and constipation since that time, but was otherwise well. The tumor suddenly commenced to grow larger and became painful. There was no vomiting nor fever, but the appetite had diminished. The operation disclosed an inguinal hernia, the sac containing the swollen tube and ovary. After enlarging the hernial opening the ovary and tube were replaced in normal position, and the patient made an uneventful and rapid recovery. The symptoms in the first two cases were merely vomiting and the painful tumor.

**Cosmetic Operations on Goiter.** E. MEUSEL.—The best cosmetic results are obtained by removing the goiter horizontally. A flap of gland tissue is cut and the front and rear surfaces pared to make it flat. This flap then fits smooth in place and the skin flap over it. In seven years of experience Meusel has never had a hemorrhage nor necrosis from a goiter thus treated. The flap of the gland thus left is sufficient to prevent cachexia strumipriva.

**Myasthenic Paralysis.** H. OPPENHEIM.—The first symptoms of bulbar paralysis appear in the ocular muscles, as phenomena of paralysis or fatigue, ptosis and diplopia. After a few weeks, or occasionally not till after a few months, the muscles involved in chewing, speaking, swallowing and the facial muscles show signs of exhaustion. This weakness may, however, involve at once the muscles of the nape of the neck, the trunk and the extremities, or may spare them for a time. The affection may run an alternating course and the limbs or articulations may be the first affected. Genuine atrophy of the muscles and the corresponding changes in electric excitability never appear even in a prolonged course of the disease, nor are objective disturbances in sensibility or the senses observed. The patients frequently complain of pain in the head, back and extremities. Oppenheim considers the neuropathic diathesis the most important factor. The influence of infections or intoxications is still dubious, and overexertion is probably merely an inciting cause. A few observations indicate congenital anomalies in development. The affection seems to be due to a pre-existing tendency in certain portions of the nervous system which renders these portions sooner or later incapable of functioning, either that they completely and permanently renounce their functions, or are exhausted abnormally early, and require rest after brief activity. The protracted course of the affection—ten, fifteen, and even thirty-five years—and the remissions and intermissions, render the prognosis less unfavorable than at first supposed, although twenty-six out of the fifty-eight cases on record have resulted fatally. The general manner of life must be regulated to spare the muscles as much as possible; the food taken in such form as to supply the greatest amount of nourishment in the form that requires least work from the muscles of chewing and swallowing. These measures can be supplemented by the constant current and by gentle hydriatic measures. Faradization is strictly contraindicated.

May 21.

**The Stump of the Appendix Vermiformis.**—O. LANZ.—The microscope shows that the muscular and mucous coats of the appendix contract away from the spot when the appendix is crushed close to the base. This leaves the serous membrane empty, and the stump therefore consists of nothing but this membrane. Lanz advocates crushing the appendix in this manner with the angiotribe, close to the base, concluding with a Lembert suture of the stump, as the ideal method of amputating.

**A Case of Cholecysto-Gastrostomy.** F. KRUMM.—A patient with a large tumor in the pancreas, completely occluding the common bile duct, refused surgical intervention until it was too late for more than a palliative operation. Adhesions rendered anastomosis of the gall bladder with the intestines impossible, and consequently cholecysto-gastrostomy was done. The fistula thus produced functioned with perfect success. Appetite and strength returned and the intolerable pruritus was definitely cured, but the cachexia progressed to a fatal termination in seven weeks. Boeckel could collect only four cases of this operation in his report at the Paris International Medical Congress. The improvement can only be transient, and this was his experience in cholecystenterostomy. Quénu has published a case of chronic icterus completely cured by cholecysto-gastrostomy, and Jaboulay has also reported a similar case. No bad after-effects from the flow of the bile into the stomach were observed in any case.

**Inhalation of Sprays.** M. SAENGER.—As the result of much experimentation, Saenger announces that a fluid sprayed in the throat does not necessarily penetrate into the remoter air passages as a spray. The droplets flow together, and the spray effect is thus entirely lost, even in the throat. The fluid thus formed may find its way downward by gravity, by capillary attraction, and by the force of the inspiration, and thus be drawn into the remotest alveoles, but it is extremely improbable that any of the spray passes beyond the bifurcation of the bronchi. The narrowing of the mouth into the throat favors the coalescing of the droplets of spray.

May 28.

**Application of Steam to the Uterus.** H. FUCHS.—Since the introduction of atmocausis, or the application of a stream of steam directly into the uterus, not a single hysterectomy has been found necessary for the uncontrollable uterine hemorrhages of the menopause at the Kiel clinic. The early and remote results in twenty-two cases are tabulated and described in this article. In several cases the uterus had been previously curetted in vain. The steam, at 115 to 120 C., was applied for twenty to forty seconds. In six cases the menopause was completely established after the vaporization; in six others menstruation recurred, but diminished in quantity,

and in eight slight discharges of blood were noticed at irregular intervals. The condition known as chronic uterine infaret was cured by the removal of the cause. The involution of the enlarged organ was hastened. All of the patients are in good health with one exception, and a repetition of the atmocausis is in prospect to definitely abolish the slight hemorrhages which still persist in this case.

**Instrumental Perforation of the Uterus.**—F. SCHENK.—In the case reported a woman of 38, ix-para, was operated on for the cure of a laceration from the last childbirth, eight months before. The uterus was rinsed out with a sublimate solution. The catheter introduced penetrated 20 cm. without encountering the least resistance. Two other catheters were inserted with the same experience. The patient showed signs of distress, and the abdomen was opened at once to forestall intoxication from the sublimate, as a perforation seemed certain. Three were found. The uterine walls were so soft and friable that it was almost impossible to suture them. The organ seemed normal except for this extreme friability, and the patient rapidly recovered. Menstruation had immediately preceded the operation, and Schenk noticed a similar friability recently in another patient who had menstruated just previous to the operation.

Wiener Klin. Wochenschrift, May 9.

**Local Action of Suprarenal Extract on Nose and Throat.** L. HARMER.—The reduction of the hyperemia that follows the local application of suprarenal extract to the mucosa of the nose and throat has a favorable effect in catarrhal conditions. It enhances the analgesic action of cocain, which property is probably due also to this vasoconstricting influence; possibly the cocain works more effectually on tissue free from blood. Suprarenal extract is, therefore, indicated in cases that require cocainization, as the amount of cocain can be materially reduced. This is the only positive indication announced as yet from Chiari's clinic in regard to the action of suprarenal extract on the nose and throat, after considerable experience.

May 16.

**Etiology of Articular Rheumatism.** G. SINGER.—In five cases of acute articular rheumatism and in one of rheumatic chorea, Singer found the streptococcus in the various organs post mortem. The staphylococcus was also discovered in the case of chorea, which had been accompanied by an inflammation of the elbow and preceded by a follicular tonsillitis. The writer in 1898 called attention to the numerous clinical and anatomic analogies between acute articular rheumatism and the staphylo-strepto-mycoses. Others are gradually coming to recognize now that there are a number of indistinct and ambiguous cases of disease which belong in the borderland between acute articular rheumatism and cryptogenetic pyemia. The experiences of the past in respect to pneumonia and endocarditis demonstrate the folly of setting certain bacteria apart as specific for certain diseases. Other micro-organisms, not at all related to them, may originate the same apparently specific processes. The staphylococcus and the streptococcus have each been found in acute articular rheumatism, and the latest research by Wasserman and Meyer only confirms the assumption that there is no specific agent of this disease, as the streptococci which they discovered proved to be merely the ordinary variety after all.

**Clinical Diagnosis of Renal Colic and Kidney Infarcts.** R. SCHMIDT.—The clinical pictures in a large number of collected and personal cases of renal colic are reviewed and the most important diagnostic and differentiating points are seen to be the following: In every case of renal colic it is necessary to determine whether the pain proceeds from conditions inside the kidney—increased pressure or tissue necrosis—or in the ureter, from obstruction. Intrarenal pain is generally restricted more to the actual kidney region. The organ is extremely sensitive to pressure, especially in case of infarction. The pain is more continuous, and is eventually accompanied by sudden, intense albuminuria or a nephritic sediment in the urine. The extrarenal or ureteral colic has a greater tendency to radiate along the course of the ureter, which is sensitive to pressure. Acute hydronephrosis may follow. The pain is more intermittent. The intrarenal colics may be caused by twisting of the stem of a wandering kidney, sudden compression from a vascular, malignant tumor, chronic nephritis with acute inflammatory exacerbations, or infarcts in the kidney. The pain on pressure is generally more intense and more frequent in the latter case, but the blood pressure is low. The colic pains frequently appear while the patient is in bed, in case of infarcts, but with torsion of the stem or chronic nephritis, the colic is usually preceded by a mechanical injury. An apoplectic onset of the colic pains in their extreme intensity is a feature peculiar to the colic from infarction, but hematuria is rare. Suddenly appearing and rapidly disappearing albuminuria, without sediment in the urine, is another characteristic of infarction. Enteroptosis obscures the prognosis, as it induces reflex vomiting. The pain in cases of infaret is increased by reclining on the healthy or least affected side. Total occlusion of the renal artery may occur without heart symptoms. Oliguria and anuria are frequent in bilateral renal infarcts, but there is no morbid desire to urinate. This article is continued through several numbers, and is a communication from E. Neusser's clinic.

Gazzetta degli Ospedali (Milan), May 12.

**Agglutination by Malarial Blood.** G. GRIXONI.—Tests on 130 persons have demonstrated that the blood or the serum of a malarial patient will agglutinate the erythrocytes in the blood of a normal person or of a malarial or typhoid fever patient or in any other infectious disease. Normal blood does not possess this property. In doubtful cases of malaria, therefore, a drop of blood or serum from the febrile patient, mixed with a drop of blood from another person free from malaria, will differentiate the disease to the naked eye in ten minutes. When the blood agglutinates in this way, even although there may be no clinical manifestations of malaria, quinin treatment should be instituted, as the affection evidently persists in a latent form. This agglutinating power is specific of malaria and typhoid fever; it was impossible to detect it in any other of the numerous diseases and affections tested. Quinin in vitro, as well as in the organism, has a marked anti-agglutinating influence.

**The Cerebrospinal Fluid a Secretion.** CAVAZZANI.—The alkalinity of the cerebrospinal fluid is less than half that of the blood. In dogs under the influence of curare, that is, with the central nervous organs functioning, the alkalinity progressively diminishes, while in other dogs under the influence of morphin, it remains stationary. Cavazzani accepts these facts as confirmation of the assumption that the nerve secretes an acid substance during its functional activity. He has determined the presence of an oxydasis in the cerebrospinal fluid, for which he proposes the name "cerebrospinosis." He considers the cerebrospinal fluid an actual secretion, probably localized in the epithelial elements.

**Endovenous Injection of Iodin.** SPOLVERINI.—Remarkably fine results are reported by Spolverini in the treatment of scrofulo-tuberculosis in children, and of syphilis in adults, by the direct injection into a vein of a maximum of 5 eg. of metallic iodin. His formula is: potassium iodid 3 gm. and metallic iodin 1 gm. in 100 gm. of sterilized distilled water. As much as 28 eg. of iodin was injected in one case with no bad effects. The tolerance to the usual doses was always perfect, except in a few tuberculous children, in whom the local reaction threatened phlebitis for a day or so.

May 19.

**The Cutaneous and Tendon Reflexes in Nervous Diseases.** E. TEDESCHI.—The morbid processes entailing injury of the pyramidal tracts are usually accompanied by an exaggeration of the tendon reflexes and the weakening or abolition of the cutaneous reflexes. This antagonism between the tendon and cutaneous reflexes is especially marked in certain cases of chorea and in epilepties immediately after a seizure. The examination of the cutaneous reflexes is a valuable differentiating measure between organic and functional nervous affections. Babinski's sign almost invariably accompanies a lesion of the pyramidal tracts, but the condition of the extensor and flexor muscles of the toes is important in its production.

# Queries and Minor Notes.

### OBLIGATIONS OF OPERATOR TO ASSISTANT.

GRAND ISLAND, NEB., May 17, 1901.

*To the Editor:*—Will you kindly solve the question involved in the following case? Dr. A. operated on a patient and was assisted by two of his colleagues whom he had engaged for that purpose. Dr. A. continues in attendance until the patient's death some months later. The widow receives sufficient life-insurance money to pay all bills, but taking advantage of the fact that life-insurance is exempt from execution, she refuses to pay only such as she may elect. She tells Dr. A. that if he will discount his bill 25 per cent., I think, she will pay him. He complies and receives the cash ($300). Dr. B., one of the assistants, holds that Dr. A. was and is, in honor bound to protect the interests of the physicians whom he had called into the case. Dr. A. disclaims any such responsibility.

The question submitted is: Has Dr. A. any obligations touching the compensation of the physicians who assisted him, he having made all the arrangements as above stated, and nothing having been said as to gratuitous assistance, or that each one should look to the patient, or as it has resulted, the widow, for his pay? In other words, in such a case as the above, what are the *obligations* on the one hand and the *rights* on the other? J. L. S.

ANS.—The "obligations" and the "rights" depend on the arrangements made between the parties interested, which our correspondent does not disclose. It is not unusual for physicians to assist each other in operative work, without making definite arrangements for compensation, and sometimes, perhaps, without any intention of asking it. If, however, compensation was expected, and this was understood by the operator, he is under a moral obligation at least to look out for the interests of those he called to his aid.

### MEDICAL PRACTICE ACTS.

RAINSBORO, OHIO, June 10, 1901.

*To the Editor:*—Do persons graduating in Ohio or other states have to be examined by the State Board of Indiana before they are allowed to practice in that state? D. N. M.

ANS.—The laws of the state of Indiana require a diploma from an institution recognized as coming up to the standards fixed by the State Board. All others have to pass an examination. The State Board also is authorized to arrange as regards reciprocity with other states. About a year ago a resolution was passed that "No applicant from any other state for a certificate entitling him to practice medicine, surgery and obstetrics, shall be granted a certificate by this board on conditions more lenient than those required of applicants from Indiana by the examining board of the state from which he comes." This would imply that applicants from Ohio would have to stand an examination in Indiana unless reciprocity had been established between the states.

CARLISLE, PA., June 11, 1901.

*To the Editor:*—I wish to secure a copy of the medical laws of the different states of the United States. Will you please tell me how and where I can secure the same? H. H. L.

ANS.—If a file of the Bulletin of the American Academy of Medicine is available to you or at hand, it would give the best general résumé of the laws of the different states in regard to the practice of medicine. The June number, now due, will probably bring it up to date. The state of New York published a résumé of the practice acts a year or two ago, but it would not now be up to date. We know of nothing better than the résumé in the Bulletin of the American Academy of Medicine, which can be obtained through correspondence with the Secretary, Dr. Charles McIntyre, La Fayette College, Easton, Pa.

### New Patents.

Patents of interest to physicians, etc., May 21 and 28:

674,691. Apparatus for the production of caustic alkali and halogen gas. Charles E. Acker, Niagara Falls, N. Y.
674,371. Spraying nozzle. Carl Altenburger, Des Moines, Iowa.
674,391. Exercising device. Frank W Baker, Chicago.
674,395. Hygienic handkerchief pocket or receptacle, Anna M. Bevis, Mount Ayr, Iowa.
674,833. Spray tube for nebulizera. Wm. and J. Boekel, Philadelphia.
674,598. Hernial truss. John W. Bunker, Farmington, Maine.
674,645. Truss, Henry C. Demaree and W. C. Eckhart, Roca, Neb.
674,701. Antiseptic apparatus. Wilber M. Kelso, Chicago.
34,546. Design, truss support. Benjamin T. Allison and J. J. Brown, Pine Bluff, Ark.
675,364. Medicine dose indicator. James L. Burton, New Britain, Conn.
674,853. Coin or lozenge package. Elliott H. Crane, Colon, Mich.
675,131. Hernial truss. Henry T. Emeis, Salt Lake City, Utah.
675,208. Truss. Henry H. Gerhardt, Nashville, Tenn.
675,275. Nasal device. Josephus H. Gunning, New York City.
675,042. Apparatus for testing urine. John Hepburn, Warren, Pa.
675,006. Hernial truss. Francis E. Jackson, Socorro, N. M.
675,243. Atomizer, Josiah K. Proctor, Philadelphia.
675,017. Surgical appliance. Wilber C. Roush, Anderson, Ind.
675,180. Atomizer. Jacob Waldman, New York City.

# The Public Service.

### Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 30 to June 5, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., leave of absence extended.

Joseph L. Bell, contract surgeon, now in Washington, D. C., on leave of absence, is relieved from further duty at Fort Crook, Neb., and will proceed to Fort Morgan, Ala., for post duty there.

George M. Decker, contract dental surgeon, from Troy, Pa., via Tampa, Fla., to Havana, Cuba, for duty in the Department of Cuba.

James C. Dougherty, contract surgeon, from New York City, N. Y., to Aibonito, P. R., for post duty.

H. A. Eberle, contract surgeon, leave of absence granted on being relieved from duty in Porto Rico.

Lawrence A. Felder, contract surgeon, from Fort Morgan, Ala., to Atlanta, Ga., for annulment of contract.

Nevil M. Garrett, contract surgeon, leave of absence granted.

F. M. Hartsuff, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

George P. Heard, contract surgeon, member of an examining board at Fort McPherson, Ga.

George H. Richardson, contract surgeon, from Washington, D. C., to post duty at Plattsburg Barracks, N. Y.

William M. Roberts, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., for the competitive examination of enlisted men and others for commission in the Army.

P. Homer Wolven, contract dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

In addition to the above, the following-named medical officers, upon the expiration of their present leaves of absence, are to be assigned by the commanding general, Department of California, to temporary duty pertaining to the muster out of returning volunteers, on the completion of which they will proceed to Manila, P. I., as heretofore ordered: Major Thomas C. Chalmers, surgeon, Vols.; Major Luther B. Grandy, surgeon, Vols.; Major John A. Metzger, surgeon, Vols.; Major Frederic A. Washburn, Jr., surgeon, Vols.; Major John Carling, surgeon, Vols.; Major George P. Peed, surgeon, Vols.; Captain Frederick H. Sparrenberger, asst.-surgeon, Vols.; Captain Charles R. Gill, asst.-surgeon, Vols.; and Captain Willia J. Raynor, asst.-surgeon, Vols. Also, the following-named assistant surgeons, U. S. A., are honorably discharged by the Secretary of War, as majors, surgeons, U. S. Vols., only, to take effect June 30, 1901: Captains Henry C. Fisher, Eugene L. Swift, John S. Kulp, Frederick P. Reynolds, Merritte W. Ireland, William F. Lewis, Paul Shillock; Alexander N. Stark, Powell C. Fauntleroy, Charles Willcox, Henry A. Shaw and First Lieutenant George W. Mathews.

### Navy Changes.

Changes in the Medical Corps of the Navy, week ended June 8, 1901:

Drs. J. W. Backus, F. A. Asserson, J. F. Murphy, W. Seaman and R. R. Richardson, appointed assistant surgeons in the navy.

Surgeon F. J. R. Cordeiro, detached from the *Buffalo*, June 10, and ordered home to wait orders.

Surgeon L. W. Curtis, ordered to the *Buffalo*, June 10.

P. A. Surgeon E. S. Bogert, Jr., commissioned surgeon, from Dec. 15, 1900.

Asst.-Surgeon R. W. Plummer, detached from the *Nashville* and ordered to the *Princeton*.

Asst.-Surgeon W. Seaman, ordered to the *Independence*, June 17.

Asst.-Surgeon H. H. Haas, detached from Naval Hospital, New York, and ordered to the Norfolk Navy Yard, June 10.

Asst.-Surgeon R. R. Richardson, ordered to Naval Hospital, New York, June 10.

Asst.-Surgeon J. M. Brister, detached from the *Independence*, June 17, and ordered to the Asiatic Station via transport *Hancock*.

### Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 30, 1901:

Surgeon H. R. Carter, to inspect the local quarantine station at Baltimore, Md.

Surgeon R. M. Woodward, granted two weeks' extension of leave of absence from May 28.

Surgeon G. T. Vaughan, detailed as delegate to represent the service at the meetings of the Association of Military Surgeons of the United States May 30, and American Medical Association June 4, at St. Paul, Minn.

P. A. Surgeon J. O. Cobb, relieved from duty at Fort Stanton, N. M., and directed to proceed to Portland, Ore.

P. A. Surgeon C. P. Wertenbaker, detailed to represent the service at meetings of the Association of Military Surgeons of the United States May 30, and American Medical Association June 4, at St. Paul, Minn.

P. A. Surgeon C. P. Gardner, detailed to represent the service at meeting of the Washington State Medical Society, at Seattle, Wash., June 18 to 20, 1901, inclusive.

Asst.-Surgeon C. E. Decker, granted leave of absence for ten days.

Asst.-Surgeon W. C. Hobdy, to proceed to Thomson, Ga., for special temporary duty.

A. A. Surgeon J. W. Hargis, granted leave of absence for four days from May 28.

Hospital Steward E. T. Olsen, granted leave of absence for fifteen days from June 13.

Hospital Steward L. C. Spangler, to proceed to Delaware Breakwater, Del., and report to medical officer in command for duty and assignment to quarters.

APPOINTMENT.

Lewis C. Spangler, of Ohio, appointed junior hospital steward in the U. S. Marine-Hospital Service.

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## Address.

### THE RELATION OF NERVOUS AND MENTAL DISEASES TO GENERAL MEDICINE.

ADDRESS OF CHAIRMAN, DELIVERED BEFORE THE SECTION OF NERVOUS AND MENTAL DISEASES, AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., AT ST. PAUL, MINN., JUNE 4-7, 1901.


H. A. TOMLINSON, M.D.

ST. PETER, MINN.


I will crave your indulgence, and take the liberty to depart from the regular order, as defined in the By-Laws of the Association, to the extent of omitting the usual summary of progress during the past year in the realm of neurology and psychiatry, as represented in the literature of our special work, and confine myself to the discussion of some of the tendencies of modern methods of investigation, and their interpretation, with relation to nervous disease in general. I have been particularly impressed by the increasing tendency to discuss the differentiation of the morbid histology of the nervous system, as if that included all there was to the pathology of nervous disease; to consider that general medical knowledge is of little value in the study of its etiology, and of no importance in establishing its therapeutics.

This is the age of mechanics; and the same inspiration which has led men from the pursuit of the philosopher's stone, and the invocation of the supernatural, to the patient observation and application of force in all of its forms to the material advancement and convenience of mankind, has affected science in general, and during the past twenty-five years medicine in particular. Hence, we now approach the study of the human organism with the same methods and by similar means to those used in determining the properties of matter and the combinations of forces as manifested in inanimate nature. These methods are all the more alluring because they call for mechanical ingenuity more than mental effort, and the explanations they suggest of the manifestations of disease and their origin seem so rational and complete. Besides, these methods represent a natural reaction from the superstition and metaphysical speculation which persisted in medicine, and especially in psychiatry, even to the middle of the last century. I believe, however, that this reaction is going too far; that the human organism is something more than a mechanism; also that the morbid histological changes developed experimentally in animals, or found after death in human beings, are not necessarily the cause of the disease conditions they apparently create, any more than their presence in one organ of the body is proof that the disease is confined to that part of the organism. In other words, there can not be special change without general disease; and in the study and treatment of the special condition, the general involvement and its extent is the most important.

It has been asserted that in scientific medicine there is no place for the polemic, that hypotheses are dangerous, and that argument, other than that involved in the comparison of experiments, their vertification, and the construction of formulæ, is useless. I believe this assumption to be wrong; for, out of it has grown the modern tendency to reduce everything in medicine to mechanical terms, to lose sight of the relativity of all of the activities involved in life, and to develop what, for want of a better name, I will call the organ physiologist and pathologist, and as a natural result the medical specialist, who sees in the symptoms complained of by his patient only the manifestations of disease in the organ or system in which he is particularly interested. This tendency has become so conspicuously a characteristic of medical thought and method, that recently one of our prominent medical journals, in commenting editorially in approval of the dictum of a great German pathologist concerning the value of brevity in scientific communications, deprecated the publishing of the details of the clinical history or post-mortem findings in any given case, if they were not directly connected with the organ apparently involved, losing sight of the fact that there enters into the conclusions reached concerning any given case, not only the personal equation of the observer but also the influence of his special training upon his interpretation of the facts observed, and leaving out of consideration altogether the obvious inference that another observer differently situated might interpret the facts differently if all the data were presented to him. Neurology has become a series of demonstrations of the normal and morbid histology of the general nervous system, and the neurologist is endeavoring to apply this same method to the study of psychiatry; while the psychiatrist still discusses insanity in the terminology of metaphysics. The significance of this tendency is well expressed in the following quotation from Herbert Spencer:[1] "If insistence on them tends to unsettle established systems of belief, self-evident truths are by most people silently passed over; or else there is a tacit refusal to draw from them the most obvious inferences. Of self-evident truths so dealt with, the one which most concerns us is that the creature must live before it can act." I would paraphrase this statement thus: Those activities upon which the functioning of the nervous system depends are more important than the resulting activities that the nervous system directs. Because of methods of study and the still too prevalent metaphysical conception of the relation of the central nervous system to the activities of the rest of the organism, the neurologist has ignored the relation of his special work to general medicine, his studies have been confined largely to the motor apparatus of the nervous system, losing sight of the fact that the nervous system, while it directs all of the activities of the rest of the organism, supplies nothing toward its own nutrition and is not concerned in the elimination of the waste

materials of its own activity. Out of the failure to recognize the obvious inference from this fact in physiology has grown the therapeutic nihilism and sterility, referred to by the chairman of the Section in his address at Atlantic City last year.

In order to formulate my argument as to what constitutes what I believe to be the true relationship between general medicine and mental and nervous disease. I will posit certain data drawn from current sources of knowledge concerning the facts of development and physiology, as to the relation of the nervous system to the rest of the organism.

There are two assumptions we may safely make concerning the human organism, based upon what has been demonstrated as to the processes of its functional activity and is known of its cytology: 1, that the primary functions are those of vegetation, and that all others are related and in sequence to some form of activity involved in the processes of nutrition; 2, that the nervous system is the last as well as most complex in the order of development. Also, the complexity of the nervous system has increased in a direct ratio with the demands upon the general organism, resulting from changes in its environment. It may further be assumed from our knowledge of biologic chemistry that the functional cell wherever found has a limited potentiality; also a normal plane of response to the incident forces constituted in its environment. This plane of response naturally will vary with the individual, and other things being equal, will depend for its level of development upon the combined capacities of the parents at the time of conception, the competence of the mother during pregnancy, and the suitableness of the individual environment up to the period of second dentition.*

It follows as a corollary of this statement, that if for any reason the potentiality of the functional cell is abnormally limited, or on account of untoward or disastrous conditions in the environment of the organism is manifested excessively, the limit of capacity in the area or organ will be prematurely reached and a degenerative process begin. That this is true the fact of arrested and defective development and instability in the nervous system, as well as the different tendencies toward degenerative processes in the vital organs abundantly prove. Further, those degenerative processes which are supposed to be confined to the spinal nervous system, have for their antecedents, conditions which interfere with general nutrition and elimination, for a long time before the symptoms of involvement of the structure of the spinal cord become apparent. It is unfortunate that the morbid changes in the histology of the nervous system should be obscured by the results of the degenerative process which accompanies chronic disease, so that we are unable to say that the changes found are not the result rather than the cause of the disease present during life, since we always find that these changes have for their chief characteristic, destruction of the functional cell and its more or less complete replacement by the structural tissue. This want of correspondence between the symptoms manifested and the amount of degenerative change in the nervous system is well shown in the only two acute conditions which give an opportunity to study the changes apparently causing the symptoms, unaccompanied by other changes which are consecutive. I refer to Landry's paralysis and acute delirium. In both of these disease conditions, while there is nothing distinctive in the morbid histology, there is abundant evidence of antecedent involvement of the vegetative organs, with more or less complete abeyance of both their nutritional and eliminatory functions. Even in those processes where the morbid histological changes are believed to be not only distinctive but characteristic, we have no evidence that the circulation is not first involved. This presumes the presence in the blood stream of some toxic substance acting as a persistent irritant, while the presence of this substance in the organism involves failure or incapacity in the vegetative organs, both as regards resistance to the entrance of toxic material and failure in its elimination.

It is not conceivable to me that the relations of the spinal nervous system to the rest of the organism, should be any different in kind than those of the cerebrum. The spinal nervous system represents the simplest and most direct relationship between the different parts of the organism, and we have it in common with those forms of animal life in which the functioning of the nervous system is confined to the direction of those activities which have for their object the acquisition of food and the avoidance of sources of danger which are obvious. Indeed, this is largely the limit of functional activity of the spinal nervous system in even the highest developed organism. In those forms of animal life having only a spinal nervous system, the vegetative functions remain inherent in the cell or group of cells comprising the organ—witness what we know of the inherent capacity of the heart and the so-called vital secretions of the different vegetative organs—but as the nervous system continues to evolve in response to the growing complexity of the general organism, resulting from changes in environment; there is a practically separate system developed for the control of the vegetative functions, and lastly, as the channels for the transmission of nutrient material, which at first carry all of the products of metabolism indifferently, are separated into an afferent and efferent system, there is evolved the ganglionic nervous mechanism for their control. All of these systems are in intimate association but the connection between the vegetative organs and circulatory apparatus, though the ganglionic is most close, and these with the cerebrum more intimate than with the spinal; which still has for its principal form of activity the transmission of common sensation, the locomotion of the general organism, and only indirectly the motor activity of the mechanism of the vegetative organs.

Any man who has worked much among the insane has abundant evidence of how all of those degenerative processes which are supposed to be the result of disease of the spinal cord and bulb can be mimicked during the course of progressive brain degeneration, and we know how promptly symptoms of involvement of the nervous system follow destructive or degenerative disease of the vital organs. While the pathologist finds in studying post-mortem the histological changes in the spinal cord which, from the standpoint of morbid anatomy, seem to him to be causative; he has only to examine the evidence furnished by the study of development and the causes which operate to arrest its processes or make them

* While I do not believe that we have any evidence of increase in the functional potentiality of the nerve cell after this period, there are undoubtedly marked increases both in number and special forms of activity, before and after puberty; and just as different areas in the nervous system become functionally active at different periods in the development of the embryo, so the level of the plane of response in the individual cell, functional group or area, may be raised at the different epochs in the order of development, without any increase in its potentiality, as shown in the limitation of the period of sexual activity as well as by the excessive activity of all metabolic processes during the period of adolescence, and the reduction in the plane of activity of those parts of the organism involved in the processes of nutrition, after the climacteric period, in both sexes.

aberrant, to realize that it is still at least an open question as to whether the disintegration he finds is not the result of the breaking down of an unstable structure, rather than the cause of the symptoms manifested. And that this break-down is in its turn dependent upon impaired nutrition and imperfect elimination following disease in the vegetative organs, not primarily specific affection of the nerve cell. Even in syringomyelia, if we consider the mode of development of the spinal cord, the weight of evidence from the natural history of the disease and the post-mortem findings, is in the direction of the process being one of atrophic degeneration, taking place in a tissue primarily defective and of limited potentiality.

Impaired nutrition involves either failure of supply, overuse, or imperfect elimination, and these in their turn affection of the blood vessels, or change in the character of the blood stream itself, either through impoverishment or the presence of some constituent which is toxic; and it is the persistence of these blood changes which give rise to the changes in the blood vessels. These changes involve in their turn the pre-existence of failure in one or more of the processes of metabolism or incapacity of the eliminatory organs. Therefore, while the symptoms manifested may have their origin in a destructive or degenerative process in some part of the nervous system, the real disease, upon the cure of which the ultimate recovery of the patient depends, has its existence in the vegetative organs, either in the ensemble of their functions or as affecting conspicuously some one of them. I believe we may safely say that all disease processes begin as intoxications, and this is so even with chronic degenerative processes in the nervous system. During ten years of careful observation of the phenomena connected with the development and manifestations of insanity, in more than three thousand cases, I have never failed to find intoxication either the result of imperfect elimination or failure in the processes of digestion and assimilation. Failure in elimination is most common and involves most frequently the kidneys, next the bowels, then the lungs and skin. Failure in the digestive processes is generally in the direction of an abeyance of function and in cases of depression this is sometimes so extreme that the active constituents of the gastric juice are entirely absent for considerable periods.

We are all familiar with the influence of emotion and fatigue upon the nervous system, and have seen how tremor, spasm, convulsion and even paralysis follow shock, while again they are apparently the result of violent gastro-intestinal disturbance or renal inadequacy. It is here that the question arises as to the truth and significance of my thesis. We recognize the effect of overstimulation of an organ or part in checking katabolic change, interfering with oxidation and leading to auto-intoxication; but the failure in capacity is just as much the result of the suspension of anabolism as it is of the abeyance of katabolism. For, obviously, life involves the persistence of anabolism, so that even aberrant functioning involves the persistence of the nutritive processes. The over-activity of the cell or part may be so great or its potentiality so limited that suspension of the nutritive process is complete and almost immediate; or the exhaustion may be more gradual, so that the interference with katabolism results in retention of so much waste material that the cell no longer is reconstituted but disintegrates. While I freely admit that these statements of what is involved in the processes of metabolism are trite and even elementary, yet it is equally true that the most obvious inferences to be drawn from them in their application to the study of mental and nervous disease are either ignored, or, if recognized, not appreciated, because we overlook the fact that the morphologic changes found in the cell simply represent the exaggeration of the processes which, kept in balance, constitute normal metabolism, and that these changes may proceed to a very considerable extent without involving the permanent death of the cell, provided the limit of its potentiality is not reached. This is graphically shown in the morphologic changes which take place in the cortical cells of that part of the brain anterior to the precentral fissure in acute delirium, which are alike, except in degree, both in those cases where death comes early as the result of pulmonary edema, or later from bulbar paralysis, and this difference in degree, other things being equal, will be found to depend upon the amount of instability or defect in the individual which limits his potentiality and exaggerates the manifestations of nervous disturbance.

I trust I may be pardoned for referring here to some of my own work, but I will venture to do so because I believe I can best illustrate my contention by relating the experience which first called my attention to the importance of appreciating the intimate relation between general somatic disturbance and mental and nervous disease.

Some years ago I gave considerable study to the mode of death among the chronic patients in the St. Peter Hospital, and found that no matter what the apparent somatic disease, all of them presented marked symptoms of uremic poisoning, and the condition of the kidneys was confirmed by uranalysis. I noted further that death came in one of four ways: 1, suddenly from apparent cerebral hemorrhage; 2, apparent collapse with syncope; 3, more slowly with dilatation of the right heart, pulmonary edema, vasomotor paresis and death from asphyxia; 4, apparent asthenic bulbar palsy; sometimes rapidly fatal; again accompanied by a mono- or di-plegia, a hemi- or para-plegia of varying degree of completeness, death resulting from progressive asthenia. The merging of these different modes of death into each other was also noted from time to time, especially among the victims of chronic degenerative disease of the lungs. The necropsy failed to reveal any evidence of gross lesion or degenerative change to account for the symptoms and conditions present during life; but certain changes were found which have been described by me elsewhere.[2] This experience led to the systematic study of the urine in our chronic cases to determine if possible how far the nervous manifestations of uremia might be anticipated. We found that profound changes might be present in the structure of the kidney without the presence of albumin or casts, and in the absence of the ordinary clinical signs of nephritis. Also, that in proportion, as the nervous symptoms of uremia were present, were the ordinary somatic manifestations absent. Furthermore, we found that uremic poisoning, fatal in result, might be present as the result of auto-intoxication from imperfect metabolism, acting through the vasomotor apparatus and bringing about the abeyance of the function of the kidney as the result of vasomotor spasm producing ischemia, and in the absence of any marked degenerative change in the kidney itself. That is, the function of the kidney as a filter was not interfered with, but the secretion and excretion of the solid constituents of the urine was diminished and the chlorids

often entirely absent, while, for obvious reasons, urea would not be diminished in amount. In cases of parenchymatous nephritis and the diffuse form where the medullary substance of the kidney is most involved, the diminution of the excretion of urea was the rule and albumin and casts more common.

This experience led us to study more carefully similar conditions among the recent cases, and we found to our surprise that practically all cases admitted to the hospital gave evidence of some degree of renal inadequacy. In the cases of so-called delirious mania and in delirium associated with other forms of insanity the evidence of imperfect elimination was marked; and furthermore our success in relieving these conditions was always in proportion and in sequence to the re-establishment of the function of the kidneys. In those cases which proved fatal and had been accompanied by high temperature with vasomotor paresis before death, the change in the kidneys was found to be parenchymatous; while in those without elevation of temperature but exhibiting progressive asthenia the change in the kidney was interstitial. By following the same method in the study of the other vital functions, the intimate association between irritability, exacerbations of excitement, disturbance of the special senses, recrudescence of delusion, and impairment of digestion with constipation was determined.

Bearing in mind that in a hospital for the insane, on account of the environment of the patient, the conditions which modify and complicate the progress of degenerative processes in general practice are absent, that the life of the individual is ordered, his diet and occupation controlled, and that in the demented vegetation dominates and often comprises the activities of the organism; it will be readily understood why we see so conspicuously manifested the changes in the vegetative organs, and the influence of interference with or abeyance of their functions in the determination and progress of degenerative processes in the nervous system.

If then these conditions exist among the insane in hospitals, they must necessarily have existed in the same individuals before they came to the hospital, and there is *a priori* reason to believe that they also exist among the sane and especially among those suffering from degenerative processes in the nervous system. Personally my observations as a consultant confirm, in this connection, my experience in hospital work, and lead me to believe that in the appreciation of general nervous disease, the prognosis, and especially in our therapeutic efforts, we are more concerned with the functioning of the vegetative organs and the general processes of metabolism than with the morbid anatomy and histology of the nervous structure; or, to express the conclusion tersely, we are more concerned with function than with form; for the morphologic change seldom determines definitely what the nature of the disturbance of nutrition has been even if it does indicate the result.

I do not wish to be understood as failing to appreciate the value and significance of modern methods of research nor to oppose my limited understanding of the results attained to the general opinion. But I feel justified in suggesting for your consideration the fact that the study of the pathology of nervous and mental disease has not advanced proportionately with the development of methods for the recognition of its morbid histology. And I believe that the apparent futility of therapeutic effort in disease of the general nervous system, has resulted from the giving of undue significance to the morphology of the changes found after death in man, or produced experimentally in animals; and too little study and care to the general processes of metabolism as represented in the functioning of the vegetative organs.

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# Original Articles.

## ORAL MANIFESTATIONS AND ALLIED STATES.

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*(Concluded from p. 1766.)*

The following autopsy was made on an old man, in whose case the pathologic diagnosis was as follows: Senile marasmus (senile emphysema, senile sclerosis of the aorta, atrophy of the parenchymatous organs), scurvy (hemorrhagic gingivitis); chronic aortic and mitral endocarditis; fibrous myocarditis; chronic nephritis; caseo-calcareous areas in the right apex, spleen and left adrenal; double hydrothorax; bronchitis; fibroma of the stomach; amputation of the left lower extremity at the lower third of the thigh. The findings unrelated to the scope of the present investigations are omitted. The gums were found swollen, and here and there infiltrated with blood. There was purulent matter about the roots of the teeth, many of which were loosened and some of which could be removed with the fingers. The roots of the loosened teeth were covered with a granular, grayish material.

Only the lower frontal teeth and corresponding part of the jaw could be examined. The epithelial covering of the gums appeared to be quite intact. In some places it was a little thickened, and its lower layers infiltrated with new cells. The sub-epithelial tissue was much thickened, presenting the general structure of an inflammatory granulation tissue of some standing. Areas occurred in which there were many new cells and but little stroma. In other foci the tissue was more fibrous, the new cells running in bands. Here and there occurred free and intracellular granular, yellow pigment. Typical hyaline bodies of various sizes, and staining a precise bluish-violet with Gram's method were found in rather small numbers. In some places small sub-epithelial abscesses were met with, which (in the instance of a district including a lower incisor) were really subperiosteal. The contents consisted of nuclear detritus and bacteria (mostly cocci) which have accumulated, especially upon and in the walls of the minute cavities extending from such an abscess. There seems to be a complete occlusion of the vessels (capillaries) with typical bacteria masses, staining a peculiar bluish-violet color with hematoxylin, and blue with Gram's method, so that the vessels presented the appearance of being very successfully filled by an infection mass. The small dilatations, the branches and the larger vessels (judging from structure these seemed to be veins) were sometimes brought out very nicely. The intravascular growth of bacteria extended into the bone below as well as, and more especially into, the peridental membrane. These abscesses (suppurative periostitis) occur almost exclusively upon the inner surface of the alveolar process, being confined (as far as there was occasion to

observe) to the external aspect of the process. There was always a thin, sound layer of bone separating the abscess from the peridental membrane. Very generally the spaces in the adjacent bone were filled with a cellular fibrous tissue in which occurred islands of osteoid tissue. The bone trabeculæ were generally covered by a thin layer of osteoid tissue, which (from the greater number of cells it contains, as compared with the other bones) must be newly formed. Rows of osteoblasts were found often upon the trabeculæ. Few Howship's lacunæ were found, and these were filled with small cells. There were no osteoblasts in the areas about the abscesses. The bone outside of the alveolar process is quite unchanged.

The "bacterial thrombosis" not unusually extended into the peridental membrane, which then refused to stain as clearly as normal. The upper part of the peri-

X 40. 35 M. M. Zeiss. Micro-photograph reduced four-sevenths.

Fig. 17.—Longitudinal Section of Tooth. Alveolar Process and Gingival Border, Showing Active Inflammation in Scurvy in Man.—B, Sentine. C, Cementum. E, Epithelial tissue. G, Submucous membrane. H, Periosteum. J, Alveolar process. L, Haversian canals. M, Fibrous tissue. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. RR, space pocket from want of union of the epithelial fold.

dental membrane was usually the seat of cell proliferation and of formation of fibrous, due to the direct extension of the similar process in the sub-epitheial connective tissue of the gingivus. There were no indications that the process began below, at the apex of the tooth, for example, and extended upward. In the peridental membrane, and often connected with the cementum of every tooth examined, were very many so-called calco-spherites; calcified, concentrically lamellated, round or oval bodies, not unlike the "corpora amylacea." In many instances, it seemed as if the body had formed in the cement or at its margin—the cement presenting here a nodular condition.

Fig. 17 illustrates a section through the tissues of the jaw and cuspid tooth. The epithelium is not so dense and thick as in a similar section from the dog. Inflammation extends along the capillary layer of the submucous membrane (G) and involves the deeper structures. The mucous membrane layer has doubled upon itself, forming a pocket (RR). Violent inflammation is evident at V. This is of unusual interest, since it demonstrates that inflammatory products may be carried by the blood-vessels anywhere throughout the alveolar process, and may result in abscesses. The inflammation extends throughout the periosteum (H), the fibers of which extend from the root of the tooth over the border of the alveolar process (J). There the coarse fibers of the periosteum contrast decidedly with the finer fibers of the sub-epithelium. Absorption and contraction of the alveolar process (fully one-half the length of the root of the tooth) has taken place, as well as lateral absorption. The inflammatory process extends through the Haversian canals (L).

Fig. 18 illustrates a section of the peridental mem-

X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 18.—Cross-section of Inflamed Peridental Membrane. Scurvy in Man.—I, Peridental membrane. J, Alveolar process. K, Capillaries. L, Haversian canals. BB, Blood vessels of Von Ebner, preceding perforating canals. EO, Endarteritis obliterans. W, Epithelial débris.

brane (I) and alveolar process (J) with inflammation extending throughout. Capillaries (K) are also noticeable in large quantities nearer the alveolar process than the root of the tooth. Epithelial débris are evident at W. Endarteritis obliterans (EO) may be seen in different portions of the field. Inflammation has extended into the Haversian canals (L) but absorption has not occurred to any great extent. The blood-vessels of Von Ebner (BB) are quite well shown.

Fig. 19 is a section showing the cementum (C), the peridental membrane (I) and the alveolar process (J). Marked inflammation extends through the peridental membrane, thence through the Haversian canals (which are entirely obliterated). Absorption of the trabeculæ (halisteresis) has resulted to the extent that what remains of the alveolar process (J) are islands of bone held in place by fibrous tissue. Blood-vessels of Von Ebner with perforating canals are seen at P.

Fig. 20 illustrates a large abscess (Y) from another location. This is also situated within the alveolar wall, showing that the inflammatory products extend through the blood-vessels. Marked inflammation is seen upon the side next to the peridental membrane ($I^1$), while rapid absorption—halisteresis (Q) and perforating canal (P)—is proceeding at the borders of the abscess and nearest the alveolar process.

A 48-year-old merchant was dyspeptic, debilitated and asthmatic, and for the treatment of the conditions he had been under calomel and tonics for a little less than two weeks. When he came under observation, the mucous membrane and gums were then much inflamed. There was marked sialorrhea. The teeth were loose. The gums were swollen. Pus oozed from the gums. The breath had a decided metallic odor. At my suggestion, his medical attendant stopped the calomel. He

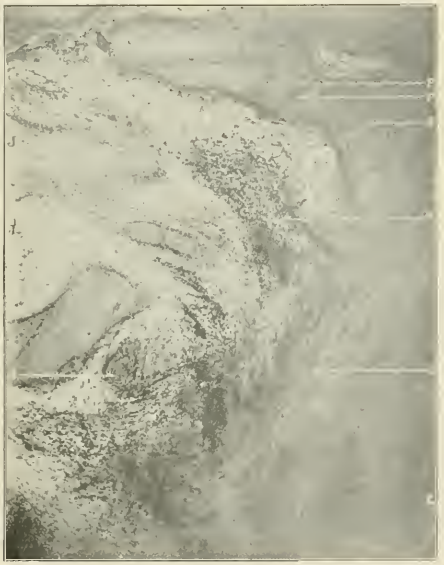

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Fig. 19.—Cross-section of Tooth, Alveolar Process and Peridental Membrane, Showing Active Inflammation and Absorption of Bone. Scurvy in Man.—C, Cementum. I, Peridental membrane. J, Alveolar process. P, Perforating canal absorption. V, Violent inflammation.

was then ordered six pints of spring water daily. The gums were, on alternate days, saturated with iodin. In a few days the soreness and swelling were so reduced that the deposits could be removed. The patient was discharged cured in a short time, other than as to the right inferior second molar, which was so loose as to require removal. This tooth was placed immediately in 50 per cent. alcohol for twenty-four hours and then removed to absolute alcohol for twenty-four hours more. The membranes had receded about two-thirds the length of the root. Sections for microscopic purposes were made from the lower third of the root. Of these sections Fig. 21 shows a small fragment of inflamed peridental membrane. Fig. 22 exhibits violent round-cell inflammation, degeneration and liquefaction of tissue.

A 35-year-old diabetic painter came under observation for plumbic poisoning. His gums were swollen. There was decided sialorrhea. The teeth were loose. Pus flowed from the gums. He was placed on ozonate spring water and the gums were saturated with iodin on alternate days. Three loose teeth were removed and placed in alcohol. Sections from the upper third of the left superior second bicuspid gave results on microscopic examination similar to those already described as occurring in mercurial poisoning. Fig. 23 shows round cells of inflammation. Fig. 24 illustrates very marked degeneration of the peridental membrane. In the lower right-hand corner are seen the root of the tooth, dentine and cementum. The whole surface of the peridental membrane is in an advanced phase of inflammation. Just at the border of the root is evident an area of membrane softening. Just beyond, but joining, is noticeable breaking down of tissue. In the center are seen two areas of softened tissue more advanced in degeneration.

One occupation disease which has been ignored in

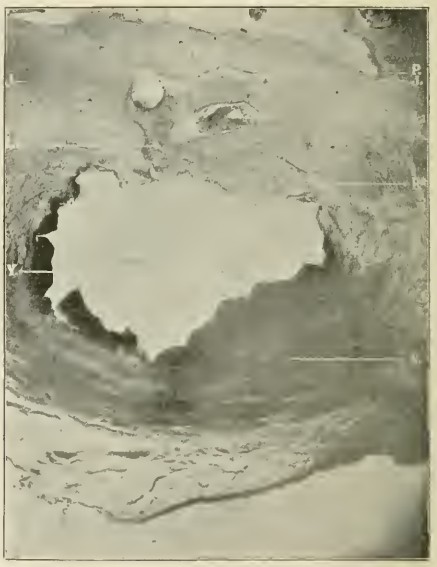

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Fig. 20.—Cross-section of Peridental Membrane and Alveolar Process, Showing Active Inflammation and Another Large Abscess. Scurvy in Man.—J, Alveolar process. P, Perforating canal absorption. V, Violent inflammation. Y, Abscess. $P^1$, Inflamed peridental membrane. $L^1$, Inflammation extending through enlarged Haversian canals.

the etiology of interstitial gingivitis is "brass-workers' ague." In almost all brass-workers, a stain varying from a brown to a brownish-green is detectible on the necks of the teeth betwen the crowns and the gum insertion. This is most obvious in the upper jaw. After a while, as E. Hogben[4] has shown, the teeth become loosened and fall out. Before these changes in the gums appear nervous symptoms have developed from the brass poisoning.

Arsenic should be taken into acount in the etiology of interstitial gingivitis. This drug has a very decided tendency in certain subjects to cause, even in small doses, marked stomatitis and irritation of the mucous membranes throughout the body.

Tartar emetic and other preparations of antimony, producing iritation of the mucous membranes of the

4. Birmingham Medical Review, 1887.

mouth, and elsewhere, may act as predisposing and exciting factors of interstitial gingivitis.[5]

Among the drugs which should be taken into account in the etiology of interstitial gingivitis is potassium bromid. This produces in certain individuals, or when given to excess, marked increase of the saliva with irritation of the mucous membranes of the mouth, followed

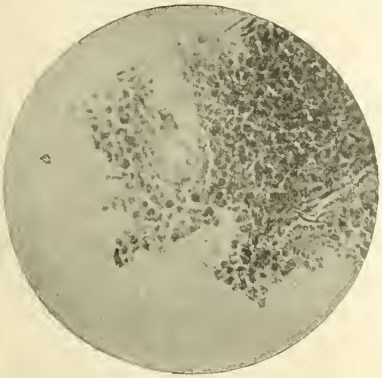


Figure 21.

later by dryness of the mouth and shrinking of the gums. The bromids have, as H. C. B. Alexander[6] has shown, a tendency to irritate all the mucous membranes of the body as well as the skin. Therefore, in dealing with cases of interstitial gingivitis in which the bromids are being taken, this factor should not be neglected. In these cases the symptoms due to the bromids are apt

Figure 22.

to be charged to the nervous state for which the bromids have been given. The irritation of the mucous membrane by the bromids may occur quite early among the untoward effects produced by them. In all probability the bromin rather than the alkali is the source of these untoward effects.

What is true of the bromids is also true to an even greater degree, as has elsewhere been shown of the iodids.

The poison in the blood, together with the diseased peripheral nerves, produce irritation and inflammation of the inner coat of the capillaries. If this irritation does not disappear soon after its inception, the inflam-

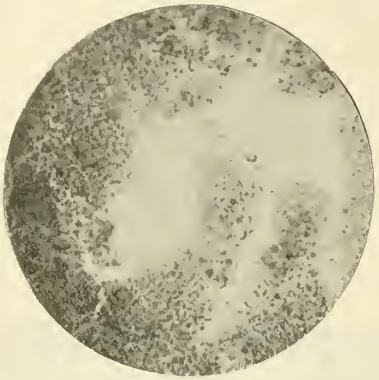


Figure 23.

mation tends to affect the other coats of the blood-vessels. Under certain conditions, endarteritis may, however, never involve the other coats of the vessels. When irritation of the inner coat of the capillaries takes place proliferation of the endothelium occurs. This inflammatory growth tends to obstruct the lumen of the vessel. The media may likewise become thickened by

Figure 24.

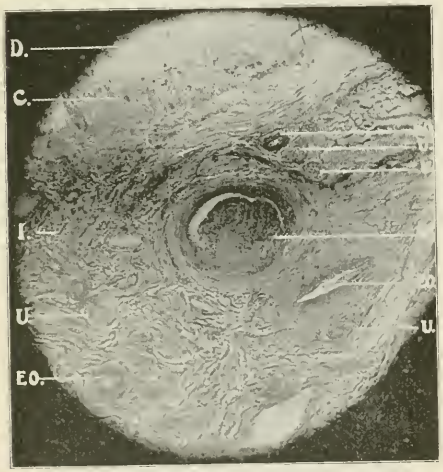
an increased connective tissue. The capillaries become obstructed, and finally obliterated. This finally impedes the circulation. Fig. 25 shows such a condition in the scurvy case, elsewhere illustrated.

Irritation may be of less intensity but greater duration, as in case of syphilis, tuberculosis, scurvy, mercurialism, plumbism, etc., and the results are then slowly effected. Proliferation of sub-endothelial connective tissue gradually increases until it reaches its limit (endarteritis obliterans). This influence of the pro-

5. Lewin: Untoward Effects of Drugs.
6. Alienist and Neurologist, July, 1896.

liferation is exerted in addition to that of the round-cell infiltration about the structure.

The recent studies of Hektoen[7] on meningeal tuberculosis demonstrate that tubercle bacilli may penetrate the unbroken endothelial layers of the vessel and stimulate marked proliferation of the sub-endothelial connective tissue. An internal irritant, such as may be produced in the course of any infectious disease or from suboxidation, probably acts upon the endothelium of the walls of the smaller blood-vessels in such a way as to permit the escape through the walls, first of serum, then of leucocytes, the latter infecting and surrounding the vessels. The effect of the chronic endarteritis is to check the blood supply to the gum tissue. Mercury, lead, and other poisons circulating through the blood are forced to remain, hence discoloration of tissue along the gum margin. Interstitial gingivitis, resulting in a slow disturbance of nutrition, produces overgrowth of connective tissue. In all cases of chronic interstitial gingivitis, as shown in the illustration, blood-vessels are thus involved.




X 150. D. D. obj. Zeiss.

Fig. 25.—Cross-section of Peridental Membrane, Showing Endarteritis Obliterans. Scurvy in Man.—C, Cementum. D, Dentine. I, Peridental membrane. U, Nerve tissue. EO, Endarteritis obliterans.

Among the predisposing influences which cause this disease are syphilis, tuberculosis, mercurialism, plumbism, brass poisoning, lithemia, nephritis, gout, rheumatism, alcoholism, nervous diseases, pregnancy and old age. Under certain conditions of the system any and all diseases which tend to lower the vitality, producing anemia, will assist in producing this disease. The direct cause may be resultant overstrain of the blood-vessels.

Owing to obliteration of the arterioles in the alveolar process, stasis of the blood must follow. The detritus from the alveolar process, therefore, must remain in the tissue and collect upon the roots of the teeth.

The reason disturbances of the system manifest themselves so readily upon the gums and alveolar process, is due to their unstable and transitory nature, hence the marked impression made by autointoxication and drug poisons.

In conclusion, I would say that the etiology of this disease may be divided into local and constitutional causes. The local may be due to irritation about the gingival borders of the gums, such as tartar, crown and bridge work, etc. The constitutional causes are autointoxication and drug poisoning. These act by direct irritation through the peripheral nerves and the blood streams (as shown in the experiments by mercurialization of dogs) setting up the inflammation in the capillaries extending throughout the alveolar process and gum tissue. Endarteritis obliterans results, cutting off the blood supply. A new source of danger to be guarded against is the administration of drugs, more especially those of mercury.

The question has arisen whether there exists a specific bacterium which bears the same relation to the pyorrheic stage that the streptococcus does to streptococcus diphtheria. This question, raised by Galippe, must, in the light of careful research, be regarded as settled in the negative. No special bacterium has been found which complies with the laws of Koch. Dogs are liable to this disease. Galippe had but to infect their gums with his bacterium to demonstrate its specific pathogenic activity. He has not done this. As the researches (already cited) also failed to find a bacterium which could comply with this test required by the laws of Koch, it must be admitted that there is no bacteriologic evidence of a specific bacterium. Furthermore, the pathologic evidence demonstrates that bacteria play the very subordinate rôle in this disease that they do in ordinary wound infection.

7 American System of the Practice of Medicine, p. 119.

# Clinical Reports.

## REPORT OF A CASE OF PUERPERAL ECLAMPSIA, WITH RECOVERY.*

JAMES E. DAVIS, M.D

DETROIT, MICH.

There is nothing unusual in this case. It is reported because each experience teaches us lessons which may be mutually profitable.

L. S., aged 20, moderately well nourished, and weighing 120 pounds, with previous health good, period of gestation complete and normal, was in labor about fourteen hours. Examination showed dilatation nearly complete, vertex presenting, pains strong; pulse 86, character good, excepting a slight high tension; action regular. After about fifteen minutes, during which time there were some four or five pains, descent had taken place almost to the perineum and the membranes had ruptured, when, without warning, a convulsion lasting about one minute occurred, manifesting about all the classic symptoms. The stertorous respiration, opisthotonus and depression of pulse were very marked. A semi-comatose condition ensued for about forty minutes, when a second convulsion lasting about thirty seconds occurred. This was followed by a condition of extreme irritability with threatening convulsive seizures for a little over two hours. During this time the pulse was an interesting study, the average rate being 160. Immediately after the first convulsion the character was decidedly thready and irregular, some beats showing high tension, and some being almost imperceptible. Improvement was gradual, and in three hours the rate was 96 and the character improved. A quiet and sound sleep ensued and lasted eight hours with but two waking periods aggregating forty minutes. The subsequent course of the case up to the present, which is eight days, has been uneventful, excepting that on Sunday, the fifth day, a slight convulsion occurred lasting but a few seconds, with succeeding slight stupor for two hours.

*Treatment.*—The patient was first seen by the writer eleven

* Read before the Detroit Medical Society, Jan. 30, 1901.

days prior to confinement. There was nothing in the appearance of premonitory eclampsia symptoms, excepting a slight edema of the face, feet and legs. Examination of the urine gave the following: sp. gr., 1022; reaction, slightly acid; albumin 1 per cent.; urea about 2.5 per cent.; quantity passed in twenty-four hours, 45 ounces.

An exclusive milk diet was ordered, with a daily cathartic of Rochelle salts and ½ oz. of infusion of digitalis three times a day. Daily baths and plain water *ad libitum*.

Immediately after the onset of the first convulsion chloroform was administered during the period of spasm, followed by ½ dram of fluid extract of veratrum viride. Chloroform was next resumed and a forceps delivery performed quickly and easily. The child was normal and strong. The placenta was delivered without difficulty, in about ten minutes; hemorrhage following was normal. The bladder contained 2½ ounces of urine, which was drawn by the catheter soon after delivery. Analysis: sp. gr. 1022; reaction, acid; urea, 2.5 per cent.; albumin, 2 per cent.; a large number of granular and hyaline casts, some of which contained pus cells.

Strychnia sulphate—1/60 grain—was given hypodermatically at the end of the placental delivery, to support the heart; in about half an hour after this, morphia sulph., ½ gr. The second convulsion was controlled, as the first, by a few whiffs of chloroform. The pulse and nervous symptoms now became gradually quieter and 30 grains of chloral hydrate was given in 16 ounces of water, per rectum. Two hot-water bottles were kept under the lumbar regions. At 7:30 o'clock, 3½ hours after the first convulsion, perspiration was very free and the patient relaxed into a quiet sleep.

Subsequent treatment has been potassium citrate, 1 dram in 8 ounces of water every two hours, free catharsis daily, and free perspiration once daily, which was secured easily by the hot-water bottles.

During the first thirteen hours succeeding delivery, 10 ounces of urine were secreted, and since this time from 35 to 45 ounces daily. A milk diet has been rigidly enforced.

Repeated examinations of urine show persistent albuminuria, though much reduced in severity.

831 Fort Street, West.

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## CESAREAN SECTION THREE TIMES IN THE SAME PERSON IN SIX AND ONE-HALF YEARS.

J. W. COAKLEY, M.D.

MT. ETNA, IA.

August 3, 1893 I was called to see Mrs. P., aged 30 years, in her fourth pregnancy. She had had previously one abortion, and I had performed craniotomy in two preceding labors on account of a contraction of the pelvis. Its conjugate diameter was but two and a half inches. I decided not to destroy this, the fourth child, and the mother consented to an operation. I operated on the morning of August 4, assisted by Drs. Sweet and Bryant. Every antiseptic detail was carried out. I made an incision to the peritoneum, through the abdominal wall in the median line, from 4 inches above the umbilicus to within 2 inches of the pubes. The peritoneum was opened on a grooved director with scissors and the uterus lifted bodily outside the abdominal cavity and wrapped in hot antiseptic towels. The upper part of the wound was temporarily closed with silver sutures to retain the abdominal contents; a broad, flat sponge was wrung out in hot boric acid solution, and placed posterior to the uterus over the abdominal incision for further safety; a rubber ligature was passed around the neck of the uterus to prevent hemorrhage. The peritoneum being opened, an incision 4 inches long into the uterus and penetrating to the sac was then made, and the child was removed with membranes intact; no vessels of any size were severed. The rubber ligature was taken off, uterus washed out with hot antiseptic solution. The edges of the wound of the uterus were brought together with catgut, about half an inch apart, made with a curved needle, quarter of an inch from the edge of the incision through the muscular tissue of the uterus, but not including the mucous membrane. Sutures were tied firmly, but not so tight as to strangulate the enclosed tissue.

For the purpose of approximating still more the edges of the incision, a set of superficial stitches of silkworm gut were inserted between the other stitches about quarter the thickness of the uterine walls. Then uterine incision was dusted with iodoform. We concluded not to irrigate, because no blood or septic material was found within the abdomen. The peritoneum was united with continuous sutures of silkworm gut; the abdominal wall was next coaptated with interrupted sutures of silk, the whole wound being dressed with iodoform gauze and absorbent cotton. The next day her temperature was normal and but for slight vomiting from the effects of the anesthetic, the patient was quiet.

On the third day, she had a little fever for the first, owing to secretion of milk; the temperature of 100 lasted one day. On the fourth day temp. normal and she furnished milk for infant and was anxious for food to appease her own appetite. On the fifth day, bowels moved and temp. normal.

On same day dressings were changed, wound completely healed by first intention. On the tenth day, no untoward symptoms. On the 21st day patient walked through house, and felt as well as ever, excepting muscular debility.

I was again called to see this woman in labor at full term pregnancy on July 27, 1895. I was assisted in this operation by Drs. Sweet, Salts and Davis. This time the case was somewhat complicated by reason of the placenta being attached near and over the os uteri, as in case of placenta previa. I cut through the former cicatrix and found the wall of the uterus to be extremely thin.

The rubber ligature was tightened, the child turned, to save time, membranes were ruptured, child removed and turned over to Dr. Salts.

Placenta quickly removed with all adherent portions of decidua carefully separated, all subsequent details finished as related in first operation. The patient did not lose more than an ounce of blood at most; neither had I to ligate, nor to use torsion on any vessels. Her temperature rose one degree above normal on the third day at the appearance of the milk.

During a subsequent pregnancy in the same patient her husband came to me about the eighth month and informed me that his wife was pregnant and wished another operation. He thought his wife was in average health for her; I called on her in about ten days from that time to make some arrangement for the operation. This visit was in February, 1900, and I was surprised to find my patient in rather poor health, with urine quite heavily loaded with albumin; considerable headache and other symptoms belonging to this condition.

I put her on treatment to build up system and relieve kidney trouble. I was again called to see her in labor on March 2, 1900, and being about 20 miles out in the country, I was called by telephone in the afternoon. I did not arrive in time to operate, that day, so I gave morphia to control pains and postponed the operation until the next morning and had patient prepared, as in the two preceeding operations. Next morning, March 3, I gave patient morphia and atropin with strychnia.

At this operation I had as assistants Drs. Sweet, my son, a medical student, and Miss Belle Shaw as special nurse.

After the patient was under full anesthesia, I made an incision down to the peritoneum, through the abdominal wall. I found the peritoneum adhered to the uterus, also to the abdominal wall in places. I cut down at the side of the old cicatrix, which in my opinion, is the best way.

I broke up the adhesions and lifted the gravid uterus bodily outside of the abdomen, wrapped it in hot towels and made an incision 4 in. long in the uterus, after placing a gauze pad under and around the uterus to prevent any amniotic fluid from getting into the abdominal cavity. This time I did not use the rubber ligature and would not do so again, as it certainly will injure the tissues of the uterus, if placed around tight enough to control hemorrhage.

In 13 minutes from the time I commenced the operation, I had completed all, and was ready to tie the abdominal sutures. The wound was dressed in same manner as in preceding operations. There was but one-half ounce of chloroform used during this, the third operation. The mother was awake and making inquiry of nurse as to whether the babe was a girl or a boy in twenty minutes from time operation commenced.

The next day after operation temperature normal; some nausea from effects of chloroform. Third day: temperature normal. Fourth, 1.5 above normal. Fifth day: bowels moved, temperature normal, dressing changed, found incision hermetically sealed by first intention. We used intra-uterine douches, as before, for first four days only. There were no untoward symptoms after fifth day and patient made a rapid recovery.

Having sold their farm, they moved a distance of 3 miles on the 20th day, with no bad effects whatever. The oldest child, a bright little girl, is attending school and her teacher claims the honor of teaching one pupil that was never born.

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The large amount of space occupied by the Index in this issue necessitates the entire omission of some of the departments, and a reduction in the amount of space devoted to others.

## THE INDEX OF AMERICAN MEDICAL LITERATURE.

There is one part of the Index printed in this issue of The Journal to which we desire to call attention. It has been a feature of the last four volumes, and yet it has been lost to many of our readers, because its nature has not been known. The feature referred to is the Index to American Medical Literature, commencing on page 1878. This is, in truth, an "Index Medicus" of American Medical Literature, covering, as it does, practically all the original articles in all the reputable medical journals of this country and Canada, except those which appeared in The Journal. Under "Index of Authors" is given the name of every author who has published a paper in the journals during the six months, giving references which include the titles of papers and where published. The Index to the titles is crossed sufficiently to enable one to look up any subject.

This phase of our index takes a large amount of labor and we do not hesitate to call attention to it thus prominently, believing that this effort on our part needs only to be known to be appreciated. The Index of American Medical Literature will be issued separately, and bound, with the titles as these were printed in The Journal each week. It will make a ready reference to authors, titles and subjects comparatively easy. This will be supplied to members and subscribers at 10 cents, and to others at 25 cents.

## SERUM DIAGNOSIS OF BLOOD FOR FORENSIC PURPOSES.

The determination of the nature of traces of blood for forensic purposes is a very difficult problem, which often can not be cleared up sufficiently to afford definite aid to the administration of law and justice. Soon after the discovery, by Bordet, of cytotoxins produced by injecting the blood of an animal into another animal of a different species, it was found that hemolytic serum also has a precipitating action. It has been shown by Nolf that the precipitation develops as the result of the injection of serum without admixture of red corpuscles. Like the hemolytic action, the precipitating property is also strictly specific, becoming evident only when the serum is mixed with the blood of the species that furnished the blood for injection. Deutsch[1] found that prepared serum has the same—both hemolytic and precipitating—action on dried as on fresh blood, and thus the idea developed that serum diagnosis might be made available for forensic purposes. The method of preparation of hemolytic and precipitating serum for human blood consequently becomes an important question. In general, Deutsch has found that three injections into the subcutaneous tissue of rabbits, of 10 c.c. of sedimented red corpuscles, repeated at intervals of seven days, gives a strong hemolytic serum, which, when diluted four times with an emulsion made with dried human blood, causes complete solution of the fragments and scales of red corpuscles at the same time as a granular precipitate forms. Such experiments are made best in capillary tubes or as hanging-drop preparations, which are placed in the incubator for some hours. It should be repeated that the serum prepared as stated above has no such action upon the red corpuscles of any other animal. Deutsch emphasizes the important point that hemolytic serum acts upon ordinary dried blood, but not upon blood corpuscles that have been "fixed" by alcohol, formalin, heat or any of the other methods of fixation.

Uhlenhuth, Wassermann and Schütze, and others also have pointed out the forensic importance of the precipitation which takes place when prepared serum is mixed with the serum of the animal species which furnished the injected blood; and this method may be found of service, especially when the blood trace or spot is so old and dry that intact or approximately intact corpuscles no longer are present at all. But in the case of more recent blood it would seem that use might well be made of the dissolving action as well as of the precipitating action of the prepared serum. We have here another example of the eminently practical application of observations which at first seemed eminently scientific and abstruse.

## MEMBRANOUS ENTERITIS.

Some difference of opinion prevails as to whether the curious disorder attended with the discharge from the bowel of masses or shreds or bands or tubes of mucus is really a single affection or represents two distinct diseases, both etiologically and clinically. Some writers speak of mucous colic and of membranous enteritis, the former being looked upon as an intestinal neurosis, characterized by severe paroxysms of abdominal pain, associated with the discharge of membrane from the bowel and unattended with anatomic alteration; while membranous enteritis is attended with slight pain and exhibits the anatomic features of chronic catarrh of the intestine. In both the formation of membrane must be attributed to a secretory neurosis, in the one idiopathic—that is, without obvious cause—and in the other secondary to the intestinal condition. Some observers

1. Centralbl. f. Bakt., Abt. I, 1901, xxix, 661.

contend for the existence also of a sensory neurosis.

An interesting group of cases illustrating the various phases of the disorder under consideration is reported by Dr. H. Westphalen,[1] from a study of which, in conjunction with the opinions of others, he dissents from the view that makes a separation of mucous colitis and membranous enteritis as distinct affections. Both are believed to be of like etiology. The formation of the so-called enteritic membrane is attributed to excessive secretion of intestinal mucus of neurotic origin and as a result of which alone abnormal amounts of amorphous mucus are discharged. If, however, there be associated with this a spastic state of the bowel the excessive amount of mucus is compressed and band-like formations are expelled. If the discharge is attended with severe pain the assumption of a simultaneous sensory neurosis of the intestine seems justifiable. Westphalen calls attention also to the association that has been noted between membranous enteritis and intestinal sand, and of this he reports two illustrative instances.

The treatment of the disorder in question should be directed to the relief, by dietetic means, of constipation, when this is present, and substances rich in cellulose have been recommended for this purpose. Besides, mild enemata with simple infusions of warm water or with the addition of sodium chlorid, sodium bicarbonate, Carlsbad salt or aromatics may be given, or injections of oil. For the improvement of the nutrition starches and fats may be added to the food. Small amounts of oil may also be taken by the mouth, and at times bromid or opium, or belladonna may be administered with advantage. The state of the nervous system should be improved by exercise, gymnastics, hydriatic measures, and the like, and a partial or complete rest-cure may render valuable service.

## PNEUMOTHORAX IN THE ABSENCE OF DISEASE OF THE LUNGS.

Air may gain entrance into the pleural cavity as a result of perforating wounds of the chest, or of perforation through the diaphragm or the esophagus or the lung. The last-named event commonly occurs in consequence of disease of the lung or the pleura, but rarely it is due to rupture of air-vesicles from overdistention or from succussion, as in coughing, sneezing, laughing, and the like. Even under such conditions, however, it is probable that there must have been a weak point in the lung, perhaps the seat of emphysema or a pleural adhesion.

A remarkable instance of this sort is reported by Dr. B. Stiller,[1] who was called urgently to see a young man whom he had previously treated for a mild attack of nervous dyspepsia. The patient was found in great distress, in a semirecumbent posture, and it was learned that he had been seized suddenly an hour before with unbearable epigastric pain, after a violent paroxysm of sneezing. On examination, a large tumor was found in the epigastrium, yielding dulness on percussion, and which, it was concluded, was the liver, displaced downward and inward, and rotated forward upon its transverse axis. The right half of the chest was distended to its utmost, and immobile in respiration, with the percussion-note clear, but not tympanitic, on account of the great tension; vocal fremitus was absent. The heart was displaced to the left, the apex-beat being situated in the anterior axillary line. The respiratory murmur was amphoric on the right side, but metallic, ringing râles, as well as succussion splash, were wanting. There was no doubt that the condition was one of pneumothorax, with displacement of the liver from the concavity of the diaphragm. Suffering was relieved by injection and internal administration of morphin, and in the course of a day the liver had returned to its usual situation, though possibly a little lower than normal. In the course of a week, all signs of pneumothorax had disappeared. At no time was there any evidence of effusion into the pleural cavity. It is believed that, as a result of rupture of a subpleural air-vesicle, air was pumped with each inspiration from the lung into the pleural cavity, from which its escape was prevented by a valve-like formation, and finally causing the extreme displacement of the liver noted. The opening, fortunately, soon closed, and the air was speedily absorbed. So far as could be ascertained, the lungs were healthy.

1. Berliner Klin. Woch., 1901, Nos. 14, 15 and 16.
1. Wiener Med. Woch., 1901, No. 18, p. 857.

## A REMARKABLE SURVIVAL OF SEVERE INJURIES.

What the human organism can stand in the way of injury, at least temporarily, is not yet absolutely determined. Every little while there appear presumably authentic reports of individuals surviving for hours, or even for longer periods, mutilations and injuries of supposed vital organs that are usually considered inevitably and immediately fatal. A recent case of this kind is reported by W. H. Clayton Greene,[1] that is of some curious interest. A man fell from a ladder and was impaled upon an area railing. He was removed to the hospital, and when seen a little later was pulseless, but the heart could be felt beating feebly and irregularly. There was a large gaping wound of the left hypochondrium, and it appeared that several ribs were fractured and hemorrhage had been excessive, but the condition of the patient prevented a detailed examination at this time. Under the influence of strychnin injections, hot applications, and saline solutions per rectum and the basilic vein, he rallied so that in less than one and a half hours the pulse was easily felt, and the wound was explored as far as practicable, but the source of the still-continued bleeding could not be definitely made out. About three and one-fourth hours after his reception an attempt was made to control hemorrhage; he was anesthetized and the wound again explored and found so extensive as to forbid surgical interference. The patient died nine hours after reception, and the autopsy revealed fracture of five ribs, perforation of both walls of the stomach from before backward, perforation and

1. The Lancet, June 8.

laceration of the diaphragm, extensive collapse of the left lung, and perforation of the pericardium and left ventricle of the heart. While this case is not altogether unique in its severity, being, indeed, less obviously remarkable than that of the man who for some time survived being cut in two on a railroad in North Carolina, noticed editorially at the time in THE JOURNAL, it is still striking enough to call for attention. Perforation of the left ventricle by an iron fence paling, without immediate death, is certainly remarkable enough, but the wound was a lacerated or punctured one and probably valvular, so to speak, to some extent. The case, as Greene remarks, illustrates the vitality of the body after such injuries, and the value of normal salt solution, which in this case must have compensated largely for the loss by hemorrhage. Survival was impossible, but that he should have lived nine hours after such an injury seems almost miraculous.

## Medical News.

(The usual amount of News has been crowded out on account of the Index.)

### CALIFORNIA.

**Dr. John M. Kane** has been appointed city bacteriologist of Oakland, the appointment to take effect July 1.

**Dr. Frederick W. Hatch,** Sacramento, was reappointed general superintendent of the State Hospitals, June 10.

**Dr. A. H. Giannini,** San Francisco, who has recently returned from an eighteen-months' tour of Europe, was given a banquet by his professional and lay friends, June 8.

**The College of Medicine of Southern California,** Los Angeles, held its sixteenth annual commencement, June 13, graduating a class of eighteen. The Faculty address was delivered by Rev. George T. Dowling, on "Originality."

### CONNECTICUT.

**Dr. Ellen Pembroke O'Flaherty,** Hartford, has been appointed assistant physician in the Sanatorium at Santa Clara, N. Y.

**Prof. Edmund B. Wilson,** of Columbia University, delivered the annual address in Medicine at Yale University, June 25, on "The Higher Claims of Minute Search in Biology and Medicine."

**Hartford Medical Society** received a donation of a portrait of the late Dr. Melancthon Storrs, painted by Charles Noel Flagg. William M. Storrs, in behalf of the other children, sent with the portrait a letter of presentation through Dr. George Shepherd, the president of the society.

**New Britain Hospital** has appointed the following on its staff for the ensuing year: Drs. Erastus P. Swasey, Lawrence M. Cremin, W. H. Barton and John E. Martin, acting staff; Drs. Robert M. Clark, Jay S. Stone and J. Norris Ball, Plainville, consulting staff; Dr. George J. Holmes, oculist and aurist; Dr. Kenneth E. Kellogg, neurologist, and Dr. Joseph B. Brocksieper, dermatologist. The directors have decided to equip a pathological laboratory.

### FLORIDA.

**The Board of Medical Examiners** met at Tallahassee on May 14 and admitted two applicants to practice medicine in the state.

**The Plant System Hospital,** at Sanford, has been closed for reasons of economy. As the hospital at Montgomery, Ala., has also been closed, this leaves only two of the Plant system hospitals in operation, those at Waycross, Ga., and High Springs, Fla.

**Central Florida** is to have a national sanatorium for tuberculosis, located where the advantages of climate and water can be secured, without excessive humidity. Dr. James K. Crook, New York, has been making investigations throughout the state with this object in view.

**Quarantine Station Leased.**—The State Board of Health has leased to the United States treasury department, through the marine-hospital service, the quarantine stations, except Mullet Key stations in Tampa bay belonging to and operated by the State Board of Health of Florida, for a period of three years.

### GEORGIA.

**The Prison Commission** has failed to sustain the charges of incompetency and neglect of duty made by the conviet lessees against Dr. Hugo Robinson, of Albany, and he has been fully exonerated.

**The Presbyterian Hospital** at Atlanta has elected the following medical board: Drs. Marion McH. Hull, president, and E. Bates Block, general medicine and diseases of children; Drs. Stephen T. Barnett and Cyrus W. Strickler, general surgery; Drs. Edward C. Davis and James N. Ellis, gynecology and obstetrics; Drs. Walter B. Emery, secretary, and James McFadden Gaston, Jr., genito-urinary surgery; Drs. Arthur G. Hobbs and James M. Crawford, eye, ear, nose and throat; Dr. Michael Hoke, orthopedic surgery, and Drs. Miller B. Hutchins and John L. McDaniel, diseases of skin and nervous system. The hospital will be opened July 1.

### ILLINOIS.

**Dr. Lincoln M. Bowman** has been elected physician of Alton, and Dr. Edward C. Lemen, of Upper Alton.

**Dr. R. Homer Mead,** Camden, has been appointed superintendent of the warden's part of the state penitentiary at Chester.

**Dr. Edward L. Birch,** Robinson, has been appointed assistant physician of the Illinois Northern Hospital for the Insane at Kankakee.

**St. Francis Hospital,** Freeport, received $10,000 from the estate of the late Dr. W. S. Caldwell. It is directed that this sum be invested and its interest used for the treatment and care of the sick poor.

### GENERAL.

**Dr. Henry L. E. Johnson,** Washington, D. C., secretary of the Board of Trustees of the AMERICAN MEDICAL ASSOCIATION, was married to Miss Eugenie Taylor, also of Washington, June 19. On their return from their wedding trip Dr. and Mrs Johnson will occupy their new residence at 1821 Jefferson Place.

**Congress on Tuberculosis.**—It is much to be desired that a large contingent from the United States should participate in the work of this Congress, which will be held in London, July 23 to 26. Many prominent physicians have signified their intention of joining the Congress. Members of the profession wishing to do so should send their names, inclosing five dollars, to Dr. St. Clair Thomson, 20 Hanover Square, London, W., England.

**The "Atlanta Institute of Christian Science,"** which applied for a charter, has been denied recognition by Judge J. H. Lumpkin, who holds that "Christian Scientists" cannot practice their treatment of diseases in the state of Georgia without having regularly graduated in medicine or passed an examination before the medical examining board, the same as other physicians. He holds that, according to the decision of a case in the Supreme Court of Nebraska, Christian Science is the practice of medicine, and that the practice of medicine in Georgia, according to the state law, must be accomplished by persons who are regularly graduated from a medical school.

## Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), June 15.

1 *Decortication of the Lung for Chronic Empyema. George Ryerson Fowler.
2 *A Study of Some Complications and Sequelæ of Typhoid Fever. H. A. Hare and H. R. M. Landis.
3 "The Porro-Cesarean Operation," with Report of Two Successful Cases. James H. Glass.
4 *The Treatment of Scarlatinal Nephritis. Charles Gilmore Kerley.

American Medicine (Philadelphia), June 15.

5 *Pulsation of the Uvula in Aortic Insufficiency. David Riesmann.
6 *Prevention and Cure of Post-operative Hernia. James E. Moore.
7 A Few Useful Points in the Symptomatology of Eye Diseases Applied to General Practice. Henry Bassett Lemere.
8 *Formalin in the Treatment of Suppurative Otitis Media. Nathan G. Ward.
9 Synchronous Amputation of Both Thighs for Gangrene of Feet under Special Cocainization. George G. Hopkins.
10 *Permanent Gold Preparations. Emma L. Billstein.

11 An Improved Bedstead for Invalids. E. E. Munger.
12 Excessive Eosinophilia in Trichiniasis. A. J. Patek.

Medical Record (N. Y.), June 15.

13 *A Note on the Spread of Yellow Fever in Houses. Extrinsic Incubation. H. R. Carter.
14 *On the Origin of Cancer; What Remains to Be Demonstrated. Samuel W. Baudler.
15 *The Redundancy of the Pre-insula in the Brains of Distinguished Educated Men. Edward A. Spitzka.

New York Medical Journal, June 15.

16 An X-ray Study of the Causes of Disability Following Fractures Involving the Elbow Joint. Samuel Lloyd.
17 *A Modified Urethral Dilator-handle. Ferd C. Valentine.
18 Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); A Clinical Study. (Continued.) H. Illoway.
19 Penetrating Wounds of the Abdomen. Russell S. Fowler.
20 Paramyoclonus Multiplex. L. J. Morton.
21 A Case of Cerebellar Apoplexy with Autopsy. Leonard Weber.

Boston Medical and Surgical Journal, June 13.

22 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
23 *Some Observations on Chronic Seminal Vesiculitis. Arthur L. Chute and Richard F. O'Neil.
24 *Iodophilia. Theodore Dunham.
25 Cystic Tumor of Median Nerve; Operation; Restoration of Function. A. S. Hartwell.

Philadelphia Medical Journal, June 15.

26 *The Topical Treatment of Focal and Jacksonian Epilepsy. J. William White.
27 *Theoretical and Practical Considerations on the Treatment of Jacksonian Epilepsy by Operation; with the Report of Five Cases. (To be continued.) James Jackson Putnam.
28 *What I Have Learned from 161 Operations for the Relief of Senile Hypertrophy of the Prostate Gland. (Continued.) Orville Horwitz.
29 The Value of the Combined Medical and Surgical Clinic to the Student. Robert G. LeConte.
30 A Case of Abdominal Pregnancy. Augustus C. Rehle.
31 Specialism and Some of Its Relations to the General Practice of Medicine. Henry Wallace.

Cincinnati Lancet-Clinic, June 15.

32 *Diagnosis of Typhoid Perforation. Mark A. Brown.
33 Surgical Interference in Typhoid Perforation. N. P. Dandridge.
34 The Curette and Packing in Endometritis. J. M. Withrow.

St. Louis Medical Review, June 15.

35 *Insanity in Women from the Gynecologic and Obstetric Point of View. A. Lapthorn Smith.
36 A Case of Puerperal Sepsis. Willis Hall.

Medical Council (Philadelphia), June.

37 Disorders of the Sexual Function in Man. A. H. P. Leuf.
38 The Biography of Culex. J. J. Hanley.
39 Idiosyncrasies. Carroll Kendrick.
40 Some Reminiscences from My Obstetric Experience. W. H. Thomas.
41 Diphtheria Successfully Treated with Pilocarpine. J. A. Muenich.
42 The Injection Method for the Relief and Cure of Hernia. C. Fletcher Sonder.

American Journal of Insanity (Baltimore), April.

43 Some Points in the Treatment of the Chronic Insane. Francis O. Simpson.
44 *Notes on the Contracts and Torts of Lunatics, with Special Reference to the Law of Maryland. William H. Buckler.
45 Heredity. J. T. Searcy.
46 Insane or Criminal? George J. Preston.
47 Death of an Insane Man from Fracture of Skull and Hemorrhage of the Brain; Skull Abnormally Thin. A. R. Moulton.
48 The Relation of Mental Content to Nervous Activity. E. B. Delabarre.
49 *Mental Therapeutics in Nervous and Mental Diseases. Richard Dewey.
50 Signs of Degeneracy and Types of the Criminal Insane. Chas. A. Drew.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), June.

51 Therapeutic Notes on Sulphur Cream, Goose Grease, and Crude Petroleum. George Thomas Jackson.
52 *A Modification of Cock's Method of Performing External Urethrotomy Without a Guide. Percy R. Bolton.
53 Case of Prostatectomy. James Bell.
54 Multiple Nodular Melanosarcoma of the Skin from a Nevus. A. Ravogli.

St. Louis Medical and Surgical Journal, June.

55 A Case of Disseminated Seborrheic Epithelioma. A. H. Ohmann-Dumesnil.
56 Fever. Benjamin H. Brodnax.
57 Observations and Tabulated Report of the Result of 150 Operations for Appendicitis. Leon Brukman.
58 A Contribution to the Modern Treatment of Piles. Dr. Jedlicka.

Cleveland Medical Gazette, June.

59 *Diagnosis of Meningitis. Charles J. Aldrich.
60 *Albumosuria as a Diagnostic Aid in Diseases of the Osseous System. Walter G. Stern.
61 *Albuminuria of Adolescence and Cyclic Albuminuria. H. J. Lee.

Southern Medical Journal (La Grange, N. C.), May.

62 Circumcision. Israel Brown and Stanley H. Graves.
63 Malaria: A Clinical Report. J. W. P. Smithwick.
64 Cholera Morbus. A. S. Buchanan.
65 Treatment of Opium and Morphin Habit. J. W. P. Smithwick.
66 *Abdominal Versus Vaginal Hysterectomy. Henry O. Walker.

Nashville Journal of Medicine and Surgery, May.

67 A Case of Traumatic Separation of the Symphysis Pubis Complicated by Rupture of the Bladder and Urethra, and Extensive Urinary Infiltration—Operation and Recovery. Charles S. Briggs.
68 Jacksonian Epilepsy, with Report of a Case. E. G. Wood.

Charlotte Medical Journal, May.

69 Materia Medica and Therapeutics. J. A. Reagan.
70 The Use of Continuous Silver Wire Sutures in the Closure of Abdominal Incisions and the Radical Cure of Hernia. L. B. McBrayer.
71 Dacryocystitis. W. W. Duson.
72 The Treatment of Alcoholism. H. L. Baird.

## AMERICAN.

1. **Decortication of the Lung.**—Decortication of the lungs is a term applied by Fowler for designating the procedure intended to relieve the lung of its environment in cases in which expansion is prevented or interfered with by the presence of greatly thickened pleural covering. He reproduces here in abstract a case of the first observation of this kind published by him in 1893. He reviews the literature and experience with the operation so far as known up to the present time. His conclusions are: 1. Decortication of the lung is an operation adapted to all cases of old empyema in which extensive and pre-operatively discoverable tuberculous lesions of the lungs are not present, and in which the patient's condition will permit of a major operation. 2. It may be advantageously substituted for Estlander's operation in the majority of instances in which the latter has been considered, up to the present time, as being indicated, since it is more a rational procedure in that it combines the advantages of restoration of function of the lung, so far as this is possible, with closure of the empyemic cavity. 3. It should replace Schede's operation in all cases. 4. The method by extirpation of the diseased portion of the pleural membrane, including the visceral, cortical, and diaphragmatic portions, is the operation of choice. 5. Failing this, visceral pleurectomy should be selected. 6. Pleurotomy, with simple detachment of the visceral layer of the diseased pleural membrane, gives sufficiently good results to warrant the surgeon in resorting to this procedure in cases in which the condition of the patient will not permit of the application of the other and more desirable methods. 7. Whatever operative method is adopted, as complete access to the cavity of the chest as possible should be obtained, and rapid closure of the opening in the chest-wall afterward secured, since the complete re-expansion of the lung must depend largely upon the normal respiratory movements. 8. Pulmonary or respiratory exercises should not be neglected in the after-treatment, since these aid greatly in the restoration of the function of the lung.

2. **Typhoid Fever.**—The complications and conditions noticed in the paper of Hare and Landis are those of typhoid fever in pregnancy, the frequency of typhoid in children and its symptoms in them as distinct from those in the adult, especially the temperature, eruption, and circulatory and nervous symptoms. He also discusses the facts in regard to typhoid fever in advanced years, the different forms of onset of the disease and the alimentary, respiratory, nervous and renal conditions at the beginning of the case.

4. **Scarlatinal Nephritis.**—After noticing some errors of treatment for the sequelæ of scarlet fever in its convalescence, Kerley asks: What is to be the management of a case in which exudative glomerular nephritis of average severity in a child,

with puffiness of the eyelids, edema of the feet and ankles, scanty, high-colored urine, fever, headache, and perhaps nausea, usually at three or five weeks after disappearance of the rash? The first step refers to the diet. Milk, broths, and thin gruels only should be given. The bowels should be moved two or three times daily. Small doses of calomel, one-tenth of a grain per hour, or citrate of magnesia are recommended for this purpose. Small doses of aconite, one-fourth minim every two hours for a child 3 years old, is prescribed usually as a routine measure, and he has found it a very useful drug in producing diaphoresis. In case this fails hot air is brought into use, being conducted under the bedclothes from a lamp, and if this fails hot packs may also be employed, while great care should be exercised as regards exposure. A very important remedy which he recommends is hot-water flushing of the colon; this he thinks is of more value in restoring the kidney function than any other measure. It may be used to advantage when the urine first becomes scanty, as well as when convulsions are threatened or present. For a child 3 years of age, 16 to 24 ounces of normal salt solution at 110 F. is introduced by a rectal tube, which should be inserted at least ten inches. The object is to have the water retained and the higher it is introduced the better. A pint to a pint and one-half every six hours does best in most cases. The child must be kept in bed until the urine has been normal for two weeks.

5. **Uvular Pulsation in Aortic Insufficiency.**—Riesman calls attention to the fact that pharyngeal pulsation in aortic insufficiency was first brought to the attention of the profession by F. Muellei in 1889 and that little reference to it has since been made. He reports two cases in which the phenomenon occurred. It is, of course, of the same nature as the capillary pulse and has no special diagnostic value, but the knowledge of its existence adds one more point to be looked for in the critical study of a case and sharpens the powers of minute observation.

6. **Post-operative Hernia.**—After first noticing a case of post-operative hernia, Moore gives the following method, which he has used for several years, in closing the abdominal wound: The peritoneum is first closed by a running stitch of medium-weight catgut. Silkworm-gut sutures are next passed through all of the tissues except the peritoneum by means of a full curved needle of a size suited to the thickness of the abdominal wall. The needle passes from without inward through the integument, fascia, muscle and deep fascia, coming out next to the peritoneum. It then passes from within out through the inner fascia, muscle, outer fascia and integument. In a very thin abdominal wall the needle can be passed through both edges of the wound at one sweep, but in most cases it is better to take them separately. These stitches are placed about a half inch apart. The fascia of the external oblique is next united by a running stitch of medium-weight catgut. All the ends of the silkworm-gut are now caught and pulled upon at once so that they are made taut, after which they are tied lightly. Extra skin sutures are applied when needed. The advantages are, that the peritoneal cavity is closed without delay, and there is no undesirable material left in the tissues to make future trouble. Suturing of the outer fascia gives such support that the silkworm suture need not be tied so tightly as to cause necrosis. The operation obliterates any dead space and yields permanently satisfactory results.

8. **Formalin.**—The use of formalin in the treatment of suppurative otitis media is advised by Ward. He finds that by the judicious use of formalin the following results may be obtained: 1. Fetid odor quickly disappears. 2. There is an early cessation of the discharge. 3. It protects against the formation of granulations, and small granulations are destroyed by alcoholic solutions. 4. It promotes healing of ulcerated mucous membrane, skin abrasions, and inflammation of the external auditory canal. 5. It retards, but does not entirely check, bone necrosis.

10. **Permanent Gold Preparations.**—The usual temporary nature of gold stain on nervous tissue is first mentioned by Billstein, who reports her results with a mixture made by 8 parts of a 1 per cent. solution of gold chlorid and 2 parts of formic acid boiled three times and then cooled. The tissue is put in the cold material, which must be kept in the dark. After one hour it is washed in distilled water and placed in a mixture of 10 parts of formic acid and 40 parts of distilled water and exposed to diffuse daylight. The reduction occurs at 24 to 48 hours, when the violet tissue is transferred to 70 per cent., and after 24 hours to 90 per cent. alcohol and kept in the dark for at least one week. It is then ready for final manipulation and may be teased and mounted in acidulated glycerol or imbedded and cut into sections. This method has been attributed to Stöhr, and is similar to Ranvier's technique, "Procede de l'or bouilli." Stöhr, however, advises longer boiling of the gold chlorid and formic acid mixture. The author has found the stain to remain permanently two and three years, and apparently it will endure indefinitely.

13. **Yellow Fever.**—Carter's article deals with the subject of house infection and gives illustrations showing the interval between the infection and the first appearance of yellow fever. The article was mainly written before the recent publication of the observations of Reed and Carrol at Quemados, and he says that they agree entirely with his result, the incubation after the mosquito bite being only slightly longer than that which he found from apparently infected houses, and Reed's theory agrees absolutely with the conclusions of this paper.

14. **Cancer.**—Bandler reviews the recent experimental researches on the origin of cancer. He quotes Cullen as stating that Gaylord has not in any case experimented with the cure culture and that the recovery of the organism from the cancer produced is hardly touched upon by him. He says, however, that as Gaylord's communication is preliminary the complete work may yet solve these problems. The larger part of his paper is a review of Leopold's work on the production of cancer from the injection of blastomycetæ and he admits that the causal relation of these organisms to the growths produced in animals must be granted. The decision concerning the character of these neoplasms and their actual relation to carcinoma and sarcoma is a question yet to be settled.

15. **The Pre insula.**—The relation between the development of the insula and mental development is the subject of Spitzka's article. E. C. Spitzka has shown in 1880 that the insula had a greater development in the porpoise than the human species, but it appears that the greater part of this development was in the post-insula, and the theory was offered that it had to do with the excessive development of the functions of audition and equilibrium in these mammals. The observations of Waldschmidt and Donaldson on the insula of deaf mutes are referred to, and also the theory that exposure of the insula indicates defective brain development. This last is apparently contradicted by results of examination of the brain of the Seguins previously published by Spitzka and it is possible that a similar exposure of the insula exists in the brain of Chauncey Wright, which is being examined by B. G. Wilder. In the human subject the development is greatest in the pre-insular portion and the conclusions to be drawn from the Seguin brains as correlated with their known abilities are: 1. In the highly intellectual (for example, the two Seguins), owing to the excessive growth and development of the left pre-insula causing a displacement of the opercula, thrusting them apart, as it were, and even though the latter be very well developed. 2. In the defective, exposure of the pre-insula is due to deficient development of the opercula, and because these fail to approach each other. In such cases the insula itself is, with a single exception in the series studied by me, of inferior development, indicated not only by the soundings of the Sylvian cleft, but also by the flatness of configuration, and lesser area of the insular cortex. A possible additional factor is that the deeper and more numerous the infractuosities of the insula the more numerous are the important branches of the medicerebral artery and the greater their caliber. Since the greater blood supply is presumably a condition of higher potency of function, insular development *per se* is an expression of general development in this other respect as well as in the purely morphologic one. He asks, putting the facts together of the relative proportions of the two extremities of the insula in the porpoise and in man, and in the light of Waldschmidt's

observation, would it be rash to propose that the post-insula shares in its development that of the auditory sense center, by virtue of association neurons with short axons, while the growth of the pre-insula is more in consonance with that of the true "speech-center" in the subfrontal operculum? After all, the development of the pre-insula is only an intense expression of that feature by which the human brain excels all other animals; for in no lower form do we find the insula so fully developed in its cephalic region.

17. **Modified Urethral Dilator-handle.**—The modification proposed by Valentine consists in putting the dial on the top of the handle instead of the side, and having two heavy metal projections for the operator's thumb and index finger. The advantages are that the dial is continuously under the operator's eye and out of the range of the patient's, and the improved mechanism does not increase the cost.

22. See THE JOURNAL of June 8, p. 1606.

23. **Chronic Seminal Vesiculitis.**—Chute and O'Neil call attention to the importance, only recently recognized, of seminal vesiculitis and deseribe its symptoms, diagnosis and treatment. Among the symptoms they specially mention are feelings of vague discomfort in the rectum and perineum, pain and discomfort on defecation, persistent discharges, especially those containing small comma-shaped shreds from the prostatic urethra, sometimes frequency of micturition, tenesmus, etc. The direct symptoms are for the most part urinary in character and not particulary distinctive. The reflex symptoms are those of sexual neurasthenia. The most characteristic symptoms are irregularity in the function of erection. A combination of neurasthenic symptoms with these latter is almost pathognomonic. The details of physical examination of the prostate, etc., are mentioned. The treatment which has given the writer the best results is massage of the vesical ducts and of the prostate as well. He warns against advising sexual indulgence as a therapeutic measure. It is probable that a certain number of cases of impotence and many of sterility are due to this condition, which gives its treatment wider importance than that mere relief of the discomfort. He would strongly advise examination by rectum of all patients with urethral disease not progressing favorably, particularly those presenting so-called neurasthenic symptoms.

24. **Iodophilla.**—This term is coined by Dunham to designate the reaction shown by the blood, in which the polymorphonuclear neutrophiles take on a reddish-brown coloration, when examined with a solution of iodin dissolved in iodid of potassium. The solution is made up as follows: Three parts of potassium iodid are dissolved in 100 parts of water. In this is dissolved 1 part of iodin. The resulting solution is thickened to a syrupy consistency by the addition of gum arabic and the blood smear is mounted in a drop of this syrup and a bit of filter paper placed at the edge of the cover glass to absorb the excess of fluid. The specimen is then ready for examination with an oil-immersion lens. The reaction is apparently always present in progressive suppurations and in progressive pneumonia and may occur in a few other diseases, such as grave anemias, leukemia, etc. Its value, however, lies in cases of doubtful suppuration and doubtful pneumonia. He gives illustrations of its use in cases of abscess and inflammation of the lungs.

26. **Focal Epilepsy Operations.**—White refers to a former article of his on the influence of operation *per se*, and discusses the rationale of the effect. The problems finally took this shape in his mind: When can subjects of epilepsy receive, without undue risk of life or health, the benefit of both operative interference and sedation of affected brain area? 2. Can operation be based on any but empirical grounds? If on the latter only does the evidence warrant its continuance? Is there any means of securing sedation, that is, of applying the general therapeutic principle of rest in such a way so that natural processes may have an opportunity to effect a cure without at the same time disturbing or interfering with the general health. He decides at once that as regards the idiopathic epilepsies and pseudo-Jacksonian cases, the answer to these questions should be in the negative, but as to true focal epilepsy, whether traumatic or not, the case may be slightly different. In fact the results of operation, while more encouraging, are not sufficiently so to justify us in ignoring the greatly increased risk and post-operative paralysis following excision of the center, without which trephining becomes an incomplete and an unsatisfactory operation. He was therefore led to try the following method: The affected center is, of course, determined in advance by the most careful study and observation of the case. Its relation to the cranium is indicated by a silver or iodin mark upon the shaven scalp two days before the operation. The scalp is sterilized and re-sterilized three times at intervals of twelve hours, not only before the trephining, but also before each subsequent application of the treatment. A horseshoe-shaped flap is raised and a half-inch button of bone removed with a small trephine. The dura is left intact. Thirty minims of a sterile 2 per cent. solution of eucain is then injected into the brain substance at the center of the trephine opening, the point of the needle being introduced about three-quarters of an inch. The needle is gradually withdrawn as the last ten minims of the solution are injected. The flap is replaced. The patient is returned to bed, and on the day of operation, and the following day, should receive full doses of bromids. At intervals, the proper length of which can only be determined by experience, the scalp having been sterilized as above, the injection is repeated. The patient should be kept in bed at least four hours after each injection and should take bromids for from one to two days." He is not convinced that this method has any additional value, but he reports two cases in which it was tried at the University Hospital. He admits that this can not be said to establish even the entire safety of the procedure, as convulsions in Case 2, which followed one of the injections, were of marked severity. Neither can it be said that the results obtained were noticeably better than those seen to follow the very miscellaneous procedures that have been reported, but he still thinks that the possibilities of benefit would justify him in placing it conservatively before the profession.

27. **Jacksonian Epilepsy.**—The views maintained by Putnam are: 1, that operations of many different sorts are of value; 2, that the beneficial action of these operations, although complex in character, is mainly due to the induction of a temporary inhibition of the morbid action of the cortex, which permits of the establishment of a more normal tendency; 3, that the removal of the apparently normal cortex is rarely advisable, and, when beneficial, acts mainly as above indicated; 4, that the cause of the persistence of the "epileptic habit" is not to be sought alone in anatomic peculiarities of the brain, but that it shares the vitality and independent endurance of memories in general. Also, the symptom-groups which present themselves after cortical lesions conform, in general, to certain special types, which recur without being closely dependent on the localization of the cerebral injury. These symptom-groups represent, in fact, efforts at the formation of a new equilibrium on the part of a being endowed with consciousness and memory on the one hand, and with a complex brain mechanism on the other. The principle on which this readjustment goes on in cases of actual cerebral lesion, is analogous to that which is operative in "hysteria."

28. **Prostatectomy.**—Horwitz' conclusions regarding prostatectomy are: 1. With the exception of ligation of the internal iliac arteries, prostatectomy is the most dangerous of any operation that has been recommended for the relief of prostatic obstruction due to hypertrophy. 2. Suprapubic prostatectomy is the safest method, especially if combined with perineal drainage. 3. The best period to select to perform this operation is early, before the break-down of catheter life and serious complications have supervened. 4. Either an atonied or contracted bladder of long standing, associated with chronic cystitis, attended by the formation of sacs, or pouches, are contra-indications for the operation. 5. A partial prostatectomy is indicated in those cases where a valve-like lobe exists, which interferes with urination, or where there is partial hypertrophy of one of the lobes. 6. A complete prostatectomy is indicated where a hypertrophy of the three lobes has taken place, especially if the condition is associated with tumor for-

mation, projecting well back into the bladder, or has given rise to a stenosis of the prostatic urethra. 7. Perineal prostatectomy is best suited to those cases where the enlargement of the lateral lobes has a tendency to grow towards the rectum, or obstruct the urethra. 8. When performing a perineal prostatectomy the semicircular incisions advocated by Pyle, or the transverse cut of Worholm, is the most satisfactory. 9. The removal of a portion of a small, hard, fibrous prostate gland by means of the perineal route is a very difficult operation. There is danger of not only extirpating the entire gland, but the prostatic urethra as well.

32. **Typhoid Perforation.**—Typhoid perforation is discussed by Brown. It occurs as a rule at the end of the second or beginning of the third week and special attention should be given at this time for its occurrence. The first symptom is pain, sudden in its onset, agonizing in character, though this symptom may be dependent on other causes, even in cases of typhoid. A sudden and decided drop in the temperature usually follows, though not invariably, and it may be so transitory as to escape notice. The pulse usually becomes increased in frequency and decidedly weakened, but not wiry until actual peritonitis has set in. The most important part of the symptomatology is objective. With an opening between the bowel and peritoneal cavity there will be a more or less rapid outpouring of gas and fluid, gradually decreasing as the pressure becomes lessened. This gaseous distention of the abdomen, palpation signs, etc., are all noticed at length. Auscultation is of little value. A blood examination may reveal slight leucocytosis. The facial expression, sweating and decubitus indicate the passage into the third stage. The combinations of symptoms are, he says, generally so varied that it is almost impossible at times to diagnose the conditions early enough to allow operative interference with any chance of success.

35. **Insanity in Women.**—Lapthorn Smith reviews the work of Hobbs, Hall, Rohe, Bucke, and others, and concludes that insanity in the majority of cases is not due to organic brain disease, but to the functional disorders of diseased circulation and its circulating fluid, and that this in many cases in women is caused by reflex irregularities from pelvic organs. He thinks it is the duty of the family physician to examine every insane woman in his practice, or have her examined by a gynecologist, and remedy any pelvic diseases that may exist. This should be done systematically also in asylums. He makes the statement in conclusion, that in view of the number of women that become insane from uremia some care should be exercised by the practitioner in preventing this condition and that physicians should, when permitted, with the advice of one or two colleagues, empty the uterus.

44. **Contracts and Torts of Lunatics.**—Buckler sums up the Maryland law, and says that for the present the rule undoubtedly is that whenever a person is injured by the act of a lunatic, he may sue and recover damages from the lunatic, unless malicious intent is a necessary ingredient in the tort. There seems, however, to be a tendency to depart from the rashness of this rule, and to place the tortious acts of lunatics on the same footing as those of sane persons which occur as the result of an inevitable accident.

49. **Mental Therapeutics.**—The central idea of Dewey's article is that the cure of many nervous and mental diseases consists in a process replacing in the patient a natural and healthy mind and healthy association, replacing morbid ideas with normal ones, forming new habits by a process that may be in some cases likened to education.

52. **External Urethrotomy.**—Where the use of a guide for urethrotomy becomes impossible, as with impermeable stricture or complex division of the urethra, the operation is often tedious and difficult. The appliances that are available for this purpose and have been instituted have their disadvantages. Retrocatheterization implies extra mutilation and adds somewhat to the danger. The Wheelhouse operation is of limited practicability; it can only be performed where the stricture is still permeable and many times can not be carried out even in these cases. The Cock operation has a wider field, but Bolton suggests a method, whose principles are the same as those underlying the Cock operation, but differing in details. He describes it as follows: "The patient may be placed in the lithotomy or knee-chest position. A curvilinear transverse incision is made across the perineum, the convexity looking forward or backward and the tendinous center of the perineum exposed. The attachment of the sphincter ani to this point is divided and reflected and the triangular ligament thus exposed incised transversely. The anterior fibers of the levator ani passing beneath the prostate to the rectum now come into view. These, together with the rectum, are next pushed backward and the prostate exposed. The exposed surface of the prostate is now cleaned and its apex identified. No harm can accrue from incision into the floor of the prostatic urethra anterior to the veru montanum, and incision made into this part of the prostate is sure to enter the urethra behind its point of stricture. The anterior quarter inch of the apex of the prostate is accordingly incised longitudinally in the median line, the urethra opened and the incision then prolonged forward as far as desired, guided, if necessary, by a probe or director suitably bent and introduced into the urethra from behind forward." He says this method, while a little more elaborate than the original operation, does not seem to him especially difficult and will be found useful in recent ruptures of the urethra, and in strictures uncomplicated by extravasation of urine or perineal abscess. He would hesitate to make use of it in cases of infectious inflammation or necrosis of the perineal tissues, on account of the larger wound surface exposed to infection and the risk of infection of cellular tissue, above the transverse ligament between the rectum and bladder.

59. **Diagnosis of Meningitis.**—The various symptoms indicating the presence of meningitis are reviewed by Aldrich, according to their various diagnostic values: the widely varying onset, head pains, convulsions, facies, mental state, pulse, temperature, respiration, etc., and he mentions one respiratory change which he has observed so often that he believes it of diagnostic value. In normal inspiration the adominal walls are expanded, but retracted on expiration. In meningitis, however, there is a retraction of the walls during inspiration and the descent of the diaphragm, probably due to hypertonus of the muscles, which is a constant and early symptom. Vomiting, abdominal symptoms, muscular rigidity, urinary retention, Kernig's sign, cutaneous eruptions, etc., various sensory symptoms, leucocytosis, etc., are mentioned. He believes that in lumbar puncture we have a great step towards accuracy in the diagnosis, and calls attention particularly to a condition of the serum which has been observed by him since 1898. When a test tube containing a column of cerebrospinal fluid from a case of meningitis is allowed to stand from twelve to twenty-four hours without agitation, a thin filament of fibrin forms in the center of the column of fluid, and seems to be suspended from a delicate pellicle at the top and extends to the bottom. Lifting out this fibrin with a platinum loop and with it spread out on the cover glass, cells of diplococci were revealed. He thinks that this observation is of special value where the use of the centrifuge, and microscope and culture studies are not available. The same symptom has been noticed by Breuer in Vienna and the same diagnostic importance attributed to it.

60. **Albumosuria.**—Stern calls attention to the presence of albumose in the urine as an indication of osteomalacia and bone tumors. Not all cases of osteomalacia or multiple bone tumors show this symptom; sometimes it may be absent during the short time the case is under observation. Nevertheless, in a large number of cases it gives the only possible indication of the diagnosis.

61. **Cyclic Albuminuria.**—The title of this article, Lee remarks, implies two distinct conditions, which, however, are practically one in all essential points. The albuminuria of adolescence is always cyclic, and cyclic albuminuria occurs most often about the period of adolescence, and it is no doubt the same as that which more rarely occurs later in life. Functional albuminuria is the term usually employed. It is an important condition. When it persists after 25 years of age he would not consider the case a good insurance risk. The

etiology is obscure. The condition produces no systemic symptoms and is often accidentally recognized, but many cases probably go unrecognized. In a typical case the albuminuria is absent in the morning, but appears after eating and after muscular exercise or cold bathing, and reaches the maximum the latter part of the day and disappears entirely again. Exceptionally it may be present all the time. The points of diagnosis are the small amount of albumin, absence or rarity of casts, lack of retinal changes, of cardiac hypertrophy, of increased arterial tension, of exaggeration of aortic second sound and dropsy. If after repeated observations, say for over six months, these symptoms exist, we have a case of so-called functional albuminuria. The prognosis is favorable, the albumin usually disappearing before adult life. The treatment consists chiefly in attention to existing anemia, diet, etc.

66.—See abstract in THE JOURNAL, XXXV, p. 1046.

## FOREIGN.

Bulletin de l'Academie de Med. de Paris, May 28.

**Neuralgia in Connection with Latent Aneurysms of the Aorta.** H. HUCHARD.—The portion of the aorta between the fourth dorsal vertebra and the tenth is comparatively isolated from the surrounding organs, and an aneurysm may grow to a large size without causing symptoms. The descending thoracic aorta is, therefore, the latent zone of unrecognized aneurysms, of mistakes in diagnosis. The abdominal aorta also occasions similar mistakes. There are, however, certain pains sometimes connected with these latent aneurysms, which have a peculiar clinical character and establish a strong presumption in favor of the latent lesion. The seat of the pains is variable and may suggest a simple rheumatism of the shoulder, a rebellious intercostal or thoracobrachial neuralgia; but close study will show that the pain is not that of true neuralgia. The patients suffer for months, for years, from a single, fixed pain in the shoulder or supraspinal, subclavicular or interscapular region. In other cases, the pain occupies one entire side of the thorax and neck; it may be deeper in the chest, starting at the upper third of the sternum and passing to the spine, simulating angina pectoris. It may, in other patients, invade the arm and extend along the neck to the side of the head. It may affect the nerves of the cervical plexus and induce, by reflex action, contraction of the muscles of the neck, suggesting a simple torticollis. In other patients the pain may appear in one of the intercostal spaces, may be so severe as to interfere with respiration, or it may be bilateral, in girdle form, as if from a spinal affection. The pain is almost always continuous, permanently at the same spot, not paroxysmal and very rarely has the lancinating character of true neuralgia. The diagnosis of these pains in the cases reported has ranged from compression of the spine to simple rheumatism, but the appearance sooner or later of a pulsating tumor, or sudden death from hemorrhage, showed the error. Another peculiar feature of these pains, which are the premonitory symptoms of a latent aneurysm, is the fact that they can be exaggerated or diminished by changes of position. If the radioscope shows a tumor in the mediastinum, it must be borne in mind that aneurysms alone give rise to these pains, remarkable for their obstinacy and long duration, their abnormal intensity and rebelliousness to all the usual medication. The mechanism is probably a kind of uninterrupted pounding from the developing aneurysm. Fournier has seen a case of sudden, inexplicable pain in the arm in an old syphilitic vanish after specific treatment. Three years later an aneurysm of the aorta was observed and this also vanished under mercurial treatment. Huchard described several cases to illustrate the variety of pains that might be encountered with latent aneurysms. The pains that accompany an aneurysm of the abdominal aorta may simulate lumbago or nephritic colic, or girdle the trunk or follow the course of the ureters or spermatic cord.

Presse Medicale (Paris), May 29.

**Preservation of Glycogenic Function of Liver in Cirrhosis.** BRAULT.—The writer's studies on glycogenesis in neoplasms have been mentioned in THE JOURNAL, XXX, p. 877, and XXXV, p. 914. He showed that it was possible for a tumor in the liver to be producing glycogen while the liver cells were incapable of glycogenesis at the time. He now demonstrates that during the evolution of cirrhosis many of the liver cells retain their reserves of glycogen intact, and renew them, even those cells which are isolated. The cells are separated into groups or isolated by the progress of the morbid process, but the strips or rings of sclerosis, hitherto considered destructive to the trabeculæ and liver cells, are in reality so passive that the cells in contact with them or isolated in their depths, retain their normal histochemical properties and especially their glycogenetic activity. This integrity of the cells explains the latent or compensation period of cirrhosis, the respites and the cases in which the destructive process may be arrested for years. It also shows the possibility of the cure of cirrhosis in certain cases and survival with a liver, cirrhotic and indurated, but still functionally sufficient. Brault's latest research also demonstrated that glycogen could be found in the liver twenty-six to thirty-six hours after death, and that a severe infection (pneumonia), chronic disease (tuberculosis) and gastro-intestinal disturbances (diarrhea and vomiting), may be unable to exhaust the glycogen in the liver in certain cases.

June 1.

**Syphilis and the Spindle-Shaped Bacillus.** H. VINCENT. Syphilitic lesions in the throat invite the fusiform or spindle-shaped bacillus, first described by Vincent. As it colonizes, it modifies the clinical characteristics of the syphilitic lesions and masks their true nature, as if the ulceration were complicated by hospital gangrene. The bacilli are never so numerous, however, as in case of simple angina and they are always associated with other micro-organisms. If the ulceration persists after the bacilli have disappeared under the influence of iodin, to which they are very sensitive, the syphilitic nature is evident. If the lesions become diphtheroid, the false membrane is closely adherent to the subjacent tissue, while the spindle-bacillus false membrane is soft and easily detached. Specific treatment aggravates the true spindle bacillus angina and is thus an important differentiating measure.

June 5.

**New and Rapid Method of Differentiating the Typhoid Bacillus in Water.** A. CHANTEMESSE.—Eberth's bacillus becomes modified by sojourn in water and this renders its differentiation difficult. In order to obviate this difficulty Chantemesse places the suspected water in a medium that favors proliferation and rejuvenation of the bacillus and proceeds later to its differentiation, after it has regained the characteristics modified by its stay in the water. He describes his method as follows: A Chamberland filtering bougie is placed in a vessel containing six quarts of the suspected water. By producing a vacuum inside the bougie all the microbes in the water are attracted to its outer surface. The bougie is then rinsed with 200 gm. of a 3 per cent. solution of peptone. The turbid fluid thus obtained is kept at 37 C. in a large-mouthed jar with a rubber stopper containing four holes. A small, porous, filtering bougie is inserted in one of the holes; through the second passes a glass tube lightly plugged with cotton, which allows the entrance of air, kept constantly bubbling at the bottom of the jar, as the air is aspirated through a second glass tube in the third hole. The fourth hole holds a glass tube communicating above with a vessel containing the 3 per cent. solution of peptone. The fluid in the jar is changed once or twice every twelve hours by producing a vacuum and then aspirating the fluid out through the filtering bougie, leaving the microbes clinging to its outer surface and the walls of the jar. Fresh culture medium is then introduced through the tube from the receptacle of the solution of peptone above. The culture and the bubbling of the fluid thus commence anew in a fresh, aerated culture medium, with every condition favorable for the cultivation of the microbes. The culture is finally centrifugalized for half an hour and decanted. Most of the slender and extremely motile typhoid bacilli remain in suspension in the fluid and can be transferred directly to the differentiating medium. This is composed of a 3 per cent. solution of peptone, to which 2 per cent. of gelose has been added, and is kept at a temperature of 120 C. for forty-five

minutes. The medium should be absolutely neutral. A few minutes before using, 1.05 gm. of carbolic acid are added to each 1000 gm. of fluid. The medium must be used as a thin pellicle, and about 2 c.c. of the fluid is poured into each one of a dozen tubes in the water-bath at 42 C. They are then sown with a platinum loop taken from the bouillon first poured out of the centrifugalizer, which is ample for four tubes. The platinum loop must therefore be dipped in the bouillon three times to inoculate the dozen tubes. The latter are then warmed to 46 C. in the water-bath and the fluid is spread over the inside of the tube by turning and rolling it. The tube is then placed upside down; the fluid settles to the bottom on the cotton stopper, but a thin pellicle remains adherent to the inner surface of the glass and hardens. The cotton plug is then replaced with a cork taken from a vessel containing melted paraffin. This hermetically seals the tube and prevents the gelose from drying. Kept at 37 C., the colonies of the colon bacillus develop in the course of sixteen to seventeen hours. Each colony visible to the naked eye is marked with ink and the tube is replaced in the oven. By the eighteenth to the twenty-fourth hour a number of new, very small colonies appear, which, as the microscope shows, are formed of the typhoid bacillus and a micrococcus. The bacillus is then transferred to a similar solution of peptone to which lactose has been added. The agglutination test may occasionally differentiate the bacillus at once. The fermentation of the lactose is an important means of differentiating the typhoid bacillus. The fermentation is determined in the neutral fluid with litmus tincture. The medium turns red in the presence of the colon bacillus, while the typhoid bacillus leaves it violet and later turns it blue, or may sometimes decolor the lower portion. This reaction on the part of the lactosed medium—which from neutral at first, becomes gradually alkaline, never acid—and microscopic determination of the characteristics of the typhoid bacillus, establish its identity with positive certainty in three or four days at most. Tests of Seine water from the hydrants always disclosed the typhoid bacilli by this technique and it was found alive in water inoculated with it, after fifteen to forty-four days. Chantemesse concludes by emphasizing the fact that exhaustion, diminished vitality and possibly a peculiar condition of the intestinal flora at certain seasons of the year, may afford the conditions necessary to restore attenuated, non-virulent typhoid bacilli, ingested by man, to pristine virulence, in a manner similar to the influence of the proliferating and rejuvenating conditions in the first stage of his technique.

Revue de Gynecologie (Paris), v, 1 and 2.

**Etiology of Extra-Uterine Pregnancy.** F. Stepowski.—The conclusions derived from study of thirty-seven cases of extra-uterine pregnancy at Neugebauer's clinic, are that two conditions are indispensable for the production of extra-uterine pregnancy: 1, that the mucous membrane of the tube, under the influence of the fecundated ovum, reacts on the decidua and renders conditions favorable for the incubation of the ovum; 2, the existence of some cause which prevents or paralyzes the passage of the ovum into the matrix.

**Permanent Sound for the Ureter.** J. Albarran.—After nephrotomy Albarran inserts a sound in the ureter and leaves it for several days, to prevent or cure a renal fistula. It is useful only in urinary or uro-purulent fistula—in case of pus alone it can do no good. In this case it is not the kidney, but merely the cellular tissue as such, that is suppurating, and the kidney may be still whole, allowing the urine to be normally voided. When the kidney itself secretes pus, without admixture of urine, the organ is so destroyed that there is no interest in preserving it longer, but in case of simple, purulent fistula the kidney plays but a subordinate role. The organ may still be useful and there is every reason to preserve it. When, however, the kidney has ceased to secrete urine the purulent fistula will heal more rapidly if the useless organ is removed. Catheterization of the ureter is not indicated even in cases of urinary or uro-purulent fistula, if the ureter is impermeable or the bladder irritable. But in appropriate cases he inserts a No. 6 sound in the bladder before the nephrotomy. Then, when the kidney has been exposed and incised, he pushes the tip of this sound into the incision in the kidney, and fits over it a 10 or 11 Charrière sound, with four large eyes in the side and the lower end made to fit over the tip of the No. 6 sound. Both are then drawn down together and worked out through the meatus until the tip of the large sound is in the renal pelvis. The lower end is then fastened with a thread to the skin. The wound in the kidney is then sutured over a drain. The organ is irrigated through the permanent sound two or three times a day. The threads fastening it in place are removed the twelfth day, and it is discarded between the eighteenth and twenty-eighth days. The patients bear the ureteral sound better than the ordinary urethral sound. The result was extremely satisfactory in every one of the fifteen cases described. A fistula developed in eight, but healed over in one to four days. Six were cured, but in one the sounding was a failure, as the ureter was inserted above the bottom of the pelvis. In another, the persistence of gangrenous fragments prevented healing. He left the sound in place for ten to twenty-six days in the cured cases, but has since learned that it is unnecessary to retain it after urine has ceased to trickle through the wound. In two cases symptoms of retention required a repetition of the sounding. When necessary to change the sound, he first inserted a mandrin or guide in it to the tip. He then withdrew the sound over the mandrin and replaced it with another well lubricated sound, which he slipped on over the mandrin to the renal pelvis and then withdrew the mandrin.

Semaine Medicale (Paris), May 29.

**Treatment of Old Luxations of the Shoulder.** F. Legueu.—After failure of the ordinary measures, Legueu cuts an osteo-muscular flap by section of the acromio-clavicular arc, not dividing any of the muscles. Turning this flap over allows wide and easy access to the joint. In a case described in detail the head was found so firmly lodged under the coracoid muscles that it was impossible to dislodge it. In order to do this the coracoid process was cut with the scissors and the muscles attached to it were stretched. This released the head and the hindrance to reposition was found to be a fracture of the anatomic neck of the humerus, with laceration of the capsule and retraction of the capsular opening. The head of the humerus was resected and fitted to the capsule. The coracoid process was sutured with silver wire, the acromion united with the scapula and after insertion of a drain the skin was sutured. The patient could move and bend her arm with ease when dismissed seventeen days later.

**Differentiating Sign of Infantile Pneumonia.** Weill.—Pneumonia in young children can be differentiated in its incipiency by the pathognomonic sign described by Weill, the lack of expansion in the subclavicular region, independent of the site of the pneumonic lesion. The little patient being on his back, the chest exposed, and respiration regular, it is easy to note the difference in the expansion between the two sides. On placing the fingers on the subclavicular region on either side, they are lifted as by a wave on the sound side, while on the other the lack of expansion is evident, even in the very first days of the disease. In pleurisy or pneumothorax, the lack of expansion corresponds to the seat of the lesion, but in pneumonia it is invariably subclavicular.

Berliner Klin. Wochenschrift, May 27.

**Functional Importance of Pyramidal Tracts.** M. Rothmann.—Reviewing the clinical and experimental experiences of recent years in regard to the pyramidal tracts, Rothmann concludes that we have no evidence for the assumption that they have any special function. The motor function is the property of the combination of cerebrum, thalamus, corpora quadrigemina and spinal cord. Comparative anatomy, however, shows that the pyramidal tracts are gradually usurping this duty as evolution progresses. They are absent in birds, and in the lower animals are in the posterior columns, and in the lateral columns in the higher animals, while in man they are in both the lateral and anterior columns. This progressive development suggests that the pyramidal tracts are a link in the great chain of phenomena which show that the cerebrum in its evolution is constantly assuming greater predominance

and subordinating the centers of the mesencephalon and the thalamencephalon.

**Chaloderma.**—L. Ketly has coined this new term as descriptive of the case of a patient whose skin hangs loose and pendent. The muscles beneath are sound and the skin hangs away from them and bags from the arms, calves and trunk, but the buttocks and mammæ are most conspicuously affected. The changes in the dependent skin are only in the reticular layer and the subcutis. The lack of elastic fibers, and the extreme dilatation of the blood vessels, with a diffuse, small-celled infiltration are noticeable.

**Paralysis of the Rectum.** A. HESSE.—Wallace has reported a case of alvine incontinence in a child, from paralysis of the rectum, much improved by astringent enemata. Hesse describes a similar case, the patient a boy of 6 with complete paresis of the bladder and anal sphincters, alvine and urinary incontinence, strabismus and chronic intestinal catarrh. He cured the intestinal affection with appropriate diet, tannalbin and Carlsbad waters, and with the subsidence of the catarrhal symptoms, the rectal paralysis was also cured. Partial enuresis still persists, but the lad has been completely relieved of all his other disturbances by this removal of the cause, the chronic catarrh. Hesse urges others to seek the causal factor in some local lesion in these cases, and not be so ready to attribute them to the nervous system.

Deutsche Med. Wochenschrift (Berlin and Leipsic), June 6.

**Vicarious Menstruation Through the Bladder.** BUENTING.—In a case under the writer's direct observation, menstruation occurred twice through the bronchi, at a year's interval, and ten years later through the bladder. Each time the phenomenon happened in August. The young woman was and is in robust health, with no symptoms on the part of the organs involved.

**A Foreign Body as a Hindrance to Delivery.** CZARNECKI.—A metal box—10x4 cm. in size—was inserted in the vagina by a girl at her first menstruation for the purpose of checking the flow. She was unable to remove the box later and informed no one of its presence, not even her husband when she married. She passed through an abortion and at that time the box probably slipped into the uterus. The writer was summoned to attend her in childbirth, and delivery was impossible until the box was removed with forceps. The foreign body had thus remained thirteen years in the vagina and eighteen months in the uterus without causing disturbances of any kind until it mechanically interfered with delivery.

Wiener Klin. Wochenschrift, May 23.

**Juvenile Form of Progressive Paralysis.** J. A. HIRSCHL.—Study of twenty cases of juvenile progressive paralysis showed that congenital lues was a very frequent factor, occurring in 17 out of 20 patients. Also that mentally deficient individuals were more prone to the affection than is the case among adults, and that the prodromal period is characterized by more pronounced symptoms. Another difference is the fact that simple dementia is the usual termination, scarcely ever paralytic mania or paralytic hypochondria, the lack of remissions when the disease is at its height, and that symptoms of irritation as well as seizures are common. The duration is comparatively longer and the autopsy reveals a diffuse sclerosis of the brain with marked leptomeningitis. The affection usually commences between the fourteenth and sixteenth years. Puberty evidently has the same influence as the menopause in paralysis in women, but at the same time it is possible that the paralysis requires the same period for incubation in the young as it does in adults, that is about fifteen years. Assuming that the congenital lues is the causal factor—the same as acquired lues in adults—the period before the outbreak of the paralysis corresponds in each case.

May 30.

**Iodoform Filling for Wounds.** N. HACKMANN.—Wounds that form a cavity and defects in bones are treated by Mosetig-Moorhof as a dentist fills a tooth. A mixture of oil of sesame, 20 parts; spermaceti, 40, and iodoform, 30 to 60 parts, is melted and poured into the cavity while still warm. It rapidly hardens and fills the cavity completely, bringing the iodoform into close contact with every particle of the tissues. This filling is particularly useful to close cavities in the bones; the tallowy substance is gradually absorbed as new bone is formed. The influence of the materials in the filling is directly stimulating to the tissues, and granulation proceeds more rapidly and satisfactorily than without it. The foreign mass is gradually devoured, as it were, by the crowding granulations. A few cases are described in detail, showing the great benefits derived from this aseptic and antiseptic, stimulating substitute for missing bone or tissues. The filling is sometimes partially expelled by the new tissues forming beneath, in open wounds. The mixture is kept in a bottle inside a thermophor, ready for use. The cavity in the bone may be sterilized with superheated air. In applying the filling to a tuberculous cavity in a long bone, a constricting bandage is applied above, the cavity filled with the mixture and the constricting band removed after it has solidified. The skin is then sutured over the defect. Radiographs taken at intervals show that the filling gradually grows smaller, while the encroaching new formation of bone casts a normal shadow.

St. Petersburger Med. Wochenschrift, May 25.

**The Pathology of the Jews.** M. KRETZMER.—The exceptional fertility of the Jews and their low mortality are shown in Hoffman's statistics for eighteen years in Prussia. The mortality was 21.61 per cent., while among the rest of the population it was 29.61; the increase during the same period was 34.75 per cent.; in the rest of the population, less than 28 per cent. The excess of boys over girls is another feature of their physiology. Schwimmer found in Austria that 128.5 boys were born to each 100 girls, while the usual proportion is 105.8. The nervous system seems to be the locus minoris resistentiæ among the Jews. The official report for Prussia and Bavaria for the year 1871 showed that there were nearly twice as many Jews among the blind, deaf, dumb and insane as from the remainder of the population. Progressive paralysis and post-puerperal mental disturbances are more frequent; and, in Russia at least, trachoma, myopia, cutaneous affections and abdominal diseases. Affections of the respiratory passages are less frequent among the Jews. Recent military statistics showed that consumptives in the army were in the proportion of 1 Jew to 22.3 Christians and 1.7 Mohammedans. Eminent Jews in the profession of late years are Traube, Heidenhain, Henle, Cohnheim, Bernstein, Senator, Liebreich, Saenger, Freund, Jaffe, Schreiber, Mendel, Hirschberg, Zuckerkandl and Meynert.

## New Patents.

Patents of interest to physicians, etc., June 4 and 11:

675,556. Atomizer. Alfred Clarkson, Fall River, Mass.
675,821. Attachment for truss pads, Cornelius Donovan, New York City.
675,775. Apparatus for filling capsules. John G. Gilmer, St. Petersburg, Fla.
675,739. Device for testing eyes. Christian F. Kantlehner, Chelsea, Mich.
675,674. Elevating or lowering device for dental chairs. Frank Ritter, Rochester, N. Y.
675,678. Movement cure apparatus. Charles A. Scholder, Lausanne, Switzerland.
675,700. Device attached to hats to aid in hearing. Albert G. Zimmerman, Chicago.
676,178. Mercurial barometer. Arthur S. Davis, Leeds, England.
676,124. Hot-air cabinet. Henry A. Dygert, Philadelphia.
675,897. Water-bag syringe. Wm. D. Martin, Warsaw, N. Y.
675,966. Inhaler. John Y. McFarland, Chicago.
676,269. Return-flow syringe. Denwood N. L. Newbury, New York City.
676,158. Shirt for invalids. Wm. E. St. John, Leonardsville, N. Y.
676,283. Tonsillotome. Ernst Stratmann, New York City.
676,379. Eye-cups. Frank E. Young, Canton, Ohio.

# The Public Service.

## Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 6 to 12, 1901, inclusive:

Percy M. Ashburn, lieutenant and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., will proceed to Fort Sheridan, Ill., for post duty.

Thomas S. Bratton, captain and asst.-surgeon, U. S. A., from duty in the Division of the Phillppines, to Fort Clark, Texas.

William J. Calvert, lieutenant and asst.-surgeon, U. S. A., on

his arrival at San Francisco, Cal., to proceed to Washington Barracks, D. C., for duty at the General Hospital at that place.

W. Fitzhugh Carter, major and surgeon, U. S. A., leave of absence granted.

Henry R. Carter, Jr., contract surgeon, from Vancouver Barracks, Wash., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Edward T. Comegys, major and surgeon, U. S. A., relieved from further duty in the Division of the Philippines; on the expiration of his present sick leave he will report for duty at Fort Meade, S. D.

William D. Crosby, major and surgeon, U. S. A., from New York City, to post duty at Fort McPherson, Ga.

J. Ryan Devereux, contract surgeon, from Washington Barracks, D. C., to temporary duty at Fort McPherson, Ga.

Basil H. Dutcher, lieutenant and asst.-surgeon, U. S. A., now on duty in the U. S. Military Hospital, Nagasaki, Japan, is relieved from duty in the Division of the Philippines, and will proceed to Fort Hancock, N. J., for post duty.

James J. Erwin, captain and asst.-surgeon, Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

Powell C. Fauntleroy, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), relieved from further duty in the Division of the Philippines and will proceed to Madison Barracks, N. Y., for post duty.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to Fort Washington, Md., for post duty.

Clyde S. Ford, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to duty at Fort Morgan, Ala.

Harry L. Gilchrist, lieutenant and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., will proceed to Vancouver Barracks, Wash., for duty at that post.

Charles R. Gill, contract surgeon, former orders revoked: he will proceed to Fort Totten, N. Y., to accompany the Second Battalion of Engineers from that post to San Francisco, Cal.

Joseph B. Girard, lieutenant-col., deputy surgeon-general, U. S. A., from duty at the Medical Supply Depot, St. Louis, Mo., to Vancouver Barracks, Wash., as post surgeon and chief surgeon, Department of the Columbia.

Henry S. Greenleaf, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to duty at Alcatraz Island, Cal.

Richard S. Griswold, major and surgeon, Vols., recently appointed and now in New York City, N. Y., to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Harry M. Hallock, captain and asst.-surgeon, U. S. A., from Fort McPherson, Ga., to San Francisco, Cal., en route for service in the Division of the Philippines.

Eugene H. Hartnett, Lieutenant and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., will proceed to Fort Columbus, N. Y., for duty at that post.

Deane C. Howard, captain and asst.-surgeon, U. S. A., former orders amended so as to direct him to proceed to Havana, Cuba, for duty in the Department of Cuba.

John S. Kulp, major and surgeon, Vols., so much of former orders as assigns him to Fort Hancock, N. J., is amended, assigning him to duty in New York City, as attending surgeon, examiner of recruits, and medical superintendent of the Army Transport Service.

Walter D. McCaw, major and surgeon, U. S. Army, detailed a member of the board in session at Manila, P. I., for the examination of candidates for admission to the Medical Corps of the Army, relieving Major William J. Wakeman, surgeon, U. S. Army.

H. E. Menage, contract surgeon, leave of absence from the Department of the Colorado extended.

Ben H. Metcalf, contract surgeon, to report from Fort Banks, Mass., by letter to the Surgeon-General for annulment of contract.

Edward W. Nicholson, lieutenant and asst.-surgeon, U. S. A., on arrival at San Francisco, Cal., will report for duty at Fort Banks, Mass.

Walter Reed, major and surgeon, U. S. A., from Washington, D. C., to Fort Monroe, Va., on official business, on the completion of which he will return to his proper station.

Edward R. Schreiner, lieutenant and asst.-surgeon, U. S. A., from duty in the Division of the Philippines, to Fort Howard, Md.

Samuel L. Steer, lieutenant and asst.-surgeon, U. S. A., on arrival at San Francisco, Cal., will proceed to Fort Dupont, Del., for duty at that place.

Henry R. Stiles, captain and asst.-surgeon, U. S. A., from Madison Barracks, N. Y., to San Francisco, Cal., en route for service in the Division of the Philippines.

Samuel M. Waterhouse, lieutenant and asst.-surgeon, U. S. A., from Fort Meade, S. D., to San Francisco, Cal., en route for service in the Division of the Philippines.

Roy A. Wilson, contract surgeon, from Fort Totten, N. Y., to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis A. Winter, captain and asst.-surgeon, U. S. Army, from Fort Sheridan, Ill., to duty at Jefferson Barracks, Mo.

Halsey L. Wood, contract surgeon, leave of absence granted.

Marshall W. Wood, major and surgeon, U. S. A., from Jefferson Barracks, Mo., to St. Louis, Mo., to take charge of the Medical supply depot in that city.

## Navy Changes.

Changes in the Medical Corps of the Navy, week ended June 15, 1901:

Dr. G. M. Mayers, appointed asst.-surgeon, from June 1, 1891.

Asst.-Surgeon J. F. Murphy, ordered to the Naval Academy, June 15.

Surgeon A. R. Wentworth, detached from the *Solace* and ordered to the *Albany*.

Surgeon H. N. T. Harris, detached from the *Albany* and ordered to the *Monocacy*.

P. A. Surgeon S. G. Evans, detached from the *Monocacy* and ordered ot the *Solace*.

Asst.-Surgeon J. W. Backus, ordered to the *Vermont*, June 17.

Asst.-Surgeon F. A. Asserson, ordered to the Naval Hospital, New York, June 17.

Asst.-Surgeon G. M. Mayers, ordered to the Pensacola Navy Yard, June 18.

## Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the fourteen days ended June 13, 1901:

Surgeon J. H. White, to report at Washington, D. C., for conference.

Surgeon L. L. Williams, granted leave of absence for five days from June 6.

Surgeon W. J. Pettus, granted leave of absence for three days from June 13.

P. A. Surgeon J. A. Nydegger, granted leave of absence for thirty days from June 8.

P. A. Surgeon E. K. Sprague, granted leave of absence for thirty days from May 30.

P. A. Surgeon H. W. Wickes, granted leave of absence for four days from June 3.

Asst.-Surgeon C. E. Decker, granted leave of absence for ten days, on account of sickness.

Asst.-Surgeon W. W. King, granted leave of absence for four days.

A. A. Surgeon J. E. Bready, granted leave of absence for one day, June 19.

A. A. Surgeon Henry Ecroyd, granted leave of absence for ten days from June 8.

A. A. Surgeon W. C. Mason, granted leave of absence for six days from June 23.

A. A. Surgeon F. R. Smyth, leave of absence for three days granted by bureau telegram of May 31, 1901, revoked.

A. A. Surgeon J. G. Stanton, granted leave of absence for fifteen days from June 3.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on June 7, 1901, for the physical examination of an applicant for cadetship in the U. S. Revenue-Cutter Service. Details for the Board: P. A. Surgeon H. D. Geddings, chairman; Asst.-Surgeon B. S. Warren, recorder.

## Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 15, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Alaska: Douglas City, May 25, 5 cases.
California: San Francisco, May 25-June 1, 4 cases.
District of Columbia: Washington, May 30, 1 case.
Illinois: Chicago, June 1-9, 6 cases.
Indiana: Michigan City, June 3-10, 2 cases; South Bend, June 1-8, 1 case.
Kansas: Wichita, June 1-8, 7 cases, 1 death.
Louisiana: New Orleans, June 1-9, 5 cases, 1 death; Shreveport, May 25-June 1, 2 cases.
Maine: Portland, June 1-8, 1 case.
Maryland: Baltimore, June 1-8, 1 case.
Massachusetts: Boston, June 1-8, 1 case; Fall River, June 1-8, 1 case; Marlboro, June 1-5, 1 case; New Bedford, June 1-8, 27 cases, 1 death; Somerville, June 1-8, 1 case.
Michigan: June 1-8, Detroit, 33 cases; West Bay City, 1 case.
Minnesota: Winona, June 1-8, 1 case; St. Louis, May 26-June 2, 32 cases.
New Hampshire: Manchester, June 1-8, 4 cases.
New York: New York, June 1-8, 86 cases, 16 deaths.
Ohio: Cincinnati, May 31-June 7, 5 cases; Cleveland, June 1-8, 30 cases; Toledo, June 1-8, 1 case.
Pennsylvania: June 1-8, Lebanon, 1 case; Philadelphia, 1 death; Pittsburg, 5 cases.
Rhode Island: Providence, June 1-8, 1 case, 1 death.
Utah: Ogden, May 1-31, 11 cases; Salt Lake City, June 1-8, 4 cases.
Washington: Tacoma, May 26-June 2, 1 case.
Wisconsin: Green Bay, June 2-9, 2 cases.
Philippines: Manila, April 13-20, 9 cases.
Porto Rico: San Juan, May 10, extinct, 8 cases on island.

SMALLPOX—FOREIGN.

Austria: Prague, May 18-25, 3 cases.
Belgium: Antwerp, May 18-25, 3 cases, 1 death.
Brazil: Pernambuco, April 1-15, 27 cases.
China: Hongkong, April 22-27, 7 cases, 5 deaths.
Colombia: Panama, May 27-June 3, 5 cases, 1 death.
France: Paris, May 18-25, 15 deaths.
Great Britain: Glasgow, May 25-31, 42 cases, 1 death.
Greece: Athens, May 18-25, 2 cases.
India: Calcutta, May 4-11, 34 deaths; Karachi, April 28-May 12, 9 cases, 3 deaths.
Italy: Naples, May 19-26, 161 cases, 28 deaths.
Japan: Nagasaki, May 6, 1 case on U. S. S. *Indiana*; Tokyo, May 11, 3 cases.
Manitoba: Winnipeg, May 25, June 1, 2 cases.
Mexico: Mexico City, May 19-June 2, 3 deaths.
Russia: Odessa, May 11-26, 9 cases, 1 death; St. Petersburg, May 4-18, 24 cases, 5 deaths; Warsaw, May 4-11, 8 deaths.

YELLOW FEVER

Mexico: Vera Cruz, May 18-25, 1 death.

CHOLERA.

India: Bombay, May 7-14, 3 deaths; Calcutta, May 4-11, 47 deaths.

PLAGUE—FOREIGN AND INSULAR.

Africa: Cape Town, to April 5, 412 cases, 181 deaths.
China: Hongkong, April 20-27, 65 cases, 55 deaths.
India: Bombay, May 7-14, 289 deaths; Calcutta, May 4-11, 134 deaths; Karachi, April 28-May 12, 657 cases, 563 deaths.
Japan: Formosa, May 19, increasing; from May 3-June 1, 2157 cases.
Philippines: Manila, April 13-20, 27 cases, 16 deaths.

# GENERAL INDEX.

*Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one head, etc., and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles, editorials, society reports, abstracts, and miscellaneous matter appearing in The Journal; the book notices, deaths, societies, marriages, authors, and titles of articles mentioned in the "Current Medical Literature" department are indexed and arranged under their separate headings instead of in the body of the "General Index."*


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Campbell, J. L., (137) 1207
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Carpenter, J. G., (26 and 35) 687
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Carter, H. R., (1) 840, (14) 1141, (13) 1891
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Dowd, J. H., (68) 841
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Downing, W. L., (39) 1276
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Fowler, R. S., (73) 60, (112) 1499, (19) 1891
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Pennebaker, Dr., (92) 345, (104) 687
Pennington, J. R., (88) 60, (127) 61, (81) 1424
Pepler, W. H., (123) 1736
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Perce, L. A., (129) 688
Percy, J. F., (94) 992
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Perrier, J., (43) 597
Perry, A. W., (131) 136, (110) 687, (118) 1071, (136) 1736
Perry, H. B., (23) 1275
Perry, R. St. J., (82) 1276
Peter, L. C., (48) 991, (101) 1071
Peters, G. A., (95) 687
Peters, L., (42) 919
Peters, U. J. W., (158) 841
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Philbrick, L. C., (94) 404
Phillips, G. M., (91) 468
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Pickett, W., (48) 1586
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Pond, A. M., (3) 1141
Pond, E. A., (3) 468
Pond, H., (120) 404
Pool, J. E., (15) 765
Poole, W. F., (55) 525
Poore, G. V., (114) 841
Pope, C., (110) 345
Porteous, W. N., (36) 919
Porter, G. W., (71) 404
Porter, J. L., (115) 841
Porter, W. H., (45) 135, (15) 1275, (41) 1276, (2) 1347
Posey, W. C., (85) 135, (135) 284, (77) 841
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Powell, S. D., (97) 469
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Powers, G. H., (121) 1660
Pratt, A. H., (86) 345
Pray, F. M., (96) 841
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Prewitt, E. E., (79) 687
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Price, M. G., (139) 992
Price-Brown, J., (86) 992
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Primrose, A. J., (18) 403, (55) 597
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Pusey, W. A., (89) 60, (45) 403
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Roberts, W. H., (132) 841
Roberts, W. O., (25) 135, (94) 1660
Robertson, J. W., (113) 284, (109) 525, (112) 1424
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Scherck, H. J., (67) 211, (116) 404
Schirman, M., (155) 1349
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Schlitz, N. C., (89) 1071
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Scott, J. T., (110), 525, (128) 1810
Scott, N. S., (68) 60, (80) 1071, (76) 1276
Scott, P. L., (114) 345
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Scudder, C. L., (28) 524, (26) 1275, (16) 1424
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Season, E. H., (76) 1348
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Shaw, J. W., (37) 687
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Shimanek, F., (24) 210
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Smith, G. O., (141) 992
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Smith, H. L., (119) 1349
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